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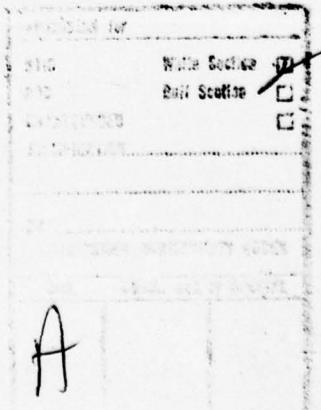
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72-112 11 Sep L. Gleason R. Osborn	Design and Wind Tunnel Testing of a Deployable Retractable Rigid Wing P: 6065 Internal	U B
52516		
72-118 26 Sep D. Schroll 53336	Advanced Fighter Aircraft Crew Stations and High Acceleration Cockpit Designs P: 6065 Internal	U B
72-126 16 Oct J. DeWeese 54008	Experimental Feasibility Study of Aerodynamic Reefing of Subsonic Parachutes P: 6065 F33615-68-C-1227	U A
72-142 15 Nov R. Peterson E. Roberts 54926	Experimental Investigation of the Ground Impact Characteristics of a 1/4 Scale Model of an A/C Emergency Crew Escape Capsule P: 6065 Internal	U B

## FLIGHT CONTROL DIVISION (FG)

### Survivable Fit Control ADPO (FGA)

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72-2 Pt I Vol I	F-4D Field Experience-Maintenance	U
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72-2 Pt I Vol II	Pt I Vol II - Power Plant P: 8225	U
Maj . Lorenzetti	F33615-71-C-1599	B
72-2 Pt I Vol III	Pt I Vol III - Utilities P: 8225	U
Maj. Lorenzetti	F33615-71-C-1599	B
72-2 Pt I Vol IV	Pt I Vol IV - Instruments P: 8225	U
Maj. Lorenzetti	F33615-71-C-1599	B
72-2 Pt I Vol V	Pt I Vol V - Navigation P: 8225	U
Maj. Lorenzetti	F33615-71-C-1599	B
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Maj. Lorenzetti	P: 8225 F33615-71-C-1599	B
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Maj. Lorenzetti	Pt II Vol I - A/C Basic P: 8225 F33615-71-C-1599	B
72-2 Pt II Vol II	Pt II Vol II - Power Plant P: 8225	U
Maj. Lorenzetti	F33615-71-C-1599	B
72-2 Pt II Vol III	Pt II Vol III - Utilities P: 8225	U
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72-2 Pt IV

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Aircraft Flight Control Systems Field  
Safety Experience P: 8225  
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27 Mar

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## Control Configured Vehicle ADPO (FGB)

### AFFDL TR

72-7 20 Jan Capt. R. Strahota	Analysis of Relaxed Static Stability and Maneuver Load Control Applications to a Large Bomber P: 8226 F33615-71-C- 1384	U A
72-38 Vol I 31 Mar L. Leet 54198	Studies of the Compatibility of Relaxed Static Stability and Maneuver Load Control to C-5A Type A/C Vol I - Study Results P: 8226 F33615-71-C-1237/1303	U A
72-38 Vol II 31 Mar L. Leet	Vol II - Appendixes P: 8226 F33615-71-C-1237/1303	U A
72-77 22 Jun Maj. Kujawski 54198	Computational Algorithms for Unconstrained Optimization P: 8219 Internal	U A
72-152 Pt I 13 Dec R. Strahota 55378	Application of Manual Control Display Theory to the Development of Flight Director Systems for STOL Aircraft Pt I - Flight Director Development P: 643A F33615-71-C-1349	U A
72-152 Pt II 13 Dec R. Strahota	Pt II - Multi-Axis Sampling P: 643A F33615-71-C-1349	U A

## Control Criteria Branch (FGC)

### AFFDL TR

72-26 VOL I 8 Mar H. Woolard 55496	V/STOL Aircraft Aerodynamic Prediction Methods Investigation Vol I - Theoretical Development of Prediction Methods P: 698BT F33615-69-C-1602	U A
72-26 Vol II 8 Mar H. Woolard	Application of Prediction Methods P: 698BT F33615-69-C-1602 Vol II	U A
72-26 Vol III 8 Mar H. Woolard	Vol III - Users Manual for Computer Programs P: 698BT F33615-69-C-1602	U A
72-26 Vol IV 8 Mar H. Woolard	Vol IV - Literature Survey P: 698BT F33615-69-C-1602	U A
72-36 Vol I 21 Mar J. Lockenour 52148	Evaluation of Lateral-Directional Handling Qualities and Roll-Sideslip Coupling of Fighter Class Airplanes Vol I -	U A
72-36 Vol II 21 Mar J. Lockenour	Vol II - Appendices P: 8219 F33615-71-C-1240	U A
72-37 G. Kurylowich 55496	An Analysis of the Stability and Control Characteristics of an Ejector Wing V/STOL During Transition P: D095 Internal	U B
72-39 31 Mar J. Pruner 52148	Capability of the Total In-Flight Simulator (TIFS) P: 684B F33615-71-C-1110	U A

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72-41 11 Apr F. George 52148	Revisions to MIL-F-8785 (ASG) Proposed by CAL P: 8219 F33615-71-C-1254	U A
72-44 20 Apr A. Jones 55474	A Study of Effects of Parameter Variation on Flying Qualities of XV-4B V/STOL A/C P: 8219 Internal	U A
72-63 26 May R. Pope 54315	The Design of Stability Augmentation Systems for Decoupling-Aircraft Responses P: 8219 Internal	U A
72-83 Vol I 6 Jul J. Jenkins 54331	Prediction of 6° of Freedom Store Separation Trajectories at Speeds up to the Critical Speed Vol I - Theoretical P: 8219 F33615-71-C-1116	U A
72-83 Vol II 25 Sep J. Jenkins	Vol II - Users Manual Computer Program P: 8219 F33615-71-C-1116	U A
72-92 28 Jul J. Stone 54315	Proceedings of the 8th Annual Conference on Manual Control P: 8219 C: NSR-23-005-364	U A
72-115 18 Sep G. Kurylowich 55496	An Analysis of Fixed Wing-Proprotor Interference for Folding Proprotor Aircraft P: 8219 F33615-70-C-1133	U A
72-120 10 Oct J. Lockenour 52148	An In-Flight Investigation of the Influence of Flying Qualities on Precision Weapons Delivery P: 8219 F33615-72-C-1072	U B
72-141 10 Nov J. Lockenour	Validation of the Flying Qualities Requirements of MIL-F-8785B (ASG) P: 8219 F33615-72-C-1554	U A

## **Systems Dynamics Branch (FGD)**

### **AFFDL TR**

72-99 8 Aug Capt. K. McElreath 55531	Yaw Axis Control as a Means of Improving V/STOL Aircraft Performance P: 643A F33615-71-C-1793	U A
72-131 24 Oct Capt. K. McElreath	True Airspeed Sensor for V/STOL Aircraft P: 643A Internal	U A
72-143 Vol I 17 Nov J. Pruner 55474	In-Flight Simulation of Minimum Longitudinal Stability for Large Delta-Wing Transports in Landing Approach and Touchdown Vol I - Technical Results P: 8219 F33615-72-C-1386	U A

## Control Systems Development Branch (FGL)

### AFFDL TR

72-13 1 Feb T. Lewis 52541	Test and Development of Flight Control Actuation System Components for Military Aircraft P: 8225 F33615-71-C-1124	U B
72-21 28 Feb Capt R. Couch 54504	A Method of Measuring Jet Exhaust Density Profiles Using Soft X-Rays P: Internal	U A
72-27 20 Mar A. Barfield 54198	Tactical Missile Self-Adaptive Controller P: 8225 F33615-71-C-1474	U B
72-30 21 Mar I. Carnegis 53686	Rotating Engine Design and Cycle Analysis P: 8224 Internal	U A
72-53 5 May H. Snowball 54504	Nuclear Magnetic Resonance Massmetric Flow- meter Exploratory Development & Engr Investigation P: 8224 F33615-067-C-1488	U A
72-55 10 May D. Rubertus 54607	Multimode Flight Control Definition Study P: 8225 F33615-71-C-1485	U B
72-56 11 May F. Smith 54504	Final Technical Report on the Design, Development and Testing of a Vibragimbal Multisensor P: 8222 F33615-70-C-1633	U A

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72-69 8 Jun A. DeThomas 54504	Fault-Tolerant Digital Airborne Data System P: 8222 F33615-71-C-1142	U A
72-104 18 Aug D. Rubertus 54607	A Control Augmentation System to Enhance Tactical Weapon Delivery Performance P: 8226 F33615-67-C-1101	U
72-105 Pt I 21 Aug D. Rubertus	Analysis of Piloted Weapon Delivery F-4C Strafing with High Gain Control Augmentation P: 1987 Internal	U
72-105 21 Aug D. Rubertus	Pt II - Analysis of Piloted Weapon Delivery F-4C Dive Bombing P: 1987 Internal	U
72-105 Pt III 21 Aug D. Rubertus	Pt III - F4C Strafing with Stick to Rudder Interconnect P: 1987 Internal	U
72-105 Pt IV 21 Aug D. Rubertus	Pt IV - Strafing Performance of a Foreign Aircraft P: 1987 Internal	U
72-105 Pt V 21 Aug D. Rubertus	Pt V - F4E Aerial Gunnery P: 1987 Internal	U
72-105 Pt VI 21 Aug D. Rubertus	Pt VI - A-7D Strafing P: 1987 Internal	U
72-146 F. Taylor 52541	Gunfire Vulnerability Test on Flt Control Acuators, Components, and Fluids P: 4363 Internal	U B

## Flight Deck Development Branch (FGR)

### AFFDL TR

72-25 7 Mar D. Frearson 54608	Control of Avionic Subsystems: The Crew Station Management Problem P: 6190 F33615-69-C-1716	U A
72-72 Vol I 14 Jun D. Frearson	Cockpit and Control-Display Design Criteria for Tactical STOL and V/STOL Aircraft Vol I - Analysis P: 643A F33615-71-C-1832	U A
72-72 Vol II  D. Frearson	Cancelled	
72-108 29 Aug J. Reising 55520	Examination of the Voice Command Concept for Application to Air Force Cockpits P: 6190 Internal	U A
72-109 30 Aug E. Bobbett 55520	Human Engineering for the Air Force Control Display Program P: 6190 F33615-69-C-1716	U A
72-110 20 Aug W. Augustine 55520	VFR Approach Profiles in the T-38 Aircraft P: 6190 F33615-69-C-1716	U A
72-119 26 Sep D. Frearson 54608	Advanced Integrated Fighter Cockpit Simulation Program P: 6190 F33615-71-C-1598	U A
72-121 Vol I 12 Oct J. Rump 55520	Control Display Testing Requirements Study Vol I- Summary P: 404L F33615-72-C-1663	U A

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72-121 Vol II  
12 Oct  
J. Rump  
55520

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72-122  
12 Oct  
J. Rump

Control-Display Testing Requirements Study  
P: 404L F33615-72-C-1022

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**All Weather Landing Systems Branch (FGS)**

AFFDL TR

72-76 Vol I  
19 Jun  
T. Emerson  
53644

Study and Analysis of SC-117, National and  
USAF Plans for a New Landing System  
P: 404L F33615-71-C-1601

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## FLIGHT MECHANICS DIVISION (FX)

### Transonic Aircraft Tech ADPO (FXA)

#### AFFDL TR

72-136	A Simplified Approach to the Analysis of Turbulent Boundary Layers in Two and Three Dimensions P: 1426	U
J. Van Kuren 55043	F33615-71-C-1585	A
72-136 Supl 1	Supl 1 - Rapid Engineering Calculation of Two-Dimensional Turbulent Skin Friction	U
J. Van Kuren	P: 1426 F33615-71-C-1585	A
72-148 30 Nov W. Calarese 55043	Time-Dependent Subsonic Diffuser Analysis P: 1476 F33615-72-C-1089	U
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### Thermomechanics Branch (FXE)

#### AFFDL TR

72-62 22 May L. Walchli 52742	Diaphragm Rupture Effects on an Expanding Flow in a Tube P: 1426 Internal	U
72-86 11 Jul L. Walchli	An Experimental Study of a Complete Expansion Internal	A

## High Speed Aero Performance Branch (FXG)

### AFFDL TR

72-12 31 Jan R. Neumann 52701	Recent Notes and Data on Interference Heating P: 1366 Internal	U A
72-52  M. Hillsamer 53061	Experimental and Analytical Investigation of Temperature Sensitive Paints P: 1366 F33615-71-C-1635	U A
72-58 12 May D. Johnson 52134	Evaluation of Energy Maneuverability Procedures in Aircraft Flight Path Optimization and Performance Estimation P: 1431 Internal	U A
72-66 2 Jun G. Burke 52701	Interference Heating Due to Shock Impingement P: 1366 F33615-71-C-1383	U A
72-91 Vol I 25 Jul A. Lewis 55510	The Calculation of Three-Dimensional Supersonic Flows Around Spherically- Capped Smooth Bodies and Wings P: 1366 F33615-72-C-1429	U A
72-91 Vol II 25 Jul	Vol II - Manual for Computer Prog. P: 1366 F33615-72-C-1429	U A
72-123 12 Oct E. McElderry 55369	Transition Run-Out Calculations for a Compressible Boundary Layer with Wall Cooling P: 1366 F33615-72-C-1350	U A
72-132 24 Oct D. Johnson	Optimal Design Integration of Military Flight Vehicles ODIN/MFV- P: 1431 F33615-71-C-1480	U A

## Aeromechanics Branch (FXM)

### AFFDL TR

72-11 Vol I 28 Jan 55661	Investigation of the Effects of Airframe Design of Inlet Flow Fields P: 1476 F33615-71-C-1451	U B
72-11 Vol II 10 Jan L. Surber	Vol II - Investigation of the Effects of Airframe Design on Inlet Flow Fields F33615-71-C-1451	U B
72-60 19 May N. Allen 55564	Preliminary Investigation of Scaling Effects in Transonic Wind-Tunnel Testing P: 1366 F33615-71-C-1106	U B
72-85 Vol I 10 Jul J. Laughrey 54586	Analytical Study of In-Flight Thrust Reversers P: 1476 F33615-71-C-1208	U A
72-85 Vol II 17 Jul J. Laughrey	Vol II - User's Manual and Source Listings for Computer Program P: 1476 F33615-71-C-1208	U A
72-96 Pt I 31 Jul R. Osborn 52786	Development of Theoretical Methods for 2-Dimensional Multi-Element Airfoil Analysis and Design Pt I - Viscous Flow Analysis Method P: 1366 F33615-71-C-1597	U A
72-96 Pt II 31 Jul R. Osborn	Pt II - Leading-Edge Slat Design Method P: 1366 F33615-71-C-1597	U A
72-101 Vol I 10 Aug P. Everling 54586	Experimental and Analytical Determination of Integrated Airframe Nozzle Performance P: 668A F33615-70-C-0511	U B

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72-101 Vol II  
10 Aug  
P. Everling  
54586

Vol II - Operating Manual for Twin-  
Nozzle Aftbody Drag and Internal Nozzle  
Performance Computer Deck P: 668A  
F33615-70-C-0511

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72-106  
22 Aug  
R. Clark  
52786

A COANDA Inlet/Jet Flap Diffuser  
Ejector P: 1366 F33615-70-C-1656

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72-145  
28 Nov  
C. Jobe  
55564

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Application to Separated Flow Analysis  
P: 1366 F33615-72-Q-1096

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A

**Experimental Engineering Branch (FXN)**

AFFDL TR

72-49  
27 Apr  
E. White  
52493

A Feasibility Study to Determine the Design  
Parameters of a Precision Aerothermodynamic  
Calorimetric System P: 1426  
F33615-71-C-1302

U  
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72-50  
27 Apr  
E. White

Heat Flux Transducer Calibration  
P: 3170 F33615-69-C-1447

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72-144  
28 Nov  
H. Lee  
52493

Application of the Electron Beam Fluorescence  
Technique to the Measurement of the Properties  
of Nitric Oxide in Nonequilibrium Flows  
P: 1426 F33615-70-C-1761

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## Aerospace Vehicle Branch (FXS)

### AFFDL TR

72-137  
8 Nov  
R. DeCamp  
55006

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F33615-72-C-1507

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## VEHICLE DYNAMICS DIVISION (FY)

### Aero-Acoustics Branch (FYA)

#### AFFDL TR

72-16 17 Feb Capt. R. Paxson 54279	Predicting Aural Detectability of Aircraft in Noise Background P: 1471 F33615-71-C-1220	U B
72-17 17 Feb C. Rupert 54279	Study to Extend the Low Frequency Test Capability in the Main Chamber of the AFFDL Sonic Fatigue Facility P: 4437 F33615-70-C-1168	U B
72-45 24 Apr U. Maurer 54279	Contribution to the Theory of Randomly Forces, Nonlinear, Multiple Degree of Freedom Coupled Mechanical Systems P: 1471 F33615-70-C-1206	U A
72-107 22 Aug D. Smith 54279	Bench Tests and Wind Tunnel Tests of a Jet Noise Reduction Technique for Military Reconnaissance/Surveillance Aircraft P: 1471 F33615-71-C-1840	U
72-138 Vol I 8 Nov D. Smith	Aero-Acoustic Loads Associated with High Beta Reentry Vehicles P: 1471 F33615-71-C-1245	U B
72-138 Vol II 8 Nov D. Smith	Aeroacoustic Loads Associated with High Beta Re-Entry Vehicles P: 1471 F33615-71-C-1245	U B

## Aerospace Dynamics Branch (FYS)

### AFFDL TR

72-22 Pt I 29 Feb R. Taylor 53297	A Method of Minimum-Weight Synthesis for Flutter Requirements Pt I - Analytical Investigation P: 1370 F33615-70-C-1282	U B
72-22 Pt II 28 Feb R. Taylor	Pt II - Program Documentations P: 1370 F33615-70-C-1282	U B
72-40 Vol I A. Basso 55236	V/STOL Dynamics and Aeroelastic Rotor- Airframe Technology Vol I - State-of the-Art Review of V/STOL Rotor Techniques P: 1370 F33615-71-C-1310	U B
72-40 Vol II A. Basso	Vol II - Description and Correlation of New Methodologies P: 1370 F33615-71-C-1310	U B
72-40 Vol III A. Basso	Vol III - User's Manuals: Computer Programs for Aeroelastic Stability Analysis and Aeroelastic Prop/Rotor Loads Analysis P: 1370 F33615-71-C-1310	U B
72-46 24 Apr V. Johnson 53297	Buffet Dynamic Loads During Transonic Maneuvers P: 1370 F33615-70-C-1272	U B
72-74 19 Jun R. Aschenbrenner 55733	Analysis of Taxiing Induced Vibrations in Aircraft by the Power Spectral Density Method P: 1370 F44620-71-C-0084	U A
72-114 Pt I 13 Sep S. Pollock 53297	Computer Techniques for the Rapid Flutter Clearance of Aircraft Carrying External Stores Pt 1 - Perturbation Theory & Application P: 1370 F33615-71-C-1603	U B

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72-114 Pt II 13 Sep S. Pollock 53297	Pt II - Documentation of Data Retrieval Systems and Perturbation Program P: 1370 F33615-71-C-1603	U B
72-116 20 Sep T. Noll 53297	Active Flutter Suppression Systems for Military Aircraft Feasibility Study P: 1370 F33615-71-C-1481	U B
72-140 Vol I 10 Nov Capt. M. Prola 55236	Vibration Response of Ballistic Reentry Vehicles P: 1370 F33615-71-C-1562	U B
72-140 Vol II 10 Nov Capt. M. Prola	Vol II - Vibration Response of Ballistic Reentry Vehicles Vol II - P: 1370 F33615-71-C-1562	U B

## Applications Office (SU)

### AFFDL TR

72-67 Vol I 10 Jun Maj. J. Wolf <b>53794</b>	Aircraft/Stores Compatibility Symposium Vol I - General & Flying Qualities	U B
72-67 Vol II 10 Jun Maj. J. Wolf	Vol II - Stores Separation	U B
72-67 Vol III 10 Jun Maj. J. Wolf	Vol III - Structural Dynamics & Experimental	U B

## PROTOTYPE DIVISION (PT)

### Tactical Airlift Tech ADPO (PTA)

#### AFFDL TR

72-81 3 Jul D. Fraga 54517	Summary of Design Studies and Results of Model Tests of the Folding-Proprotor Aircraft Concept P: 643A F33615-69-C-1578	U A
72-125 13 Oct G. Oates 54517	Analysis of Commercial and Military STOL Design Criteria P: 643A F33615-72-C-1534	U B

### Design Branch (PTB)

#### AFFDL TR

72-147 Vol I 30 Nov G. Tamplin 55889	Propulsion System Installation Corrections Vol I - Engineer's Manual P: 1366 F33615-72-C-1580	U B
72-147 Vol II 30 Nov G. Tamplin	Vol II - Programmer's Manual P: 1366 F33615-72-C-1580	U B
72-147 Vol III 30 Nov G. Tamplin	Vol III - Sample Cases P: 1366 F33615-72-C-1580	U B

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72-147 Vol IV  
30 Nov  
G. Tamplin

Propulsion System Installation  
Corrections Vol IV - Bookkeeping  
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F33615-72-C-1580

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**Survivability/ Vulnerability Branch (PTS)**

AFFDL TR

72-8  
25 Jan  
J. Meiselman  
56851

Vulnerability of Composite Aircraft  
Structures P: 4363 F33615-71-C-1111

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## PART II

### AFFDL IN-HOUSE Technical Papers and Journal Articles

#### FBA

Fracture Mechanics Design Requirements - Review and Reflection  
1972 WESTEC Conf., Los Angeles, CA., 14 Mar 72  
Nathan G. Tupper

Ablative Materials Evaluation for High-Performance Lifting Entry  
Vehicles  
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R. Mueller  
D. K. Carnahan General Dynamics/Convair

Fracture Mechanics Applied to Aerospace forgings  
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Theoretical Tire Equations for Shimmy and Other Dynamic Studies  
J of Aircraft V9n8 pg. 585-589, Aug 72  
L. Rogers

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Interaction of Cracks with Rigid Inclusions in Logitudinal Shear  
Deformation. II Further Results  
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G. Sendeckyj

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and Propulsion Systems, Toulouse, France, Sep 72  
L. Kelly

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Lateral Torsional Buckling of Parabolic Arches  
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R. Sandhu et al May 72

FBC (Journal Articles)

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Micromechanics

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G. Sendeckyj

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FBE

HICAT Programs and "Diffusion in the Stratosphere"

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Vol 1 "The Natural Stratosphere" Dec 72

N. Loving

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Load-Time Relaxing of Residual Stresses,

AIAA J of Aircraft V9, n17

Capt. D. Golden Dec 72

FBR

Application of Holography to Non-Destructive Testing

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G. Maddux

Structural Design with Optimality-Based Algorithms,

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L. Berke

Fracture Control Considerations in Aircraft Structural Design

Am. Society for Metals, WESTEC Conf., L.A., Ca., 13-17 Mar 72

H. Wood

Summary of Current and Projected USAF Fracture Requirements

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H. Wood

- \* Highlights of Critical Atmospheric Turbulence Test Program  
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N. Loving

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R. Mueller  
D. K. Carnahan GD/Ft. Worth

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AIA Structures Panel  
K. Collier

FEE

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Thermophysics Sym., San Antonio, Tex. 10-12 Apr 72  
C. Feldmanis

Spacecraft Compatibility of Cryogenic Refrigerators  
1972 Cryogenic Engineering Conf. NBS, Boulder, Colo. 9-11 Aug 72  
W. Haskin

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43rd Shock & Vibration Sym., Monterey, Ca. 6 Dec 72  
Dr. A. Burkhard

Aircraft Equipment Random Vibration Test Criteria Based on Vibrations Induced by Turbulent Airflow Across Aircraft External Surfaces  
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Dr. J. Dreher

FEA

C-115 ACLS Development Program Overview!  
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W. Buzzard

FEM

Static Performance of Plenum & Peripheral Jet Air Cushions  
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K. H. Digges

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C. Stauffer Bell Aerospace

FEM

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Capt. S. Peterson

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J. Sikra AFML  
J. Krysiak FEM  
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E. Roberts

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R. Johannes

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D. Moorhouse

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J. Lockenour

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C. Westbrook

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R. Anderson  
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