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PREFACE

This index cross-references the papers presented at the Aerospace Mechanisms Symposia and documented in the symposia proceedings. This is the first compilation of this index, covering papers presented in the first through nineteenth symposia, from 1966 to 1985.

These symposia are devoted to the problems of design, fabrication, test, and operational use of aerospace mechanisms and provide an international forum for technical interchange between personnel in the field of mechanisms technology While many of the papers contained in the proceedings deal with aircraft and nonspace-mechanism design problems, most of the papers presented chronicle developments in the manned and unmanned space programs

The Aerospace Mechanism Symposium is jointly sponsored by NASA, the California Institute of Technology, and Lockheed Missiles and Space Co. (LMSC), Inc., and is held yearly at various NASA Centers.

The preparation of this index was initiated by Mr. Alfred L. Rinaldo (LMSC, retired) who served as Operations Chairman for the symposium for its first 17 years. It is hoped that this index will further the goals of the Aerospace Mechanisms Symposium in disseminating mechanisms design technology and "lessons learned" in mechanisms development and test.

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USE OF THIS INDEX

This index has been organized into five major sections: an index by symposium, by title, by author, by subject, and by project. Each section is separated by a divider and is individually paginated. Users will probably find the subject index to be most useful in that papers have been cross-referenced by key words. For the first through seventeenth symposia, key words were simply extracted from the title of the individual paper. Therefore the accuracy and usefulness of these key words depend on how well the paper title describes the material contained in the paper. In most cases the correlation is good; however, in some cases individual papers may not be listed under the expected key word. For this reason a list of all the key words used is included to assist the user in identifying other key words that may pertain to the subject of interest. For papers contained in the eighteenth and nineteenth proceedings, key words were assigned based on the actual technical content of the papers.

Also beginning with the eighteenth symposium is a cross-reference by project. A user interested in mechanisms developed for a particular project may find this useful, although papers published prior to the eighteenth symposium are not listed. In addition, some papers, particularly those dealing with basic technology, are generic in nature and would naturally not appear under a project listing. Beginning with the twentieth symposium, authors will specify their own key words and project identifier, making future publications of this index increasingly useful.

Once a paper of interest has been found using one of the five cross-references, the proceedings for that symposium may be ordered by referring to the Conference Publication number and address contained in the Prior Symposia Listing.

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6. KEYWORDS

AMS KEYWORD LIST

-A-

1. Acquisition
2. Actuating/Actuation/Actuator
3. Adaptor
4. Advanced Turboprop Program
5. Aircraft
6. Airfoil
7. Airlock
8. Air Vanes
9. Alignment System
10. Angle-of-Attack Sensor
11. Antenna
12. Antiback-Drive Device

-B-

13. Ball Bearings
14. Ball Screw
15. Beam
16. Beam Builder
17. Bearing(s)/Bearing Gimbals/Bearing Reactors
18. Biosatellite
19. Boom
20. Boom/Boom Mechanisms
21. Brakes
22. Brushes

-C-

23. Caging Mechanism
24. Canister
25. Cartridge Firing Device
26. Centrifuge
27. Circulating Pump
28. Circulation Control
29. CLAES
30. Clamp Mechanism
31. Closure
32. Coalignment
33. Compression Springs
34. Computer-Aided Design
35. Computer Graphics
36. Computer Modeling
37. Contamination Monitor
38. Control Mechanism
39. Cooler
40. Coupling
41. Crystals
42. Customer's Opinion

-D-

43. Damper(s)/Damping Systems
44. Deformable System
45. Deploy
46. Deployable Truss
47. Deployment Fixture
48. Deployment Mechanism
49. Deployment System
50. Despin Assembly
51. Despin/Despinning
52. Dewatering
53. Diagnostic Probe
54. Disconnect
55. Dispersion
56. Docking/Docking Mechanism/Docking System
57. Door
58. Drive/Drive Actuator/Drive Mechanism/Drive System/Drive Unit
59. DSCS III
60. Dual Fault Tolerant

-E-

61. Eccentuator
62. Echo 6
63. Electrical Noise
64. Electrical Transfer
65. Energy Absorber
66. Ejection Seat
67. Electromechanical Devices
68. Emergency Egress
69. End Effector
70. Energy Absorber
71. Energy Collector
72. Erection Mechanisms
73. Escape System
74. Exercise System
75. Explosive Device
76. Exposure Facility
77. Extendible Structure

-F-

78. Fairing
79. F/G Feed Movement
80. Filter Mechanism
81. Fittings
82. Flight Simulator
83. Flow-Control Valve
84. Flywheel
85. Four Point Contact Bearings
86. Fraction Collector
87. Friction and Wear Mechanism

-G-

88. Galileo
89. Gearing
90. Gimbal System

-H-

91. Hatch
92. Heat Pipes
93. Helical Grip
94. Helicopter
95. Heliotrope
96. Hinge
97. Hinge Mechanism
98. Hoop/Column

-I-

99. Icing
100. Impact Problems
101. Impact - Resistant Mechanisms
102. Injector
103. Inspection Mechanisms
104. Instrument Pointing System
105. Ion Plating

-J-

106. Jettison

-L-

107. Lander
108. Landing Gear
109. Laser Mirror Mount
110. Latch
111. Latch Diaphragm
112. Latching Hinge
113. Latch Mechanism
114. Latch Two-Failure Tolerant
115. Launcher
116. Lifescience
117. Lifetime
118. Lift Generation
119. Linkwork
120. Liquid Pump
121. Loadcell
122. Lock/Latch Systems
123. Low-Temperature
124. L-Sat/Olympus
125. Lubricant/Lubrication
126. Lunar Cart

-M-

127. Magnetic Bearings
128. Magnetometer
129. Manipulate/Manipulator(s)/Manipulative
130. Man-Vehicle Systems
131. Masts/Mast Concept
132. Mechanical System
133. Memory
134. Microprocessor
135. Molecular Sink
136. Molsink
137. Momentum Wheel
138. Motion Compensator
139. Mount/Mount Mechanisms
140. Muscle Stress Apparatus
141. MU-3SII

-N-

142. Nimbus Weather Satellite
143. Nitinol
144. Noise
145. Noncontacting Systems

-O-

146. Orientation Device

-P-

147. Paddle Drives
148. Parachute
149. Parachute System
150. Parasol
151. Parking Garage
152. Payload
153. Perfluorether Lubricant
154. Photopolarimeter
155. Photo-Subsystem Mechanisms
156. Pin Mechanism
157. Pin Puller
158. Pivot(s)
159. Platform Structure
160. Pointing Mechanism
161. Pointing System
162. Polarimeter
163. Polarizer
164. Position
165. Power Hinge
166. Power Transfer
167. Primate Mission

168. Problems
169. Propellers
170. Prosthetic Attachment
171. Protection Assembly
172. Pump
173. Pyromechanical

-R-

174. Radar Device
175. Radiation Source Holder
176. Radiometer
177. Reaction Wheels
178. Reciprocating Engine
179. Recorder
180. Reflectance-Degradation
181. Refrigeration
182. Refurbishment
183. Regulator
184. Release Device
185. Release Mechanism
186. Release Nut
187. Release System
188. Reliability
189. Restraining
190. Retainers
191. Retro-Reflector Array
192. Robotics
193. Rolamite
194. Roll Balance
195. Roll Coupling
196. Roll Ring
197. Roller Drive
198. Rotary
199. Rotating Speed Mechanism
200. Rotation
201. Rudder/Speedbrake

-S-

202. Sampler
203. San Marco P/L
204. Satellite Control
205. Scanner/Scanning
206. Seal
207. Seat
208. Securing Mechanism
209. Self-Destruct
210. Sequencing System
211. Sensor
212. Separation
213. Separation Apparatus
214. Servoactuator

215. Servomanipulator
216. Servomechanisms
217. Shaker
218. Shock Isolation
219. Shutter
220. Shuttle/Centaur
221. Silicate Friction
222. Simulator
223. SIR-B
224. Sliprings
225. SLV-3
226. Smart Mechanisms
227. Smart Motor
228. Snap Mechanism
229. Soil Sampler
230. Solar Array/Panel
231. Solid Film Lubrication
232. Sounding Rocket
233. Spacelab
234. Space Mechanisms
235. Space Structures
236. Space Telescope
237. Spectroheliograph
238. Spike Mechanism
239. Spin/Eject
240. Spin-Up Launch
241. Splitter
242. Spring
243. Sputtering
244. SSM/I
245. Staging
246. Stairclimbing
247. Stepper Motor(s)
248. Stop Mechanism
249. Strut
250. Support System
251. Surveyor 3
252. Suspension(s)
253. Switch

-T-

254. Teal Ruby
255. Teleoperator
256. Telepresence
257. Telescope
258. Telescopic Jib
259. Television
260. Test
261. Testing
262. Thermal Acutator
263. Thermal-Vacuum
264. Throttle Mechanism

265. Timers
266. Tissue Culture
267. Torque Balance Control
268. Tracking Unit
269. Traction Drives
270. Transducer
271. Transfer Orbit Stage
272. Transfer Valve
273. Transport
274. Tribology
275. Truss
276. Two-Failure Tolerant
277. Two-Plane Balance

-U-

278. Umbilical
279. Unfurlable Structures

-V-

280. Vapor Compressor
281. Variable Camber Flap
282. Vent
283. Viking

-W-

284. Weight Springs
285. Weld-Alloy
286. Welding
287. Wind Tunnel
288. Windows

-Y-

-Z-

289. Zero-G Suspension

7 PRIOR SYMPOSIA INFORMATION

PRIOR SYMPOSIA IN THIS SERIES

First Aerospace Mechanisms Symposium
May 19-20, 1966
University of Santa Clara
Santa Clara, California 95053

PROCEEDINGS, AD 638 916, Accession No. N67-16901, are available from:
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Springfield, Virginia 22161

Second Aerospace Mechanisms Symposium
May 4-5, 1967
University of Santa Clara
Santa Clara, California 95053

PROCEEDINGS, TM 33-355, Accession No. N67-36203, are available from:
National Technical Information Service
Springfield, Virginia 22161

Third Aerospace Mechanisms Symposium
May 23-24, 1968
Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California 91125

PROCEEDINGS, TM 33-382, Accession No. N69-11801, are available from:
National Technical Information Service
Springfield, Virginia 22161

Fourth Aerospace Mechanisms Symposium
May 22-23, 1969
University of Santa Clara
Santa Clara, California 95053

PROCEEDINGS, TM 33-425, Accession No. N70-21426, are available from:
National Technical Information Service
Springfield, Virginia 22161

Fifth Aerospace Mechanisms Symposium
June 15-16, 1970
NASA Goddard Space Flight Center
Greenbelt, Maryland 20771

PROCEEDINGS, NASA SP-282, Accession No. N72-13391, are available from:
National Technical Information Service
Springfield, Virginia 22161

Sixth Aerospace Mechanisms Symposium
September 9-10, 1971
NASA Ames Research Center
Moffett Field, California 94035

PROCEEDINGS, NASA TM X-2557, Accession No. N72-26377, are available from:
National Technical Information Service
Springfield, Virginia 22161

Seventh Aerospace Mechanisms Symposium

September 7-8, 1972

NASA Manned Spacecraft Center

Houston, Texas 77058

PROCEEDINGS, NASA TM X-58106, Accession No. N73-18866, are available from:

National Technical Information Service

Springfield, Virginia 22161

Eighth Aerospace Mechanisms Symposium

October 18-19, 1973

NASA Langley Research Center

Hampton, Virginia 23665

PROCEEDINGS, NASA TM X-2934, Accession No. N76-19172, are available from:

National Technical Information Service

Springfield, Virginia 22161

Ninth Aerospace Mechanisms Symposium

October 17-18, 1974

John F. Kennedy Space Center

Kennedy Space Center, Florida 32899

PROCEEDINGS, NASA TM X-3274, Accession No. N76-28272, are available from:

National Technical Information Service

Springfield, Virginia 22161

Tenth Aerospace Mechanisms Symposium

April 22-23, 1976

Jet Propulsion Laboratory

California Institute of Technology

Pasadena, California 91125

PROCEEDINGS, TM 33-777, Accession No. N78-19026, are available from:

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Springfield, Virginia 22161

Eleventh Aerospace Mechanisms Symposium

April 28-29, 1977

NASA Goddard Space Flight Center

Greenbelt, Maryland 20771

PROCEEDINGS, NASA CP-2038, Accession No. N79-21352, are available from:

National Technical Information Service

Springfield, Virginia 22161

Twelfth Aerospace Mechanisms Symposium

April 27-28, 1978

NASA Ames Research Center

Moffett Field, California 94035

PROCEEDINGS, NASA CP-2080, Accession No. N79-21374, are available from:

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Springfield, Virginia 22161

Thirteenth Aerospace Mechanisms Symposium

April 26-27, 1979

NASA Lyndon B. Johnson Space Center

Houston, Texas 77058

PROCEEDINGS, NASA CP-2081, Accession No. N79-22539, are available from:

National Technical Information Service

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Fourteenth Aerospace Mechanisms Symposium

May 1-2, 1980

NASA Langley Research Center

Hampton, Virginia 23665

PROCEEDINGS, NASA CP-2127, Accession No. N80-23495, are available from:

National Technical Information Service

Springfield, Virginia 22161

Fifteenth Aerospace Mechanisms Symposium

May 14-15, 1981

NASA George C. Marshall Space Flight Center

Marshall Space Flight Center, Alabama 35812

PROCEEDINGS, NASA CP-2181, Accession No. N81-22388, are available from:

National Technical Information Service

Springfield, Virginia 22161

Sixteenth Aerospace Mechanisms Symposium

May 13-14, 1982

NASA John F. Kennedy Space Center

Kennedy Space Center, Florida 32899

PROCEEDINGS, NASA CP-2221, Accession No. N82-23344, are available from:

National Technical Information Service

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Seventeenth Aerospace Mechanisms Symposium

May 5-6, 1983

Jet Propulsion Laboratory

Pasadena, California 91109

PROCEEDINGS, NASA CP-2273, Accession No. N83-24881, are available from:

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Springfield, Virginia 22161

Eighteenth Aerospace Mechanisms Symposium

May 2-4, 1984

NASA Goddard Space Flight Center

Greenbelt, Maryland 20771

PROCEEDINGS, NASA CP-2311, Accession No. N84-25078, are available from:

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Springfield, Virginia 22161

Nineteenth Aerospace Mechanisms Symposium

May 1-3, 1985

NASA Ames Research Center

Moffett Field, California 94035

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16 Abstract

This index, organized in five sections (by symposium, by title, by author, by subject, and by project), brings together information on the first 19 Aerospace Mechanisms symposia. Key words are included, cross-referencing all the symposia, and the eighteenth and nineteenth symposia are cross-indexed by project. The Aerospace Mechanisms symposia are devoted to discussions of design, fabrication, test, and operational use of aerospace mechanisms; this is the first index that compiles information on symposia held from 1966 through 1985.

17 Key Words (Suggested by Author(s))

Docking devices
Staging mechanisms
Actuators
Space lubricants
Circulation-control lift
Thin-section bearings
Teleoperation
Manipulator arm
Thermal actuators
Deployment devices
Traction drives
Energy-absorbing seat
Positioning mechanisms

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