



LIGHTER-THAN-AIR (LTA) VEHICLES:
A TECHNICAL BIBLIOGRAPHY

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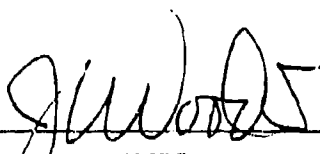
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This technical bibliography provides a systematic accounting of Lighter-Than-Air (LTA) documents. This report should enable rapid review of past and present activities for specific individual applications. Both author and subject indices are included.		

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I. INTRODUCTION

This document is intended to provide information for the Lighter-Than-Air (LTA) technical community. This bibliography is the result of numerous searches of both old and new literature on this topic since the fall of 1975. These searches have been conducted in support of investigations by the LTA Project Office (605B) at the Naval Air Development Center, Warminster, PA 18974. Hopefully, it will serve to assist the studies of others in this field by presenting in one volume a fairly complete listing of technical reports, papers, memoranda and articles.

The report format is organized to present an alphabetical authors index plus a cross-reference by subject.

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- 189. 106 - The Strength of Airship Mooring Masts.
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- 191. 108 - Significance of the Tests of the Metal Models of Airships ZRS-4 and MC-38 in the Variable Density Wind Tunnel.

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203. 120 - Steam Power Plant for Airships, Proposed by the
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204. 121 - Calculation of Stresses in Three Bridle System
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206. 123 - Resistance of the Bare Hull of the U.S.S. AKRON.
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209. 126 - Cooling of Airship Radiators by Circulation of
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| 216. | | 133 - Bow Elevators for Airships. |
| 217. | | 134 - Local vs. General Loads on Airship Girders. |
| 218. | | 135 - Comparison of Weights of U.S.S. AKRON and MC-74. |
| 219. | | 136 - Comparison of Least Work and Column Analogy Methods of Stress Analysis. |
| 220. | | 137 - A Useful Beam and Column Relation. |
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| 225. | | 142 - Comparative Bending Strength and Weight of Structural and Pressure Airships. |
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| 228. | | 145 - Analysis of Flat Plate and Stiffener Combinations Tested by Consolidated Aircraft Corporation. |
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| 265. | | 182 - The Calculation of the Beam and Torsional Frequencies of Vibration of Cantilever Wings. |
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| 305. | | 222 - Comparative Fin Loads on Airships R-101 and
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| 306. | | 223 - Effect of Damping on the Period and Amplitude
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| 307. | | 224 - Influence of End Position Fixity Upon Strength
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| 308. | | 225 - The Magnification Factor in Forced Vibration. |
| 309. | | 226 - The Frequencies of Cantilever Wings in Beam
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| 311. | | 228 - Variation of Wind Velocity Near the Surface of
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| 313. | | 230 - Class "K" Airship Form. |
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| 315. | | 232 - A Visit to M. I. T. |
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| 318. | | 235 - Proposed Airplane Carrier Airship. |
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| 330. | | 247 - Effect of Elastic End Restraints Upon the Frequency of Vibration and Critical Load of Columns. |
| 331. | | 248 - Isolation of Airplane Engine Vibrations. |
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| 333. | | 250 - Performance of the HINDENBURG as a Carrier for Bombing Airplanes. |
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| 335. | | 252 - Discussion of Airship Structural Model Test by Goodyear Tire & Rubber Co. |
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| 349. | | 266 - Ballasting an Airship by Removing Hydrogen from a Helium-Hydrogen Mixture. |
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| 365. | | 282 - Preliminary Design Calculations for 9,500,000 cu. ft. Airplane Carrier Airship. |
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| 369. | | 286 - The Development of Airship Girders from 1916 to 1937. |
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| 409. | | 325 - The Fundamentals of Flutter Models. |
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462. 381 - Operating Costs of Transport Airships.
463. 382 - Comparison of BuAer and G.A.C. Estimates of Weights of XZPN Airship.
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465. 384 - Resistance vs. Weight in Model XZPN Airship.
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467. 386 - Characteristics of Airship Tail Surfaces.
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III. SUBJECT CROSS REFERENCE

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3. Specifications

B. Design Considerations

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 - b) Aerostatics
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D. Test and Evaluation

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B. Design Considerations (cont)

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724, 900, 937, 964, 1081, 1186, 1219, 1227, 1228.

B. Design Considerations (cont)3. Technologies (cont):c) Structural/Materials:

8, 12, 25, 30, 34, 35, 36, 37, 63, 65, 89, 90, 91, 92, 93, 95, 96, 97,
98, 99, 100, 102, 103, 104, 105, 106, 107, 109, 110, 111, 112, 113, 119,
121, 136, 137, 140, 141, 151, 154, 155, 156, 160, 161, 162, 164, 172,
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228, 230, 231, 232, 234, 235, 236, 237, 238, 241, 242, 244, 245, 247,
248, 249, 250, 252, 253, 254, 255, 256, 257, 264, 265, 273, 274, 278,
285, 289, 290, 293, 294, 296, 297, 298, 300, 303, 306, 307, 308, 309,
312, 316, 317, 322, 323, 325, 328, 329, 330, 331, 334, 335, 336, 340,
342, 344, 346, 350, 352, 353, 360, 361, 362, 369, 375, 380, 386, 392,
393, 394, 401, 402, 407, 410, 412, 415, 417, 427, 440, 445, 453, 454,
465, 466, 472, 476, 477, 481, 487, 488, 497, 518, 521, 522, 526, 534,
539, 541, 564, 570, 577, 580, 582, 583, 584, 586, 592, 612, 613, 626,
646, 647, 648, 650, 656, 657, 661, 664, 665, 666, 667, 668, 669, 670,
671, 672, 673, 674, 678, 679, 681, 683, 684, 685, 686, 687, 688, 689,
690, 692, 694, 695, 696, 697, 700, 703, 705, 711, 715, 716, 739, 752,
755, 757, 766, 771, 774, 778, 786, 799, 801, 805, 806, 828, 827, 840,
852, 857, 881, 882, 888, 892, 901, 902, 911, 922, 923, 939, 977, 981,
1027, 1031, 1037, 1038, 1039, 1047, 1049, 1077, 1096, 1100, 1103, 1105,
1110, 1111, 1119, 1122, 1138, 1139, 1148, 1154, 1165, 1666, 1167, 1173,
1174, 1187, 1188, 1191, 1192, 1193, 1194, 1195, 1199, 1214, 1243, 1251,
1252, 1255.

B. Design Considerations (cont)

3. Technologies (cont):

d) Propulsion:

1, 9, 30, 55, 71, 114, 125, 145, 148, 149, 183, 192, 194, 196, 203,
208, 209, 229, 233, 243, 260, 268, 288, 320, 368, 378, 384, 388, 418,
419, 424, 464, 474, 479, 486, 578, 613, 621, 623, 625, 626, 631, 675,
679, 711, 714, 763, 803, 846, 859, 879, 887, 888, 892, 910, 920, 931,
933, 945, 957, 966, 985, 1040, 1041, 1070, 1156, 1184, 1209.

B. Design Considerations (cont):

3. Technologies (cont):

e) General:

18, 22, 26, 27, 30, 47, 48, 49, 74, 101, 117, 171, 175, 180, 185, 191,
240, 277, 281, 286, 313, 326, 339, 357, 367, 389, 429, 430, 448, 457,
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576, 604, 606, 608, 609, 614, 630, 633, 811, 824, 825, 859, 882, 892,
901, 927, 928, 938, 943, 1020, 1039, 1061, 1074, 1092, 1097, 1101,
1109, 1117, 1124, 1126, 1148, 1149, 1202, 1203, 1221, 1224, 1225,
1226, 1235, 1242.

B. Design Considerations (cont):

3. Technologies (cont):

f) Stability and Control:

2, 14, 30, 54, 56, 57, 60, 116, 118, 123, 138, 153, 169, 179, 186, 213,
215, 216, 223, 243, 246, 271, 275, 279, 283, 285, 292, 293, 337, 343,
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560, 561, 582, 591, 596, 597, 614, 622, 624, 627, 646, 691, 698, 699,
704, 720, 726, 729, 731, 733, 735, 736, 737, 739, 740, 741, 742, 743,
744, 745, 746, 747, 749, 750, 751, 752, 753, 755, 757, 758, 760, 761,
768, 770, 773, 775, 777, 778, 780, 781, 785, 786, 788, 791, 792, 793,
795, 801, 815, 839, 852, 868, 903, 925, 929, 930, 940, 953, 975, 976,
978, 983, 988, 989, 999, 1000, 1022, 1028, 1040, 1041, 1051, 1055,
1056, 1062, 1063, 1065, 1075, 1094, 1095, 1133, 1155, 1157, 1159,
1164, 1183, 1231, 1233, 1247.

B. Design Considerations (cont):

3. Technologies (cont):

g) Human Factors:

517, 943, 980, 1017, 1069.

B. Design Considerations (cont):

3. Technologies (cont):

h) Support Equipment:

1, 28, 44, 46, 53, 58, 115, 152, 167, 168, 169, 189, 190, 197, 258, 282,
382, 428, 458, 459, 475, 616, 654, 655, 680, 717, 723, 804, 828, 862,
985, 993, 994, 999, 1010, 1049, 1096, 1098, 1106, 1107, 1108, 1153,
1223.

B. Design Considerations (cont):

3. Technologies (cont):

1) Manufacturing:

891, 892, 936, 1080.

B. Design Considerations (cont):

4. Performance Estimates:

6, 43, 143, 146, 173, 193, 259, 266, 280, 301, 319, 324, 333, 339, 348, 351,
354, 373, 377, 381, 406, 433, 435, 436, 437, 439, 440, 446, 449, 450, 451,
452, 460, 478, 480, 610, 611, 623, 628, 682, 706, 978, 1015, 1143, 1160,
1161, 1168.

C. Fabrication:

1. Past:

51, 286, 526, 641, 642, 1080, 1214.

C. Fabrication (cont):

2. Present/Future:

51, 1080.

D. Test and Evaluation:

1. Ground:

3, 8, 9, 10, 484, 581, 662, 675, 676, 677, 678, 680, 684, 707, 814, 1010,
1253, 1254.

D. Test and Evaluation (cont):

2. Flight:

3, 8, 9, 10, 487, 506, 514, 556, 557, 581, 582, 662, 676, 677, 678, 680,
701, 814, 1002, 1003, 1005.

E. Acceptance Tests:

581, 662, 675, 676, 677, 678, 679, 707, 712, 814.

F. Operation:

1. Flight Handbooks/Procedures:

78, 85, 86, 122, 878, 884, 885, 984, 985, 990, 1006, 1042.

F. Operation (cont):

2. Evaluations:

a) Vehicle:

38, 118, 119, 126, 131, 139, 142, 147, 150, 157, 160, 161, 162, 163,
165, 166, 167, 170, 176, 177, 178, 193, 199, 200, 206, 212, 214, 218,
220, 275, 304, 305, 321, 407, 415, 483, 487, 556, 557, 561, 607, 622,
623, 682, 685, 686, 687, 701, 705, 706, 751, 784, 807, 834, 903, 949,
981, 982, 983, 988, 989, 996, 997, 998, 1001, 1002, 1003, 1005, 1010,
1014, 1015, 1022, 1043, 1159, 1216.

F. Operation (cont):

2. Evaluation (cont):

b) Sensor:

29, 61, 547, 566, 585, 589, 656, 658, 687, 698, 699, 702, 707, 709,
718, 780, 823, 845, 942, 949, 979, 987, 995, 997, 1007, 1008, 1009,
1011, 1012, 1013, 1113, 1114.

F. Operation (cont):

2. Evaluation (cont):

c) Weapons:

61, 79, 639, 676, 681, 996.

F. Operation (cont):

2. Evaluation (cont):

d) Fleet Exercises:

851, 991, 992, 1004, 1007, 1086, 1132.

F. Operation (cont):

2. Evaluation (cont):

e) Support Equipment:

593, 985, 994, 1010, 1153.

F. Operation (cont):

3. Mission Performance:

a) ASW:

547, 595, 615, 710, 713, 808, 809, 810, 823, 851, 921, 942, 1007,

1012, 1013, 1014.

F. Operation (cont):

3. Mission Performance (cont):

b) AEW:

644, 649, 653, 693, 713, 851, 949.

F. Operation (cont):

3. Mission Performance (cont):

c) Other:

332, 333, 832.

F. Operation (cont):

4. Ground Handling:

44, 77, 83, 115, 118, 152, 165, 168, 170, 189, 190, 197, 201, 258, 282,
434, 442, 484, 513, 537, 654, 655, 717, 723, 828, 883, 929, 930, 962, 993,
1010, 1049, 1087, 1096, 1098, 1106, 1107, 1108, 1123, 1197, 1200, 1212,
1213.

F. Operation (cont):

5. Vulnerability:

a) Weather:

756, 759, 764, 834.

F. Operation (cont):

5. Vulnerability (cont):

b) Hostile Action:

426, 469, 639.

F. Operation (cont):

6. History:

11, 39, 42, 50, 51, 59, 62, 68, 70, 87, 88, 287, 369, 429, 489, 493, 501,
509, 527, 553, 554, 555, 563, 565, 571, 573, 588, 607, 618, 641, 812, 817,
824, 825, 830, 837, 838, 846, 847, 848, 849, 950, 851, 853, 855, 856, 858,
904, 905, 906, 909, 919, 928, 958, 959, 960, 961, 963, 985, 991, 992, 1001,
1004, 1018, 1020, 1025, 1050, 1074, 1078, 1079, 1082, 1085, 1088, 1089,
1090, 1091, 1121, 1132, 1134, 1135, 1142, 1144, 1145, 1146, 1147, 1156,
1158, 1163, 1170, 1189, 1198, 1201, 1208, 1215, 1222, 1246.

F. Operation (cont):

7. Environmental Data/Considerations:

45, 207, 311, 387, 654, 725, 756, 759, 762, 764, 776, 789, 807, 841, 901,
924, 1060, 1066, 1067, 1072, 1122, 1169, 1236.

G. Costing:

15, 32, 462, 505, 603, 638, 640, 716, 831, 853, 1086, 1128, 1131.

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