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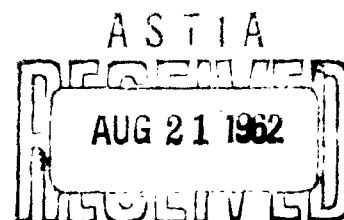
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**A BIBLIOGRAPHY OF REPORTS ISSUED BY THE
BEHAVIORAL SCIENCES LABORATORY:****ENGINEERING PSYCHOLOGY, TRAINING PSYCHOLOGY,
ENVIRONMENTAL STRESS, SIMULATION TECHNIQUES
AND PHYSICAL ANTHROPOLOGY***COMPILED BY**L. JEAN THOMAS*

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JUNE 1962

BEHAVIORAL SCIENCES LABORATORY
6570th AEROSPACE MEDICAL RESEARCH LABORATORIES
AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO

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FOREWORD

The bibliography was prepared under the joint sponsorship of Human Engineering Branch and Training Research Branch of the Behavioral Sciences Laboratory. Dr. Ross L. Morgan, Dr. Melvin J. Warrick and Mrs. L. Jean Thomas drew up the bibliography outline and assigned the reports to their respective categories. Mr. Charles Clauser was responsible for the outlining and assigning of reports to the Anthropology Category. Especial thanks is due to Miss Judy Hetzler for her work in the preparation of the manuscript.

Except for those published in journals, the majority of these reports are available to government organizations and government contractors from the Armed Services Technical Information Agency, Arlington Hall Station, Arlington 12, Virginia. For non-government use, the reports may be purchased from the Office of Technical Service, Department of Commerce, Washington 25, D. C.

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INTRODUCTION

The 6570th Aerospace Medical Research Laboratories is one of the major research and development laboratories in the Aerospace Medical Division, Air Force Systems Command. This organization is responsible for research and development in the field of human factors as applied to aerospace systems, including the efficiency, health and safety of the operating personnel.

The Behavioral Sciences Laboratory conducts research and development in the fields of human engineering, training, psychophysiology, physical anthropology, and simulation techniques. The Human Engineering Branch executes research and development on human performance capabilities and limitations as they relate to operation and maintenance of aircraft, missile, and manned space vehicle systems. The Training Research Branch accomplishes research and technical development in the areas of training techniques, psychological and engineering aspects of training equipment, personnel requirements of new weapon systems, and the effects of environmental stress on human performance.

This bibliography lists, by functional groupings, the technical reports, technical notes, contractor reports, memorandum reports, and journal articles prepared by the Behavioral Sciences Laboratory, and its contractors, from 1945 through 1961.

I. GUIDES AND HANDBOOKS APPLICABLE TO SYSTEM DEVELOPMENT

A. Human Engineering

1. Altman, J. W., Marchese, A. C. and Marchiando, Barbara W. Guide to design of mechanical equipment for maintainability, ASD Technical Report 61-381, August 1961. AD 269 332.
2. Baker, C. A. and Grether, W. F. Visual presentation of information, WADC Technical Report 54-160, August 1954. AD 43 064.
3. Cooper, J. I., Rigby, L. V., and Spickard, W. A. Guide to integrated system design for maintainability, ASD Technical Report 61-424, October 1961.
4. Ely, J. H., Thomson, R. M. and Orlansky, J. Design of controls. Chapter VI of the Joint Services Human Engineering Guide to Equipment Design, WADC Technical Report 56-172, November 1956. AD 118 023.
5. Ely, J. H., Thomson, R. M. and Orlansky, J. Layout of Workplaces. Chapter V of the Joint Services Human Engineering Guide to Equipment Design, WADC Technical Report 56-171, September 1956. AD 110 507.
6. Ely, J. H., Bowen, H. M. and Orlansky, J. Man-machine dynamics. Chapter VII of the Joint Services Human Engineering Guide to Equipment Design, WADC Technical Report 57-582, November 1957. AD 131 082.
7. Fitts, P. M. Psychological aspects of equipment design, USAF Technical Report 5829, August 1949. ATI 64 079.
8. Folley, J. D., Jr., and Altman, J. W. Guide to design of electronic equipment for maintainability, WADC Technical Report 56-218, April 1956. AD 101 729.
9. Hansen, R., Cornog, D., and Hertzberg, H. T. E. Annotated bibliography of applied physical anthropology in human engineering, WADC Technical Report 56-30, May 1958. AD 155 622.
10. Hunt, D. P. The coding of aircraft controls, WADC Technical Report 53-221, August 1953. AD 20 796.
11. Shapero, A. and Bates, C., Jr. A method for performing human engineering analysis of weapons systems, WADC Technical Report 59-784, September 1959. AD 235 920.
12. Van Cott, H. P. and Altman, J. W. Procedures for including human engineering factors in the development of weapon systems, WADC Technical Report 56-488, October 1956. AD 97 305.

B. Personnel and Manning Requirements (see as major topic)

C. Training and Training Equipment

13. Demaree, Robert G. Development of training equipment planning information, ASD Technical Report 61-533, October 1961. AD 267 326.

14. Miller, R. B. Handbook on training and training equipment design, WADC Technical Report 53-136, June 1953. AD 16 859.
15. Miller, R. B. Human engineering design schedule for training equipment, WADC Technical Report 53-138, June 1953. AD 14 768.
16. Miller, R. B. A method for determining human engineering design requirements for training equipment, WADC Technical Report 53-135, June 1953. AD 15 848.
17. Miller, R. B. A method for man-machine task analysis, WADC Technical Report 53-137, June 1953. AD 15 921.
18. Miller, R. B. Psychological considerations in the design of training equipment, WADC Technical Report 54-563, December 1954. AD 71 202.
19. Miller, R. B. Task and part-task trainers and training, WADD Technical Report 60-469, July 1960. AD 245 652.
20. Muckler, F. A., Nygaard, J. E., O'Kelly, L. I., Williams, A. C., Jr. Psychological variables in the design of flight simulators for training, WADC Technical Report 56-369, January 1959. AD 97 130.
21. Parker, J. F., Jr. and Downs, J. E. Selection of training media, ASD Technical Report 61-473, September 1961.
22. Swain, A. D. Guide for the design and evaluation of the instructor's station in training equipment, WADC Technical Report 54-564, December 1954. AD 71 203.
23. Uses of task analysis in deriving training and training equipment requirements, WADD Technical Report 60-593, December 1960. AD 252 946.

II. PHYSICAL ANTHROPOLOGY

A. General

24. An annotated bibliography of USAF physical anthropology from January 1946 to April 1960, April 1960.
25. Daniels, G. S. The "Average Man?" WCRD Technical Note 53-7, December 1952. AD 10 203.
26. Dupertius, C. W. and Emanuel, I. A statistical comparison of the body typing methods of Hooton and Sheldon, WADC Technical Report 56-366, August 1956. AD 97 205.
27. Hansen, R. and Cornog, D. and Hertzberg, H. T. E., ed. Annotated bibliography of applied physical anthropology in human engineering, WADC Technical Report 56-30, May 1958. AD 155 622.
28. Hertzberg, H. T. E. and Daniels, G. S. "Air Force Anthropology in 1950," American Journal of Physical Anthropology, Vol 10, pp 201-208, 1952.

29. Hertzberg, H. T. E. Angular fields of View through the A-1 gunsight in the F-80 Cockpit modified for ejection, AMC Memorandum Report TSEAA 695-73, December 1946.
30. Hertzberg, H. T. E. "Post War Anthropometry in the Air Force," American Journal of Physical Anthropology, Vol 6, pp 363-371, 1948.
31. Hertzberg, H. T. E. "Some Contributions of Applied Physical Anthropology to Human Engineering," Annals of New York Academy of Sciences, Vol 63, pp 616-629, 1955.
32. Hertzberg, H. T. E. Some contributions of applied physical anthropology to human engineering, WADC Technical Report 60-19, January 1960. AD 233 711.

B. Anthropometry

33. Churchill, E. and Truett, Bruce Material relations among dimensions of the head and face, WADC Technical Report 56-621, June 1957. AD 110 629.
34. Churchill, E., Kuby, Alma and Daniels, G. S. Nomograph of the hand and its related dimensions, WADC Technical Report 57-198, April 1957. AD 118 162.
35. Churchill, E. P. and Daniels, G. S. Nomographs of head measurements, WADC Technical Report 53-14, May 1953. AD 16 748.
36. Churchill, E. and Bernhardt, Katherine WAF Trainee body dimensions: A correlation matrix, WADC Technical Report 57-197, April 1957. AD 118 161.
37. Daniels, G. S., Meyers, H. C. and Churchill, E. Anthropometry of male basic trainees, WADC Technical Report 53-49, July 1953. AD 20 717.
38. Daniels, G. S. and Hertzberg, H. T. E., "Applied Anthropometry of the Hand," American Journal of Physical Anthropology, Vol 10, pp 209-215, 1952.
39. Daniels, G. S., Meyers, H. C. and Worrall, Sheryl H. Anthropometry of WAF Basic trainees, WADC Technical Report 53-12, July 1953. AD 20 542
40. Dempster, W. T. The anthropometry of body action, WADD Technical Report 60-18, January 1960. AD 234 005.
41. Dempster, W. T. "The anthropometry of body action," Annals of the New York Academy of Sciences, Vol 63, pp 559-585, 1955.
42. Emanuel, I., and Barter, J. T. Linear distance changes over body joints, WADC Technical Report 56-364, February 1957. AD 118 003.
43. Fry, E. I. and Churchill, E. Bodily dimensions of the older pilot, WADC Technical Report 56-459, June 1956. AD 97 217.

44. Hertzberg, H. T. E., Daniels, G. S. and Churchill, E. Anthropometry of flying personnel -- 1950, WADC Technical Report 52-321, September 1954. AD 47 953.

45. Hertzberg, H. T. E., Dupertius, C. W. and Emanuel, I. Stereophotogrammetry as an anthropometric tool, WADC Technical Report 58-67, February 1958. AD 151 964.

46. Hertzberg, H. T. E. and Dupertius, C. W. "Stereophotogrammetry as an anthropometric tool," Photogrammetric Engineering, December 1957.

47. Meyers, H. C., Daniels, G. S., Churchill, E. and Roelke, Norma Body dimension changes during basic training, WADC Technical Report 56-458, December 1956. AD 97 216.

48. Seaford, H. W., Jr., "Comments on the Photometric system," American Journal of Physical Anthropology, Vol 17, 1959.

C. Biomechanics

49. Barter, J. T. Estimation of the mass of body segments, WADC Technical Report 57-260, April 1957. AD 118 222.

50. Barter, J. T., Emanuel, I. and Truett, B. A statistical evaluation of joint range data, WADC Technical Note 57-311, August 1957. AD 131 028.

51. Brown, C. W., Ghiselli, E. E., Jarrett, R. F., Minium, E. W. and U'Ren, R. M. Magnitude of forces which may be applied by the prone pilot to aircraft control devices: I. Three-dimensional hand controls, AMC Memorandum Report MCREXD-694-4J, March 1949. ATI 52 974.

52. Brown, C. W., Ghiselli, E. E., Jarrett, R. F., Minium, E. W. and U'Ren, R. M. Magnitude of forces which may be applied by the prone pilot to aircraft control devices: II. Two-dimensional hand controls, AF Technical Report 5954, February 1959. ATI 72 377.

53. Brown, C. W., Ghiselli, E. E., Jarrett, R. F., Minium, E. W. and U'Ren, R. M. Magnitude of forces which may be applied by the prone pilot to aircraft control devices: III. Foot controls, AMC Technical Report 5955, February 1950. ATI 70 936.

54. Emanuel, I., Chaffee, J. and Wing, J. A study of human weight lifting capabilities for loading ammunition into the F-86H aircraft, WADC Technical Report 56-367, August 1956. AD 97 206.

55. Hertzberg, H. T. E. and Daniels, G. S. The center of gravity of a fully-loaded F-86 ejection seat in the ejection position, AMC Memorandum Report MCREXD-45341-4-5, March 1950.

56. Hunsicker, P. A. Arm strength at selected degrees of elbow flexion, WADC Technical Report 54-548, August 1955. AD 81 792.

57. Hunsicker, P. A. A study of muscle forces and fatigue, WADC Technical Report 57-586, December 1957. AD 131 089.

D. Comfort (see Personal Equipment Sizing and Design & Seating and Body Supports)

E. Personal Equipment Sizing and Design

58. Alexander, M., Zeigen, R. S. and Emanuel, I. "Anthropometric Data in Three-Dimensional Forms," American Journal of Physical Anthropology, Vol 19, 1961.

59. Alexander, M. and Hertzberg, H. T. E. A comfort evaluation of a form-fitting high altitude helmet, WADC Technical Report 56-404, February 1957. AD 110 548.

60. Alexander, M., Zeigen, R. S. and Emanuel, I. The Presentation of Anthropometric Data in Three-Dimensional Forms, ASD Technical Report 61-599, October 1961.

61. Barter, J. T. and Alexander, M. A sizing system for high altitude gloves, WADC Technical Report 56-599, December 1956. AD 110 589.

62. Contini, Renato; Drillis, Rudolfo and Slote, Lawrence. Development of techniques for the evaluation of high pressure suits, WADC Technical Report 58-641, December 1959. AD 240 563.

63. Emanuel, I., Alexander, M., and Churchill, E. Anthropometric Sizing and Fit-Test of the MC-1 Oral-Nasal Oxygen Mask, WADC Technical Report 58-505, March 1959. AD 213 604.

64. Emanuel, I. and Alexander, M. Height-Weight sizing and fit-test of a cutaway G-suit, Type CSU-3/P, WADC Technical Report 57-432, July 1957. AD 130 912.

65. Emanuel, I., Alexander, M., Churchill, E. P. and Truett, B. A height-weight sizing system for flight clothing, WADC Technical Report 56-365, April 1959. AD 130 917.

66. Zeigen, R. S., Alexander, M. and Churchill, E. P. A head circumference sizing system for helmet design including three-dimensional presentations of anthropometric data, WADC Technical Report 60-631, December 1960. AD 251 939.

F. Seating and Body Supports

67. Eisen, L. and Zeigen, R. S. A supine seat for high-stress testing of primates, WADC Technical Report 59-165, April 1959. AD 219 894.

68. Hertzberg, H. T. E. Comfort tests of the pulsating seat cushion and lumbar pad, AMC Memorandum Report MCREXD-695-82, April 1949.

69. Hertzberg, H. T. E. Contoured seat for the top of an experimental rigid dinghy box, AMC Memorandum Report TSEAA-670-9, May 1947.

70. Hertzberg, H. T. E. Contoured seat for the top of an experimental rigid dinghy box Report No. 2, AMC Memorandum Report MCREXD-670-9D, June 1949. ATT 67 990.

71. Hertzberg, H. T. E. and Daniels, G. S. Hammock for the B-36 airplane, AMC Memorandum Report MCREXD-720-143, October 1949.
72. Hertzberg, H. T. E. Nylon net seat for a modified RB-57 aircraft, ASD Technical Report 61-206, December 1961.
73. Hertzberg, H. T. E. and Colgan, J. W. A prone position bed for pilots, AMC Memorandum Report MCREXD-695-71D, June 1948, ATI 34 088.
74. Patt, R. Principles of cockpit seating, AMC Memorandum Report TSEAA-695-58C, January 1946. AD 50 569.

G. Workspace

75. Coakley, J. D., Fucigna, J. T. and Barmack, J. E. A functional application of anthropometric data to the design of the workspace of PPI scope operators, WADC Technical Report 53-3, January 1953. AD 61 64.
76. Dempster, W. T., Gabel, W. C. and Felts, W. J. Anthropometry of manual work space for the seated subject, ASD Technical Report 61-89, July 1961. AD 258 564.
77. Dempster, W. T., Gabel, W. C. and Felts, W. J. "Anthropometry of manual work space for the seated subject," American Journal of Physical Anthropology, Vol 17, pp 289-317, 1959.
78. Dempster, W. T. Space requirements of the seated operator geometrical, kinematic, and mechanical aspects of the body with special preference to the limits, WADC Technical Report 55-159, July 1955. AD 87 892.
79. Hertzberg, H. T. E., Emanuel, I. and Alexander, M. The anthropometry of working positions, WADC Technical Report 54-520, August 1956. AD 110 573.
80. Hertzberg, H. T. E. Dynamic anthropometry of working positions, ASD Technical Report 61-90, July 1961. AD 263 715.
81. Hertzberg, H. T. E. "Dynamic Anthropometry of Working Positions," Human Factors Bulletin, Vol 2, 1960.
82. Hertzberg, H. T. E. Inhabited wing tip turret, AMC Memorandum Report MCREXD-695-80, November 1948.
83. Morrison, Nina and Shafer, L. Ground study of the nonejection methods of escape from B-47B aircraft, WADC Technical Report 54-6, April 1954. AD 30 282.
84. White, B. C., Johnson, P. J. and Hertzberg, H. T. E. Review of escape hatch sizes for bailout and ditching, WCRD Technical Note 52-81, September 1952. AD 99 784.

III. APPARATUS

85. Allen, M. J., Fitts, P. M. and Slivinske, A. J. A moving target optical projector for use in air traffic control research, WADC Technical Report 53-417, January 1954. AD 30 062.

86. Barger, D. M. and Roush, R. G. A velocity modulated raster display for brightness discrimination studies, WADC Technical Report 53-249, August 1953. AD 23 712.
87. Barnes, G. H. A cross-spectrum analyzer, WADC Technical Report 55-445, November 1955. AD 90 898.
88. Barnes, G. H. A four-channel noise source, WADC Technical Report 55-194, April 1955. AD 76 879.
89. Biagioni, J. R., McKelvey, R. K. and Mousted, J. F. A radar mapping display simulation and performance recording device, WADC Technical Note 58-210, September 1958. AD 203 396.
90. Dempsey, C. A. Development of a workspace measuring device, WADC Technical Report 53-53, March 1953. AD 13 206.
91. Ellson, D. G., Livingston, W. A. and Gray, Florence E. Modifications of the AAF S. A. M. pedestal sight manipulation test, AMC Memorandum Report TSEAA-694-2B, November 1946. ATI 64 531.
92. Erdman, A. C., Fontaine, A. B. and McConnell, D. G. The amplitude analyzer, WADC Technical Report 59-45, July 1959.
93. Gain, P. and Fitts, P. M. A simplified electronic tracking apparatus (SETA), WADC Technical Report 59-44, November 1959. AD 233 850.
94. Grether, W. F. A dual compensatory pursuit apparatus for use in psychological research, AMC Technical Report 6036, September 1950. ATI 90 056.
95. Hixon, W. C., Harter, G. A. and Warren, C. E. A radar simulator for use in air traffic control studies, WADC Technical Report 53-418, January 1954. AD 33 463.
96. Hyman, Aaron An apparatus for determining critical fusion frequencies and other psychophysical functions in vision, WADD Technical Note 60-129, March 1960. AD 24 364.
97. Kolers, P. A. A multi-field electronic tachistoscope, WADC Technical Note 58-349, December 1958. AD 208 320.
98. Loucks, R. B. High-speed graphic sweep recorders derived from the Keinath scanning technique, AMC Technical Report 5964, October 1949. ATI 66 068.
99. McGuire, J. C. Apparatus for presentation and continuous measurement of error in a two-dimensional compensatory tracking task, WADC Technical Report 54-335, December 1954. AD 57 389.
100. McGuire, J. C. and Kraft, C. L. A radio channel load distribution analyzer for use in studies of communication flow in radar approach control centers, WADC Technical Note 57-424, April 1958. AD 142 243.
101. Ormiston, D. W., Rohles, F. H., Jr. and Grunzke, M. E. A device for measuring gross motor behavior in primates, WADC Technical Note 59-353, October 1959.

102. Rohles, F. H., Jr. and Coy, R. A miniaturized operant conditioning chamber for the behavioral research in the upper atmosphere, WADC Technical Note 59-261, July 1959. AD 231 285.
103. Schwartz, N. F. A game theory apparatus for psychological research, ASD Technical Report 61-239, July 1961. AD 265 389.
104. Schwartz, N. F. A pulse function, single axis, compensatory time tracking apparatus, ASD Technical Report 61-734, December 1961.
105. Seltzer, L. J. and McRuer, D. T. Survey of analog cross-spectral analyzers, WADC Technical Report 59-241, December 1959. AD 236 025.
106. Simons, J. C. and Richardson, W. H. Airborne equipment for recording aircraft flight paths, WADC Technical Note 58-37, June 1958. AD 131 058.
107. Warren, C. E., Fitts, P. M. and Clark, J. R. "An electronic apparatus for the study of the human operator in a one-dimensional closed-loop continuous pursuit task," AIEE Transactions, Vol 71, 1952.

IV. CONTROL DESIGN AND ARRANGEMENT

A. Control Size, Shape and Spacing

108. Biel, W. C., Eckstrand, G. A., Swain, A. D. and Chambers, A. N. Tactual discriminability of two knob shapes as a function of their size, WADC Technical Report 52-7, January 1952. AD 158 807.
109. Bradley, J. V. "Control knob arrangement can save aircraft instrument panel space," Journal of Aviation Medicine, Vol 28, pp 322-327, 1957.
110. Bradley, J. V. Effect of gloves on control operation time, WADC Technical Report 56-532, November 1956. AD 110 565.
111. Bradley, J. V. Effect of knob arrangement on consumption of panel space, WADC Technical Report 56-202, June 1956. AD 107 257.
112. Bradley, J. V. Glove characteristics influencing control manipulability, WADC Technical Report 57-389, August 1957. AD 130 836.
113. Bradley, J. V. "A methodology for glove evaluation," Perceptual and Motor Skills, Vol 12, pp 373, 1961.
114. Bradley, J. V. and Stump, N. E. Minimum allowable dimensions for controls mounted on concentric shafts, WADC Technical Report 55-355, December 1955. AD 93 135.
115. Bradley, J. V. and Stump, N. E. Minimum allowable knob crowding, WADC Technical Report 55-455, December 1955. AD 90 898.
116. Bradley, J. V. and Arginteanu, J. Optimum knob diameter, WADC Technical Report 56-96, November 1956. AD 110 549.
117. Bradley, J. V. and Wallis, R. A. Spacing of on-off controls. I: Push buttons, WADC Technical Report 58-2, April 1958. AD 142 272.

118. Bradley, J. V. and Wallis, R. A. Spacing of on-off controls. II: Toggle switches, WADC Technical Report 58-475, March 1959. AD 212 270.
119. Bradley, J. V. and Wallis, R. A. "Spacing of push button on-off controls," Engineering and Industrial Psychology, Vol 1, pp 107, 1959.
120. Bradley, J. V. and Wallis, R. A. "Spacing of toggle switch on-off controls," Journal of Engineering and Industrial Psychology, Vol 2, pp 8, 1960.
121. Bradley, J. V. Tactual coding of cylindrical knobs, WADC Technical Report 59-182, September 1959. AD 232 961.
122. Eckstrand, G. A. and Morgan, R. L. The influence of training on the tactual discriminability of knob shapes, WADC Technical Report 56-8, January 1956. AD 94 606.
123. Grether, W. F. Design of aircraft switch panels for maximum ease of checking of switch position, AMC Memorandum Report TSEAA-694-4F, April 1947. ATI 110 572.
124. Hunt, D. P. and Craig, D. R. The relative discriminability of thirty-one differently shaped knobs, WADC Technical Report 54-108, December 1954. AD 63 503.
125. Jenkins, W. L. "The superiority of gloved operation of small control knobs," Journal of Applied Psychology, Vol 24, pp 97-98, 1958.
126. Jenkins, W. O. A follow-up investigation of shapes for use in coding aircraft control knobs, AMC Memorandum Report TSEAA-694-4A, August 1946. AD 105 851.
127. Jenkins, W. O. A further investigation of shapes for use in coding aircraft control knobs, AMC Memorandum Report TSEAA-694-4B, September 1946. AD 110 688.
128. Jenkins, W. O. Investigation of shapes for use in coding aircraft control knobs, AMC Memorandum Report TSEAA-694-4, August 1946. ATI 110 576.
129. Jones, R. E. A survey of pilot preference regarding knob shapes to be used in coding aircraft controls, AMC Memorandum Report TSEAA-694-4E, February 1947. ATI 111 140.
130. Sharp, E. D. and Bowen, J. H. An exploratory investigation of the effects of wearing full-pressure suits on control operation time, WADD Technical Note 60-90, May 1960. AD 244 889.
131. Stump, N. E. Manipulability of rotary controls as a function of knob diameter and control orientation, WCRD Technical Note 53-12, February 1953. AD 75 00.

B. Control System Characteristics

132. Jenkins, W. L. Design factors in knobs and levers for making settings on scales and scopes, WADC Technical Report 53-2, February 1953. AD 97 24.

133. Jenkins, W. L., Maas, L. O. and Rigler, D. Influence of friction in making settings on linear scale, AF Technical Report 5968, September 1949. ATI 65 844.
134. Jenkins, W. L., Maas, L. O. and Rigler, D. "Influence of friction in making settings on a linear scale," Journal of Applied Psychology, Vol 34, pp 434-439, 1950.
135. Jenkins, W. L., Maas, L. O. and Olson, M. W. The influence of inertia in making settings on a linear scale, AF Technical Report 6038, November 1950. ATI 92 234.
136. Jenkins, W. L., Maas, L. O. and Olson, M. W. "The influence of inertia in making settings on a linear scale," Journal of Applied Psychology, Vol 35, pp 208-213, 1951.
137. Jenkins, W. L. and Karr, A. C. The influence of viewing distance in making settings on a linear scale, WADC Technical Note 55-204, November 1955. AD 95 410.
138. Jenkins, W. L. Mean least turn and its relation to making settings on a linear scale, WADC Technical Report 57-210, May 1957. AD 118 174.
139. Jenkins, W. L. and Karr, A. C. The use of a joy stick in making settings on a simulated scope face, WADC Technical Report 53-430, March 1954. AD 35 165.
140. Jenkins, W. L., and Karr, A. C. "The use of a joy stick in making settings on a simulated scope face," Journal of Applied Psychology, Vol 38, pp 457-461, 1954.
141. Jenkins, W. L. and Olson, M. W. The use of levers in making settings on a linear scale, USAF Technical Report 6563, August 1951. ATI 134 991.
142. Stump, N. E. Toggle switches - activation time as a function of spring tension, WCRD Technical Note 52-39, August 1952. AD 61 598.
143. Stump, N. E. Toggle switches - activation time as a function of the plane of orientation and the direction of movement, WCRD Technical Note 52-51, September 1952. AD 12 170.

C. Control/Display Relationships

144. Anderson, N. H., Grant, D. A. and Nystrom, C. O. "The influence of the spatial positioning of stimulus and response components on performance of a repetitive key-pressing task," Journal of Applied Psychology, Vol 40, pp 137-141, 1956.
145. Anderson, N. H., Grant, D. A. and Nystrom, C. O. Performance on a repetitive key pressing task as a function of the spatial positioning of the stimulus and response components, WADC Technical Report 54-76, March 1954. AD 34 416.
146. Bradley, J. V. Control-display association preferences for ganged controls, WADC Technical Report 54-379, August 1954. AD 52 499.

147. Bradley, J. V. Desirable control-display relationships for moving-scale instruments, WADC Technical Report 54-423, September 1954. AD 61 819.
148. Bradley, J. V. Direction-of-knob-turn stereotypes, WADC Technical Report 57-388, July 1957. AD 130 835.
149. Bradley, J. V. "Direction-of-knob turn stereotypes," Journal of Applied Psychology, Vol 43, pp 21-24, 1959.
150. Fitts, P. M. and Seeger, C. M. "S-R compatibility: Spatial characteristics of stimulus and response codes," Journal of Experimental Psychology Vol 46, pp 199-210, 1953.
151. Gardner, J. F. Direction of pointer motion in relation to movement of flight controls: Cross-pointer type instrument, AF Technical Report 6016, June 1950. ATI 81 459.
152. Gardner, J. F. The effect of motion relationship and rate of pointer movement on tracking performance, WADC Technical Report 57-533, September 1957. AD 131 002.
153. Grether, W. F. Direction of control in relation to indicator movement in one-dimensional tracking, AMC Memorandum Report TSEAA-694-4G, October 1947. ATI 64 449.
154. Morin, R. E. and Grant, D. A. "Learning and performance on a key-pressing task as a function of the degree of spatial stimulus-response correspondence," Journal of Experimental Psychology, Vol 49, pp 39-47, 1955.
155. Morin, R. E. and Grant D. A. Spatial stimulus-response correspondence. Performance on a key-pressing task as a function of the degree of spatial stimulus-response correspondence, WADC Technical Report 53-292, October 1953. AD 23 332.
156. Nystrom, C. O. and Grant, D. A. Performance on a key pressing task as a function of the angular correspondence between stimulus and response elements, WADC Technical Report 54-71, January 1954. AD 35 130.
157. Pigg, L. D. Orientation of controls in bilateral transfer of training, WADC Technical Report 54-376, July 1954. AD 63 505.
158. Simon, C. W. Instrument-control configurations affecting performance in a compensatory pursuit task, USAF Technical Report 6015, February 1952. ATI 173 041.
159. Warrick, M. J. Direction of movement in the use of control knobs to position visual indicators, AMC Memorandum Report TSEAA-694-4C, April 1947. ATI 64 536.
160. Warrick, M. J. Direction of motion stereotypes in positioning a visual indicator by use of a control knob. II. Results from a printed test, AMC Memorandum Report MCREXD-694-19A, November 1948. ATI 74 712.
161. Warrick, M. J. Effects of motion relationships on speed of positioning visual indicators by rotary control knobs, AF Technical Report 5812, July 1949. ATI 64 982.

D. General Factors

162. Brown, C. W., Ghiselli, E. E., Jarrett, R. F., Mimium, E. W. and U'Ren, R. M. Comparison of aircraft controls for prone and seated position in three-dimensional pursuit task, AMC Technical Report 5956, March 1950. ATI 73 414.
163. Brown, C. W., Ghiselli, E. E., Jarrett, R. F. and Minium, E. W. Speed and accuracy of reaching for controls in different areas from the prone position, AMC Memorandum Report MCREXD-694-4H, January 1948. ATI 24 859.
164. Fitts, P. M. and Jones, R. E. Analysis of factors contributing to 460 "pilot-error" experiences in operating aircraft controls, AMC Memorandum Report TSEAA-694-12, July 1947. ATI 10 838.
165. Frost, G. G. An application of a dynamic pilot-model to system design, ASD Technical Note 61-57, April 1961. AD 265 607.
166. Green, M. R. and Muckler, F. A. Speed of reaching to critical control areas in a fighter-type cockpit, WADC Technical Report 58-687, June 1959. AD 216 298.
167. Grether, W. F. A study of several design factors influencing pilot efficiency in the operation of controls, AMC Memorandum Report TSEAA-694-9, November 1946. ATI 105 856.
168. Hunt, D. P. and Warrick, M. J. Accuracy of blind positioning of a rotary control, WCLD Technical Note 52-106, March 1957. AD 142 291.
169. Jenkins, W. O. The accuracy of pilots and non-pilots in applying pressures on a control stick, AMC Memorandum Report TSEAA-694-3, August 1946. ATI 105 858.
170. Jenkins, W. O. The accuracy of pilots in applying pressures on a wheel-type control, AMC Memorandum Report TSEAA-694-3A, September 1946. ATI 115 013.
171. Jenkins, W. O. The accuracy of pilots in applying pressures on rudder pedals, AMC Memorandum Report TSEAA-694-3B, September 1946. ATI 105 854.
172. Johnson, A. P. Experimental comparison of sighting and triggering performance with hand grips as compared to hand wheel controls on the B-29 pedestal sight, AMC Memorandum Report TSEAA-694-2, May 1946. ATI 105 862.
173. Leibowitz, H. W. and Kaestner, N. The effect of exposure time, individual variability, and practice on the precision of vernier adjustments, WADC Technical Report 54-77, March 1954. AD 45 693.
174. Milton, J. L. An experimental comparison of the accuracy of tracking, ranging and triggering with two new-type gun-sight hand controls, AMC Memorandum Report TSEAA-694-2A, October 1946. ATI 105 853.
175. Muckler, F. A. The design of operator controls: A selected bibliography, WADD Technical Note 60-277, March 1961.

176. Williams, A. C., Jr., Adelson, M. and Ritchie, M. L. A program of human engineering research on the design of aircraft instrument displays and controls, WADC Technical Report 56-526, December 1956. AD 110 424.

V. ENVIRONMENTAL STRESS, VIGILANCE, AND WORK/REST CYCLES

177. Adams, O. S. and Chiles, W. D. Human performance as a function of the work-rest cycle, WADD Technical Report 60-248, March 1960. AD 240 654.

178. Adams, O. S. Human performance as a function of the work-rest ratio during prolonged confinement, ASD Technical Report 61-720, November 1961.

179. Adams, O. S., Levine, R. B. and Chiles, W. D. Research to investigate factors affecting multiple-task psychomotor performance, WADC Technical Report 59-120, March 1959. AD 213 592.

180. Alexander, H. S. and Chiles, W. D. An exploratory study of prolonged intermittent photic stimulation, WADC Technical Report 59-715, November 1959. AD 233 854.

181. Alexander, H. S. and Chiles, W. D. "Prolonged intermittent photic stimulation," U. S. Armed Forces Medical Journal, Vol 2, pp 1156-1161, 1960.

182. Chiles, W. D. Effects of elevated temperatures on performance of a complex mental task, WADC Technical Report 57-726, December 1957. AD 142 192.

183. Chiles, W. D. "Effects of elevated temperatures on performance of a complex mental task," Ergonomics, Vol 2, pp 89, 1958.

184. Chiles, W. D. Effects of high temperatures on performance of a complex mental task, WADC Technical Report 58-323, July 1958. AD 155 811.

185. Chiles, W. D. Effects of shock-induced stress on verbal performance, WADC Technical Report 58-117, June 1958. AD 151 083.

186. Chiles, W. D. "Effects of shock-induced stress on verbal performance," Journal of Experimental Psychology, Vol 58, pp 159-165, 1958.

187. Chiles, W. D. The effects of sleep deprivation on performance of a complex mental task, WADC Technical Note 55-423, September 1955. AD 100 691.

188. Chiles, W. D., Knott, J. R. and Ingram, W. R. "Effects of sub-cortical lesions on cortical electroencephalogram in cats," A. M. A. Archives of Neurology and Psychiatry, Vol 73, pp 203-215, 1955.

189. Chiles, W. D. Experimental studies of prolonged wakefulness, WADC Technical Report 55-395, December 1955. AD 100 698.

190. Chiles, W. D. and Adams, O. S. Human performance and the work-rest schedule, ASD Technical Report 61-270, July 1961. AD 266 033.

191. Chiles, W. D. "Performance during stimulation of the diencephalic activating system," The Journal of Comparative and Physiological Psychology, Vol 47, 1954.
192. Chiles, W. D. Psychological stress as a theoretical concept, WADC Technical Report 57-457, July 1957. AD 130 942.
193. Chiles, W. D., Cleveland, J. M. and Fox, R. E. A study of the effects of ionized air on behavior, WADD Technical Report 60-598, November 1960. AD 252 099.
194. Crook, M. N., Harker, G. S., Hoffman, A. C., Wulfeck, J. W. and Kennedy, J. L. A determination of amplitude thresholds for the visual perception of vibration, AMC Memorandum Report MCREXD-694-1R, February 1949. ATI 139 860.
195. Davis, J. F. Manual of surface electromyography, WADC Technical Report 59-184, December 1959. AD 234 044.
196. Debons, A. and Chiles, W. D. The effects of cold on psychophysical weight judgments: A methodological study, WADC Technical Note 57-305, September 1957. AD 131 004.
197. Dempsey, C. A., Grenier, T. H., Chiles, D. W., Burch, N. R., Warren, D., Schmitt, N. E. and Steele, J. E. "56 hours in jet planes," Science News Letter, Vol 67, pp 211, 1955.
198. Dempsey, C. A., Grenier, T. H., Burch, N. R., Chiles, D. W. and Steele, J. "The human factors in long range flight," Journal of Aviation Medicine, Vol 27, pp 18-22, 1956.
199. Hermans, T. G., Loucks, R. B., Checov, L. and Stern, F. Annotated bibliography on the psychological aspects of orientation as they relate to aviation, AMC Memorandum Report TSEAA-694-16A, December 1947. ATI 115 012.
200. Howland, D. An investigation of the performance of the human monitor, WADC Technical Note 57-431, July 1958. AD 142 259.
201. Jerison, H. J., Crannell, C. W. and Pownall, Dorothy. Acoustic noise and repeated time judgments in a visual movement projection task, WADC Technical Report 57-54, March 1957. AD 118 004.
202. Jerison, H. J. Effect of a combination of noise and fatigue on a complex counting task, WADC Technical Report 55-360, December 1955. AD 95 232.
203. Jerison, H. J. and Smith, A. K. Effect of acoustic noise on time judgment, WADC Technical Report 55-358, October 1955. AD 99 641.
204. Jerison, H. J. Differential effects of noise and fatigue on a complex counting task, WADC Technical Report 55-359, October 1956. AD 110 506.
205. Jerison, H. J. and Wing, S. Effects of noise and fatigue on a complex vigilance task, WADC Technical Report 57-14, January 1957. AD 110 700.
206. Jerison, H. J. Experiments on vigilance: Duration of vigil and the decrement function. Fourth in a series, WADC Technical Report 58-369, December 1958. AD 155 722.

207. Jerison, H. J. Experiments on vigilance: The empirical model for human vigilance. Fifth in a series, WADC Technical Report 58-526, January 1959. AD 202 883.
208. Jerison, H. J. and Wallis, R. A. Experiments on vigilance: One-clock and three-clock monitoring. Second in a series, WADC Technical Report 57-206, April 1957. AD 118 171.
209. Jerison, H. J. and Wallis, R. A. Experiments on vigilance: Performance on a simple vigilance task in noise and in quiet, WADC Technical Report 57-318, June 1957. AD 118 337.
210. Jerison, H. J. and Wing, J. F. "Human vigilance and operant behavior," Science, Vol 133, pp 880, 1961.
211. Jerison, H. J. and Arginteanu, J. Time judgments, acoustic noise, and judgment drift, WADC Technical Report 57-454, January 1958. AD 130 963.
212. McGehee, C. R., Sabeh, R. and Chiles, W. D. Operator fatigue and fighter range extension, (CONFIDENTIAL report, title unclassified), WADC Technical Report 53-380, October 1953. AD 29 591.
213. McIntosh, B. B., Milton, J. L. and Cole, E. L. Pilot performance during extended periods of instrument flight, WADC Technical Report 6725, May 1952. AT1168 862.
214. Ormiston, D. W. and Finkelstein, Beatrice. The effects of confinement on intellectual and perceptual functioning, ASD Technical Report 61-577, October 1961.
215. Ormiston, D. W. A methodological study of confinement, WADD Technical Report 61-258, March 1961. AD 266 211.
216. Ray, J. T., Martin, O. E., Jr. and Alluisi, E. A. "Human performance as a function of the work-rest cycle," NAS-NRC, Publication 882, 1961.
217. Rohles, F. H., Jr. and Grunzke, M. E. Sustained operant behavior in mice. A model for behavioral research in biosatellites, WADC Technical Note 59-299, August 1959. AD 229 457.
218. Rulon, P. J., Sampson, P. B. and Schohan, B. The effects of "g" forces on the performance of teletype operators, AF Technical Report 6568, October 1951. AD 11 64.
219. Simon, C. W. Effects of stress on performance in a dominant and a non-dominant task, WADC Technical Report 54-285, June 1954. AD 53 977.
220. Warrick, M. J. and Lund, D. W. Effect of moderate positive acceleration (g) on ability to read aircraft-type instrument dials, AMC Memorandum Report TSEAA-694-10, November 1946. AT1110 567.
221. White, W. J. and Jorve, W. R. The effects of gravitational stress upon visual acuity, WADC Technical Report 56-247, November 1956. AD 110 444.

222. White, W. J. and Riley, M. B. The effects of positive acceleration on the relation between illumination and instrument reading, WADC Technical Report 58-332, November 1958. AD 206 663.

VI. HUMAN ENGINEERING APPLICATIONS, DESCRIPTIONS, AND EVALUATIONS

223. Castellano, C. B-66 airplane technical review of 1037 operator's station, WCRD 53-3, January 1953.

224. Christensen, J. M. Aerial analysis of navigator duties with special reference to equipment design and workplace layout: I. Development of technique, AMC Memorandum Report TSEAA-694-15, September 1947. ATI 12 506.

225. Christensen, J. M. Aerial analysis of navigator duties with special reference to equipment design and workplace layout: II. Navigator and radar operator activities during three Arctic missions, AMC Memorandum Report MCREXD-694-15A, February 1948. ATI 110 579.

226. Christensen, J. M. Aerial analysis of navigator duties with special reference to equipment design and workplace layout: III. Report on interviews with navigators of a photo reconnaissance squadron and a weather reconnaissance squadron assigned to Arctic duty, AMC Memorandum Report MCREXD-694-15B, March 1948. ATI 125 205.

227. Christensen, J. M. AN/CPS-6B prototype inspection, AMC Memorandum Report MCREXD-694-18C, March 1949.

228. Christensen, J. M. "An analysis of the activities of the Arctic aerial navigator," Technical Data Digest, Vol 14, pp 12-21, 1949.

229. Christensen, J. M. A comparison of navigator activities in the high and mid-latitudes, AMC Technical Report 6027, August 1950. ATI 84 011.

230. Christensen, J. M. In-flight activities of navigators in the Atlantic and Pacific areas, AMC Technical Report 5771, May 1949. ATI 65 836.

231. Christensen, J. M. Inspection of AN/CPS-6B, AMC Memorandum Report MCREXD-694-24, December 1949. ATI 169 887.

232. Christensen, J. M. "A method for the analysis of complex activities and its application to the job of the Arctic aerial navigator," Mechanical Engineering, 1949.

233. Christensen, J. M. Psychological factors involved in the design of air navigation plotters, AMC Memorandum Report TSEAA-694-1D, October 1946. ATI 105 688.

234. Christensen, J. M. "Selection tests for AF navigators," Journal of the Institute of Navigation, Vol 1, 1947.

235. Christner, C. A., Debeau, D. C., and Drozda, W. The development of new methods of measurement for assessing electronic countermeasures effectiveness, WADC Technical Report 57-701, June 1957. (SECRET report, title unclassified), AD 118 164.

236. Coakley, J. D., Werner, D. S., Fucigna, J. T. and Barmack, J. E. Classifying and quantifying communications between controllers and pilots obtained during simulated intercept missions, USAF Technical Report 6524, December 1951. AD 21 36.
237. Coakley, J. D. and Fucigna, J. T. An evaluation of a GCI projection plotting board used as a conventional board, (CONFIDENTIAL report, title unclassified), USAF Technical Report 6034, September 1950. ATI 148 994.
238. Coakley, J. D., Fogg, R. A. and Barmack, J. E. Present intercept communication loads and their implications for visual-verbal message presentation, (CONFIDENTIAL report, title unclassified), WADC Technical Report 52-343, January 1953. AD 13 775.
239. Coakley, J. D. and Barmack, J. E. A survey and analysis of the ground observer net: A human engineering study, (CONFIDENTIAL report, title unclassified), AF Technical Report 6032, June 1950. ATI 107 550.
240. Coakley, J. D., Fucigna, J. T. and Barmack, J. E. A systems description of the continental air defense net, (SECRET report, title unclassified), WADC Technical Report 52-186, January 1953. AD 22 782.
241. Danielson, L. E., Ring, J. M. and Bastian, W. R. Air weather service survey. I. Forecaster and pilot opinions of organizational, personnel and training procedures of the Air Weather Service, AF Technical Report 6687 (Part I), April 1952. ATI 159 139.
242. Danielson, L. E., Christensen, J. M., Bastian, W. R. and Ring, J. M. Air weather service survey. II. Weather briefing, AF Technical Report 6687 (Part II), April 1952. ATI 174 446.
243. Danielson, L. E., Ring, J. M. and Bastian, W. R. Air weather service survey. III. Weather station layout, AF Technical Report 6687 (Part III), April 1952. ATI 162 406.
244. Danielson, L. E. and Ring, J. M. Air weather service study. IV. Critical incidents involving weather information, AF Technical Report 6687 (Part IV), April 1952. ATI 159 140.
245. Feickert, A. C. Human engineering electronic countermeasures conference held at the Aero Medical Laboratory, Wright-Patterson Air Force Base, WADC Technical Note 55-762, (SECRET report, title unclassified), December 1955.
246. Gardner, J. F., Seeger, C. M. and Warrick, M. J. Human engineering operational suitability of the B-57B, WADC Technical Note 56-73, March 1956. AD 142 134.
247. Hopkins, C. O., Bauerschmidt, D. K. and Anderson, M. J. Display and control requirements for manned space flight, WADD Technical Report 60-197, April 1960. AD 242 572.
248. Kay, M. C. and Christensen, J. M. Inspection of the Goodyear Plotting Board, AMC Memorandum Report MCREXD-694-24A, July 1950.
249. Long, G. E. Engineering psychology consultation service: I. 1 Jan 48 to 1 Nov 48, AMC Memorandum Report MCREXD-694-18A, November 1948,

250. Long, G. E. and Fitts, P. M. Human-engineering aspects of the Berlin Airlift, AMC Memorandum Report MCREXD-694-23, June 1949. ATI 105 859.
251. McGehee, C. R. Research on a multiple off-set technique, (SECRET report, title unclassified), WCRD Technical Note 55-650, October 1955.
252. Queal, R. W., Jr. Experimental component arrangement for the radar air traffic control center at Wright-Patterson AFB, Ohio, WCRD Technical Note 53-143, August 1954. AD 126 083.
253. Rath, G. A. and Feickert, A. C. A manual method for AN/APD-4 film analysis, (SECRET report, title unclassified), WADC Technical Note 55-368, August 1955. AD 95 557.
254. Ring, J. M. and Christensen, J. M. An objective evaluation of two Air Force navigation plotters, AF Technical Report 5971, September 1950. ATI 110 692.
255. Seeger, C. M., Warrick, M. J. and Lacey, R. J. Human engineering suitability evaluation of F-100A, (SECRET report, title unclassified), WADC Technical Note 55-598, October 1955. AD 119 099.
256. Seeger, C. M. Suitability of the MA-1 Signal Generator - auditory warning signal for use in USAF Aircraft headsets, WCRD Technical Memorandum Report 55-37, May 1955.
257. Smith, Bertram J. and Christensen, J. M. Inspection of the Radar Bombardier and Navigator positions in Project Aircraft Number 65, AMC Memorandum Report WCRDP-694-25, October 1951.
258. Smithson, J. E. and McGehee, C. R. Multiple off-set technique for bombing purposes, (SECRET report, title unclassified), WADC Technical Note 54-14, March 1955. AD 34 643.
259. Van Saun, H. R. Duties of aircrew members in the nose position of a very heavy bombardment airplane during a typical mission, (CONFIDENTIAL report, title unclassified), AMC Memorandum Report TSEAA-694-4D, August 1946. ATI 152 757.
260. Williams, A. C., Jr., Simon, C. W., Haugen, Ruth and Roscoe, S. N. Operator performance in strike reconnaissance, WADD Technical Report 60-521, August 1960. AD 246 545.

VII. MAINTENANCE

A. Design for Maintainability

261. Baker, D. F. and Crawford, B. M. Range limitations of the CRL model 8 master-slave manipulator with the seated operator, WADC Technical Note 59-359, October 1959. AD 231 281.
262. Baker, D. F. and Crawford, B. M. Task performance with the CRL model 8 master-slave manipulator as a function of color-coding, distance, and practice, WADC Technical Report 59-728, November 1959. AD 233 457.

263. Baker, D. F. Task performance with the CRL model 8 master-slave manipulator as a function of indexing variables, ASD Technical Report 61-626, December 1961.
264. Baker, D. F. Task performance with the CRL model 8 master-slave manipulator as a function of object size, angle, and height of display, WADD Technical Report 60-167, May 1960. AD 243 119.
265. Crawford, B. M. and Baker, D. F. Human factors in remote handling: Survey and bibliography, WADD Technical Report 60-476, July 1960. AD 242 524.
266. Crawford, B. M. Measures of remote manipulator feedback: Differential sensitivity for weight, WADD Technical Report 60-591 (I), March 1961. AD 265 434.
267. Crawford, B. M. Measures of remote manipulator feedback: Absolute judgments of weight, WADD Technical Report 60-591 (II), March 1961. AD 265 435.
268. Crawford, B. M. and Kama, W. N. Remote handling of mass, ASD Technical Report 61-627, December 1961.
269. Crawford, B. M. "Task performance with the CRL model 8 master-slave manipulator as a function of color-coding, distance, and practice," ASME (American Society of Mechanical Engineers), Paper 60-SA-37, 1960.
270. Human factors of remote handling in advanced systems - A symposium, ASD Technical Report 61-430, April 1961. AD 268 656.
271. Lowder, R. G. Considerations in prediction of maintainability, WADC Technical Note 59-378, November 1959. AD 233 848.
272. Pigg, L. D. Human engineering principles of design for in-space maintenance, ASD Technical Report 61-629, November 1961.
273. Pigg, L. D. Human factors in remote handling, ASD Technical Report 61-430, April 1961.
274. Pope, L. T. A survey of checkout equipment used in Air Force weapons systems, with emphasis on the man-machine relationship, ASD Technical Note 61-38, May 1961. AD 262 166.
275. Rees, D. W. and Copeland, Nola K. Discrimination of differences in mass of weightless objects, WADD Technical Report 60-601, December 1960. AD 252 161.
276. Rigby, L. V. and Cooper, J. I. Problems and procedures in maintainability, ASD Technical Note 61-126, October 1961.
277. Schafer, T., Benson, N. and Clausen, H. Development of criteria and quantitative predictors of maintainability of Air Force equipment, ASD Technical Report 61-502, September 1961. AD 268 599.
278. Wright, G. O., Deininger, R. L. McGuire, J. C. and Queal, R. W., Jr. Equipment maintenance with various numbers of service men: A simple analysis, WADC Technical Report 58-543, November 1958. AD 206 921.

B. Performance Aids

279. Folley, J. D., Jr. A preliminary procedure for systematically designing performance aids, ASD Technical Report 61-550, October 1961. AD 270 868.
280. Folley, J. D., Jr. Problems in the design of performance aids, ASD Technical Report 61-548, October 1961. AD 270 866.
281. Folley, J. D., Jr. A review of the literature on design of informational job performance aids, ASD Technical Report 61-549, October 1961. AD 270 867.
282. Kennedy, J. L. and Crocker, Mary L. Study of preferences for abbreviations of common words used in aviation, AMC Memorandum Report TSEAA-694-II, August 1947. ATI III 134.
283. Rees, D. W. and Copeland, N. K. The effects of serial position in check-list design, WADC Technical Report 59-552, September 1959. AD 231 990.
284. Rees, D. W. Guide to design of Air Force check-list publications, WADC Technical Report 59-758, December 1959. AD 235 418.
285. Rees, D. W. and Kama, W. N. Size of tabs: A factor in handling of guides and check-lists, WADC Technical Report 59-158, March 1959. AD 213 595.
286. Ross, D. A. Comprehensibility evaluation of technical manuals, WADC Technical Note 59-442, July 1959. AD 228 235.

C. Maintenance Training

287. Franks, P. E. and Furnish, C. W. Automated maintenance: Theory, practice and implications for training, WADD Technical Report 60-412, August 1960. AD 246 347.
288. Hansen, O. K., Franks, P. E. and Modrick, J. A. Nature and use of the MAC-2 (malfunction and circuitry) trainer, WADC Technical Note 59-140, May 1959. AD 216 532.

VIII. METHODOLOGY AND STATISTICS

289. Alluisi, E. A. Computational formulae for a distribution-free test of analysis-of-variance hypotheses, WADC Technical Report 56-339, July 1956. AD 110 445.
290. Alluisi, E. A. and Webb, I. B. Four-place logarithms to the base 2 of three-digit numbers, WADC Technical Note 56-499, December 1956. AD 110 581.
291. Bowen, J. H. and Sharp, E. Tables for Mood's distribution-free interval estimation technique for differences between two medians, WADD Technical Note 60-89, May 1960. AD 245 657.

292. Bradley, J. V. "Complete counterbalancing of immediate sequential effects in a latin square design," Journal of the American Statistical Association, Vol 53, pp 525-528, 1957.
293. Bradley, J. V. Distribution-free statistical tests, WADD Technical Report 60-661, August 1960. AD 249 268.
294. Bradley, J. V. Studies in research methodology. I. Compatibility of psychological measurements with parametric assumptions, WADC Technical Report 58-574(I), September 1959. AD 230 977.
295. Bradley, J. V. Studies in research methodology: II. Consequences of violating parametric assumptions -- fact and fallacy, WADC Technical Report 58-574(II), September 1959. AD 231 728.
296. Bradley, J. V. Utilization of multiple cues in paired comparisons, WADC Technical Report 59-548, September 1959. AD 231 638.
297. Christensen, J. M. "The sampling method of activity analysis and its application to the problem of aircraft crew requirements," Scientific methods for use in the investigation of flight crew requirements, Flight Safety Foundation, Woods Hole, Massachusetts, Section II, p 37. 1948.
298. Christensen, J. M. "The sampling technique for use in activity samples," Personnel Psychology, Vol 3, pp 361-368, 1950.
299. Haneman, V. S., Jr. and Senders, J. W. Correlation computation, WADC Technical Report 55-197, April 1955. AD 80 941.
300. Kappauf, W. E. The use of the angular transformation in the statistical treatment of error frequencies, AMC Memorandum Report TSEAA-694-IJ, September 1947. ATI II 0 578.
301. Senders, Virginia L. and Sowards, Ann. "Analysis of response sequences in the setting of a psychophysical experiment," The American Journal of Psychology, Vol 65, pp 358-374, 1952.
302. Walker, R. Y., Hemphill, J. K. and Matheny, W. G. The evaluation of a psychomotor task for use in the study of warning signals, AMC Memorandum Report TSEAA-694-8C, September 1947. AD 37 959.

VIV. PERSONNEL AND MANNING REQUIREMENTS

303. Folley, J. D., Jr., Fairman, J. B. and Jones, E. M. A survey of the literature on prediction of Air Force personnel requirements, WADD Technical Report 60-493, July 1960. AD 244 539.
304. Gael, S. and Reed, L. Personnel equipment data: Concept and content, ASD Technical Report 61-739, November 1961.
305. Gael, S. and Stackfleth, E. D. A data reduction technique applied to the development of qualitative personnel requirements information (QPRI) the keysort card system, WADD Technical Note 60-133, May 1960. AD 243 681.

306. Knowles, W. B. Automation and personnel requirements for guided missile ground support functions, WADC Technical Report 59-240, May 1959. AD 216 715.

307. Losee, J. E., Fayfer, G. E., Frahm, W. F. and Eisenberg, B. Methods for computing manpower requirements for weapon systems under development, ASD Technical Report 61-361, August 1961. AD 264 435.

308. Marks, M. A data organizational model for the personnel subsystem, ASD Technical Report 61-447, September 1961. AD 266 320.

309. Marks, M. Development of human proficiency and performance measures for weapon system testing, ASD Technical Report 61-733, November 1961.

X. PRESENTATION OF INFORMATION

A. Applications, Descriptions and Evaluations

310. Angrist, Shirley S. The comparative interpretability of two aircraft attitude indicators, AMC Memorandum Report 57-8, February 1957.

311. Baker, C. A. and Carter, G. H. Design of an aircraft clock dial, WCRD Technical Note 54-22, December 1954. AD 119 092.

312. Baker, C. A. Design of an aircraft clock dial for use in strategic fighter missions, WCRD Technical Note 55-5, February 1955.

313. Bamford, H. E., Jr. and Ritchie, M. L. Integrated instruments: A roll and turn indicator, WADC Technical Report 57-205, May 1957. AD 118 170.

314. Coakley, J. D. and Fucigna, J. T. A comparison of the speed and accuracy of aircraft indication with a PPI projection system and a conventional system, (CONFIDENTIAL report, title unclassified), USAF Technical Report 6033, July 1950. ATI 107 613.

315. Cole, E. L., McIntosh, B. B. and Grether, W. F. Brightness levels of three instrument lighting systems used by pilots flying at night, AF Technical Report 6031, August 1950. ATI 89 591.

316. Collins, H. R. Methods of indicating aircraft heading, WCRD Technical Note 52-65, September 1952. AD 66 657.

317. Gardner, J. F. and Lacey, R. J. An experimental comparison of 5 different attitude indicators, WADC Technical Report 54-32, May 1954. AD 34 642.

318. Gardner, J. F., Lacey, R. J., Seeger, C. M. and Wade, J. E. In-flight comparison of pilot performance on a standard USAF and an experimental instrument panel, WADC Technical Report 57-270, September 1957. AD 118 255.

319. Grether, W. F. Design of clock dials for greatest speed and accuracy of reading in military (2400 hours) time system, AMC Memorandum Report TSEAA-694-8, October 1946. ATI 139 062.

320. Grether, W. F. and Warrick, M. J. Proposal for presenting localizer and glide path information to the pilot, AMC Memorandum Report TSEAA-694-8A, March 1947. ATI 139 616.
321. Henneman, R. H. Visual message presentation: I. Summary reports of results of field study, (CONFIDENTIAL report, title unclassified), AMC Memorandum Report MCREXD-22, October 1948. ATI 123 317.
322. Lacey, R. J. Suitability of the gray instrument panel for use in USAF aircraft, WCRD Technical Note 54-12, April 1954. AD 35 938.
323. Loucks, R. B. An azimuth trainer for evaluating the interpretability of directional indicating flight instruments, AMC Memorandum Report TSEAA-694-16, October 1947.
324. Loucks, R. B. An experimental comparison of the relative effectiveness with which two types of map reading procedures can be utilized by novices, AF Technical Report 5963, October 1949. ATI 66 057.
325. Narva, M. A., Gainer, C. A. and Muckler, F. A. Integrated instruments: Information requirements for fuel management, WADD Technical Report 60-638, December 1960. AD 252 053.
326. Nicklas, D. R. A history of aircraft cockpit instrumentation 1903 - 1946, WADC Technical Report 57-301, April 1958. AD 118 299.
327. Ritchie, M. L. Integrated instruments: A drag indicator, WADC Technical Report 55-423, December 1955. AD 93 861.
328. Rudov, M. H. Target visibility: Weapon system 321A, (SECRET RESTRICTED DATA report, title unclassified, limited distribution), WADC Technical Note 59-133, April 1959.
329. Smith, B. J. Flight evaluation of experimental radar scopes in terms of bombing accuracy and radar observers preferences, (CONFIDENTIAL report, title unclassified), USAF Memorandum Report WCRDP-649-26, January 1952. ATI 135 001.
330. Van Saun, H. R. The comparative interpretability of two methods of presenting bombing information by radar, AMC Memorandum Report TSEAA-694-5, October 1946. ATI 139 832.
331. Vanderplas, J. M. Flight evaluation of experimental 10 inch radar cathode ray tubes in terms of operator preference, (CONFIDENTIAL report, title unclassified), WCRD Technical Memorandum Report 52-55, October 1952. AD 55 666.
332. Wilcox, L. R. and Grether, W. F. Color markings for aircraft operating in Arctic regions, AF Technical Report 5814, May 1949. ATI 53 941.
333. Wise, H. G., Jr. A survey of current research and development on cockpit and instrument panel lighting systems by airlines and aircraft manufacturers, AMC Memorandum Report MCREXD-694-8D, May 1948. ATI 110 690.

B. Coding Methods

334. Cohen, J. Binocular disparity as a coding dimension for pictorial instrument and radar displays, WADC Technical Report 55-393, December 1955. AD 93 633.
335. Cohen, J. and Senders, Virginia L. An experiment on dial coding, WADC Technical Report 52-209, November 1953. AD 24 925.
336. Cohen, J. and Webb, I. B. An experiment on the coding of numerals for tape presentation, WADC Technical Report 54-86, December 1953. AD 43 529.
337. Cohen, J. and Dinnerstein, A. J. Flash rate as a visual coding dimension for information, WADC Technical Report 57-64, May 1958. AD 118 018.
338. Conover, D. W. The amount of information in the absolute judgment of Munsell hues, WADC Technical Note 58-262, June 1959. AD 233 445.
339. Conover, D. W. and Kraft, Conrad. The use of color in coding displays, WADC Technical Report 55-471, October 1958. AD 204 214.
340. Sabeh, R., Jorve, W. R. and Vanderplas, J. M. Shape coding of aircraft instrument zone markings, WADC Technical Note 57-260, March 1958. AD 118 343.

C. CRT Displays

341. Adler, H. E., Kuhns, Margaret P. and Brown, J. L. Masking of cathode ray tube displays by ambient illumination, WADC Technical Report 53-266, November 1953. AD 30 677.
342. Brown, J. L., Diamond, A. L. and Adler, H. E. The effect of duration of light adaptation on time required for detection of a target on a simulated PPI scope, WADC Technical Report 52-259, December 1952. AD 12 969.
343. Buckley, Barbara B., Hanes, R. M. and Deese, J. Search area and target detectability on a PPI cathode-ray tube, WADC Technical Report 52-303, April 1953. AD 13 298.
344. Christensen, J. M. Some typical sky and earth brightnesses at altitudes 10,000 to 40,000 feet and their relationship to the eye-adaptation problems of the radar operator, AMC Memorandum Report TSEAA-694-11, December 1946. ATI 110 569.
345. Deese, J. Signal size and detectability on a PPI display, WADC Technical Report 54-166, August 1954. AD 53 978.
346. Hake, H. W. and Averbach, E. Apparent and real resolution in radar visibility, WADC Technical Report 55-459, September 1955. AD 94 316.
347. Herrick, R. M., Adler, H. E., Coulson, J. E. and Howett, G. L. The detection of separations between adjacent signals on a simulated PPI radar scope, WADC Technical Report 55-424, July 1955. AD 102 535.
348. Horton, G. P. Accuracy of reading target location and size of schematic PPI display, USAF Technical Report 5961, October 1949. ATI 66 067.

349. Horton, G. P. An analysis of errors made on a schematic PPI display, AF Technical Report 5960, October 1949. ATI 65 650.
350. Horton, G. P. Target shape and accuracy on a schematic PPI display, AF Technical Report 5962, October 1949. ATI 65 835.
351. Howell, W. C. and Kraft, C. L. Size, blur, and contrast as variables affecting the legibility of alpha-numeric symbols on radar-type displays, WADC Technical Report 59-536, September 1959. AD 232 889.
352. Mangelsdorf, J. E. Variables affecting the accuracy of collision judgments on radar-type displays, WADC Technical Report 55-462, December 1955. AD 101 282.
353. Ranken, H. B. Determination of width and luminance of a Cathode-ray-tube trace, WADC Technical Report 52-258, September 1952. AD 12 018.
354. Schipper, L. M. and Versace, J. Predictions of arrival sequences of simulated radar targets as a function of display size, target size, and target sharpness, WADC Technical Report 56-72, November 1956. AD 118 275.
355. Vanderplas, J. M. Radar operator visual fatigue. A summary of available evidence and some preliminary suggestions for the reduction of visual fatigue, WCRD Technical Note 52-44, August 1952. AD 62 112.

D. Dark Adaptation

356. Adler, H. E., Brown, J. L. and Herrick, R. M. The effects of pupil size and flash duration on acuity during dark adaptation, WADC Technical Report 54-551, November 1954. AD 63 261.
357. Baker, C. A., Debons, A., and Morris, D. F. "Dark adaptation as a function of the intensity and distribution of light across the preadaptation field," Journal Optical Society of America, Vol 46, pp 401-404, 1956.
358. Brown, J. L. The effect of different preadapting luminances of the resolution of visual detail during dark adaptation, WADC Technical Report 52-14, July 1952. AD 52 77.
359. Brown, J. L., Graham, C. H., Leibowitz, H. and Ranken, H. B. Luminance thresholds for the resolution of visual detail during dark adaptation, WADC Technical Report 52-12, January 1952. ATI 158 808.
360. Brown, J. L., Kuhns, Margaret P. and Adler, H. E. The relation of threshold criterion to the functional receptors of the eye, WADC Technical Report 57-449, August 1947. AD 130 928.
361. Brown, J. L. Review of the cone-to-rod efficiency ratio as a specification for lighting systems, WADC Technical Report 57-448, August 1957. AD 130 927.
362. Brown, K. T. and Grether, W. F. The effects of pure red and low-color-temperature white instrument lighting upon dark-adapted visual thresholds, USAF Technical Report 6470, April 1952. ATI 160 255.
363. Diamond, A. L. and Gilinsky, Alberta S. "Dark-adaptation luminance thresholds for the resolution of detail following different durations of light adaptation," Journal of Experimental Psychology, Vol 50, pp 134-143, 1955.

364. Diamond, A. L. and Gilinsky, A. S. Luminance thresholds for the resolution of visual detail during dark adaptation following different durations of light adaptation, WADC Technical Report 52-257, April 1952. AD 74 64.
365. Herrick, R. M., Diamond, A. L. and Kuhns, Margaret P. Luminance thresholds during dark adaptation following preadaptation to cathode ray tube displays, WADC Technical Report 52-260, December 1952. AD 18 118.
366. O'Brien, B. A study of night myopia, WADC Technical Report 53-206, May 1953. AD 19 807.
367. Rock, M. L. Annotated bibliography on visual performance at low photopic illumination levels, AF Technical Report 5822, May 1949. ATI 55 506.
368. Rock, M. L. Visual performance as a function of low photopic brightness levels, AF Technical Report 6013, November 1950. ATI 92 218.
369. Rock, M. L. "Visual performance as a function of low photopic brightness levels," Journal of Applied Psychology, Vol 37, pp 412-427, 1953.
370. White, W. J. and Sauer, Shirley C. Scale design for reading at low brightness, WADC Technical Report 53-464, March 1954. AD 35 201.
371. Wilcox, L. R. and Cole, E. L. The effect of red light on dark adaptation during night flight, WADC Technical Report 52-21, March 1952.
372. Wilcox, L. R. and Cole, E. L. The effects of two instrument lighting systems on dark adaptation, WADC Technical Report 52-263, December 1952. AD 50 06.
373. Wolf, E. and Ziegler, M. J. "Course of dark adaptation under various conditions of pre-exposure and testing," Journal Optical Society of America, Vol 45, pp 696-702, 1955.

E. Design and Arrangement of Instruments

374. Baker, C. A. "Interpolation accuracy as a function of visual angle between scale marks," Journal of Experimental Psychology, Vol 47, pp 433-436, 1954.
375. Baker, C. A. and Vanderplas, J. "Speed and accuracy of scale reading as a function of the number of reference markers," Journal of Applied Psychology, Vol 40, pp 307-311, 1956.
376. Bamford, H. E., Jr., Ritchie, M. L., Angrist, Shirley S. and Wilson, S. E. Effect of indicator frame on aircraft altitude interpretation, AMC Memorandum Report 56-7, April 1956.
377. Christensen, J. M. The effect of the staircase scale on dial reading accuracy, AMC Memorandum Report MCREXD-694-1P, October 1948. ATI 42 468.
378. Christensen, J. M. The importance of certain dial design variables in quantitative instrument reading, WADC Technical Report 55-376, October 1955. AD 97 492.

379. Christensen, J. M. Quantitative instrument reading as a function of dial design, exposure time, preparatory fixation, and practice, WADC Technical Report 52-116, September 1952. AD 10 1.
380. Cohen, J. and Dinnerstein, A. J. A comparison of a linear scale and three logarithmic scales on the time for check reading, WADC Technical Report 57-63, March 1958. AD 118 017.
381. Cohen, J., Vanderplas, J. M. and White, W. J. "Effect of viewing angle and parallax upon accuracy of reading quantitative scales," Journal of Applied Psychology, Vol 37, pp 482-488, 1953.
382. Cohen, J. and Senders, Virginia L. The effects of absolute and conditional probability distributions on instrument reading. III. A comparison of a linear scale and two scales with expanded central portions, WADC Technical Report 57-65, March 1958. AD 118 019.
383. Connell, Shirley C. and Grether, W. F. Psychological factors in check reading of single instrument, AMC Memorandum Report MCREXD-694-17A, September 1948. ATI 105 685.
384. Connell, Shirley C. Some variables affecting instrument check reading, AF Technical Report 6024, August 1950. ATI 85 523.
385. Elkin, E. H. Effects of scale shape, exposure time, and display-response complexity on scale reading efficiency, WADC Technical Report 58-472, February 1959. AD 209 381.
386. Fitts, P. M. and Simon, C. W. The arrangement of instruments, the distance between instruments, and the position of instrument pointers as determinants of performance in an eye-hand coordination task, AF Technical Report 5832, February 1952. ATI 147 788.
387. Fitts, P. M. and Jones, R. E. Psychological aspects of instrument display. I. Analysis of 270 "pilot-error" experiences in reading and interpreting aircraft instruments, AMC Memorandum Report TSEAA-694-12A, October 1947. ATI 77 876.
388. Gardner, J. F. Speed and accuracy of response to five different attitude indicators, WADC Technical Report 54-236, December 1954. AD 63 456.
389. Grether, W. F. Analysis of types of errors in reading of the conventional three-pointer altimeter, AMC Memorandum Report MCREXD-694-14A, March 1948. ATI 25 569.
390. Grether, W. F. "Can you read the altimeter?," Flying Safety Vol 7, pp 10-12, 1951.
391. Grether, W. F. "Design of instrument dials for ease of reading," S. A. E. Quarterly Transactions, Vol 2, pp 539-545, 1948.
392. Grether, W. F. "Designing instrument dials for quick, accurate reading," Machine Design, Vol 20, pp 150-152, 1948.
393. Grether, W. F. Discussion of pictorial versus symbolic aircraft instrument displays, AMC Memorandum Report TSEAA-694-8B, August 1947. ATI 64 587.

394. Grether, W. F. The effect of variations in indicator design upon speed and accuracy of altitude readings, AMC Memorandum Report TSEAA-694-14, September 1947. ATI 10 837.
395. Grether, W. F. "Factors in the design of clock dials which affect speed and accuracy of reading in the 2400-hour time system," Journal of Applied Psychology, Vol 32, pp 159-169, 1948.
396. Grether, W. F. "Instrument Reading, I. The design of long-scale indicators for speed and accuracy of quantitative readings," Journal of Applied Psychology, Vol 33, pp 369-372, 1949.
397. Grether, W. F. "Obtaining readability in instrument dials," Product Engineering, Vol 21, pp 109-112, 1950.
398. Grether, W. F. "Psychological factors in instrument reading: I. The design of long-scale indicators for speed and accuracy of quantitative readings," Journal of Applied Psychology, Vol 33, pp 363-372, 1949.
399. Grether, W. F. and Williams, A. C., Jr. "Psychological factors in instrument reading: II. The accuracy of pointer position interpolation as a function of the distance between scale marks and illumination," Journal of Applied Psychology, Vol 33, pp 594-604, 1949.
400. Grether, W. F. Speed and accuracy of dial reading as a function of dial diameter and spacing of scale divisions, AMC Memorandum Report TSEAA-694-1E, March 1947. ATI 27 507.
401. Houston, R. C. and Green, M. R. Training evaluation of an instrument panel homogeneous with respect to the principle of the moving part, WADC Technical Report 57-551, November 1957. AD 142 241.
402. Kappauf, W. E., Smith, W. M. and Bray, C. W. Design of instrument dials for maximum legibility: I. Development of methodology and some preliminary results, AMC Memorandum Report TSEAA-694-1L, October 1947. ATI 16 325.
403. Kappauf, W. E. and Smith, W. M. Design of instrument dials for maximum legibility: II. A preliminary experiment on dial size and graduation, AMC Memorandum Report MCREXD-694-IN, July 1948. ATI 33 147.
404. Kappauf, W. E. and Smith, W. M. Design of instrument dials for maximum legibility. Part III. Some data on the difficulty of quantitative reading in different parts of a dial, AF Technical Report 5914, Part III, May 1950. ATI 78 314.
405. Kappauf, W. E. and Smith, W. M. Design of instrument dials for maximum legibility. Part IV. Dial graduation, scale range and dial size as factors affecting the speed and accuracy of scale reading, AF Technical Report 5914, Part IV, February 1950. ATI 78 314.
406. Kappauf, W. E. Design of instrument dials for maximum legibility, Part V. Origin location, scale break, number location and contrast direction, AF Technical Report 6366, May 1951. ATI 118 120.
407. Kappauf, W. E. A discussion of scale-reading habits, USAF Technical Report 6569, July 1951. ATI 122 740.

408. Kappauf, W. E. Some data on the influence of attempted interpolation on the speed and errors of scale reading, USAF Technical Report 6530, May 1951. ATI 118 121.
409. Kappauf, W. E. Studies pertaining to the design of visual displays for aircraft instruments, computers, maps, charts, tables and graphs: A review of the literature, AMC Technical Report 5765, April 1949. ATI 55 956.
410. Long, G. E. Speed and accuracy of readings as a function of design in the sensitive airspeed indicator, USAF Technical Report 5836, August 1949. ATI 65 003.
411. Loucks, R. B. An analysis of the types of errors made by novices in interpreting azimuth indicators when the bearings are administered verbally, AF Technical Report 5958, October 1949. ATI 66 058.
412. Loucks, R. B. An experimental study of the effectiveness with which novices can interpret a localizer-glidepath approach indicator, AF Technical Report 5959, October 1949. ATI 66 069.
413. Loucks, R. B. Interpretation of azimuth indicators by novices. I. Aircraft direction indicators with fixed lubber lines and azimuth cards that turn, AF Technical Report 5957, March 1950. ATI 74 514.
414. Loucks, R. B. The interpretation of azimuth indicators by novices: II. Aircraft indicators with full-scale azimuth cards that turn, AF Technical Report 5965, March 1950. ATI 70 935.
415. Mengelkoch, R. F. and Houston, R. C. Investigations of vertical displays of altitude information. I. Comparison of a moving-tape and standard altimeter on a simulated flight task, WADC Technical Report 57-384, March 1958. AD 130 828.
416. Mengelkoch, R. F. and Houston, R. C. Investigations of vertical displays of altitude information. II. The effect of practice on performance of a simulated flight task using a moving-tape altimeter, WADC Technical Report 57-385, March 1958. AD 130 829.
417. Mengelkoch, R. F. and Houston, R. C. Investigations of vertical displays of altitude information: III. The effect of an expanded scale on performance of a simulated flight task using a moving-tape altimeter, WADC Technical Report 57-549, March 1958. AD 142 042.
418. Ritchie, M. L. and Baker, C. A. (ed) Psychological aspects of cockpit design - A symposium report, WADC Technical Report 57-117, April 1957. AD 118 079.
419. Senders, J., Webb, I. and Baker, C. A. "The peripheral viewing of dials," Journal of Applied Psychology, Vol 39, pp 433-436, 1955.
420. Senders, Virginia L. The effect of number of dials on qualitative reading of a multiple dial panel, WADC Technical Report 52-182, November 1952. AD 65 32.
421. Senders, Virginia L. and Cohen, J. The effects of absolute and conditional probability distributions of instrument settings on scale reading: Repeated exposures of the same setting, WADC Technical Report 54-253, July 1955. AD 54 628.

422. Senders, Virginia L., Cohen, J. and Arginteanu, Mary. The effects of absolute and conditional probability distributions on instrument reading. II: A comparison of a linear and a logarithmic scale, WADC Technical Report 54-253 (Part 2), July 1955. AD 54 628.

423. Senders, Virginia L. and Cohen, J. "Effects of sequential dependencies on instrument-reading performance," Journal of Experimental Psychology, Vol 50, pp 66-74, 1955.

424. Senders, Virginia L. and Cohen, J. The influence of methodology on research on instrument displays, WADC Technical Report 53-93, April 1953. AD 16 747.

425. Smith, W. M. and Kappauf, W. E. Studies pertaining to the design and use of visual displays for aircraft instruments, computers, maps, charts and tables, AMC Memorandum Report TSEAA-694-1G, June 1947. ATI 201 587.

426. Warrick, M. J. Counters for airborne use, WADC Technical Report 54-266, June 1954. AD 45 991.

427. Warrick, M. J. Design and use of counters for airborne equipment, WCRD Technical Note 52-80, October 1952.

428. Warrick, M. J. and Grether, W. F. The effect of pointer alignment on check reading of engine instrument panels, AMC Memorandum Report MCREXD-694-17, June 1948. ATI 31 420.

429. White, W. J., Warrick, M. J. and Grether, W. F. "Instrument Reading. III. Check reading of instrument groups," Journal of Applied Psychology, Vol 37, pp 302-307, 1953.

430. White, W. J. The effect of dial diameter on ocular movements and speed and accuracy of check reading groups of simulated engine instruments, AF Technical Report 5826, June 1949. ATI 66 090.

431. White, W. J. The effect of pointer design and pointer alignment position on the speed and accuracy of reading groups of simulated engine instruments, AF Technical Report 6014, July 1951. ATI 119 796.

432. Wilson, C. L. Some psychological problems in the use of periscope-type instruments in aircraft, AMC Technical Report 5825, (CONFIDENTIAL report, title unclassified), February 1950. ATI 72 362.

F. General Experimental-Theoretical

433. Alluisi, E. A. Measured visual acuity as a function of phenomenal size, WADC Technical Report 55-384, October 1955. AD 90 914.

434. Brandalise, B. B. and Gottsdanker, R. M. "The difference thresholds of the magnitude of visual acuity," Journal of Experimental Psychology, Vol 57, pp 83-88, 1959.

435. Brown, K. T. Factors affecting differences in apparent size between opposite halves of a VISUAL meridian, WADC Technical Report 53-253, August 1953. AD 30 826.

436. Brown, K. T. "Factors affecting differences in apparent size between opposite halves of a visual meridian," Journal of the Optical Society of America, Vol 43, pp 464-472, 1953.
437. Brown, K. T. Factors affecting rate of apparent change in a dynamic ambiguous figure as a function of observation time, WADC Technical Report 53-482, December 1953. AD 34 415.
438. Brown, K. T. Studies on rate of apparent change as a function of observation time, using a new type of dynamic ambiguous figure, WADC Technical Report 54-139, May 1954. AD 50 077.
439. Deese, J. Changes in visual performance after visual work, WADC Technical Report 57-285, April 1957. AD 118 266.
440. Eriksen, C. W. and Hake, H. W. "Multidimensional stimulus differences and accuracy of discrimination," Journal of Experimental Psychology, Vol 50, pp 153-160, 1955.
441. Eriksen, C. W. "Partitioning and saturation of visual displays and efficiency of visual search," Journal of Applied Psychology, Vol 39, pp 73-77, 1955.
442. Fitts, P. M., Milton, J. L. and Jones, R. E. An investigation of errors made by pilots in judging the attitude of an aircraft without the aid of vision, AMC Memorandum Report TSEAA-694-13, May 1947. ATI 68 123.
443. Gilinsky, A. S. A review of literature on the relative efficiency of the dominant and the non-dominant eye, WADC Technical Report 52-13, January 1952. AD 35 67.
444. Grether, W. F., Connell, Shirley C. and Bjornstad, J. M. Experimental evaluation of the New London Navy Lantern for testing color perception, AMC Memorandum Report MCREXD-694-21B, March 1949. ATI 56 000.
445. Herrick, R. M. Foveal luminance discrimination as a function of the duration of the decrement or increment in luminance, WADC Technical Report 54-463, October 1954. AD 51 051.
446. Howes, D. H. "A statistical theory of the phenomenon of subception," Psychological Review, Vol 61, pp 98-110, 1954.
447. Howes, D. H. Use of work-frequency tables in the preparation of labels, WCRD Technical Memorandum Report 52-98, November 1952. ATI 202 398.
448. Hyman, A. Potential uses of alternate binocular presentation in studies of vision and as an indicator of physiological stress, WADD Technical Report 60-302, March 1960. AD 245 184.
449. Imber, B. M., Stern, I. D. and Vanderplas, J. M. Visual field restriction and apparent size of distant objects, WADC Technical Report 54-23, January 1954. AD 27 682.
450. Kreezer, G. L., Hill, J. H. and Manning, W. Attention: A bibliography and classification of the psychological literature, WADC Technical Report 54-455, August 1954. AD 57 821.

451. Kris, E. Christine. A technique for electrically recording eye position, WADC Technical Report 58-660, December 1958. AD 209 385.
452. Leibowitz, H. W. and Lomont, J. F. The effect of grid lines in the field of view upon perception of motion, WADC Technical Report 54-201, March 1954. AD 38210.
453. Long, E. R. A survey of the literature relating to visual presentation, WADC Technical Report 5920, July 1950.
454. Morin, R. E., Grant, D. A. and Nystrom, C. O. Temporal predictions of motion inferred from intermittently viewed light stimuli, WADC Technical Report 54-69, January 1954. AD 37 703.
455. Mote, F. A., Biersdorf, W. R., Kent, G. W. and Myers, J. Visual contrast discrimination as a function of pre-exposure to light, WADC Technical Report 54-80, February 1954. AD 33 356.
456. O'Brien, B. and Miller, Norma D. A study of the mechanism of visual acuity in the central retina, WADC Technical Report 53-198, May 1953. AD 23 895.
457. Spragg, S. D. S. and Wulfeck, J. W. Visual performance as a function of the brightness of an immediately preceding visual task, WADC Technical Report 52-285, December 1953. AD 27 599.
458. Travis, R. C. "Measurement of accommodation and convergence time as part of a complex visual adjustment," Journal of Experimental Psychology, Vol 38, pp 395-403, 1948.
459. Vanderplas, J. M. The apparent size of objects viewed through telescopes, WADC Technical Report 54-459, October 1954. AD 75 792.
460. Vanderplas, J. M. "Frequency of experience versus organization as determinants of visual thresholds," American Journal of Psychology, Vol 66, pp 574-583, 1953.

G. Lighting, Visibility, Detection and Legibility

461. Baker, C. A. Formation lights for fighter aircraft, WADC Technical Report 55-124, March 1955. AD 61 751.
462. Baker, C. A. "Man's visual capabilities in space," Proceedings of the Institute of Radio Engineers-Seven East Coast Conference on Aeronautical and Navigational Electronics, 1960.
463. Baker, C. A. and Steedman, W. C. "Man's visual capabilities in space: Perceived movement in depth," The 1961 Compendium of AFSC Symposium Papers, pp 1-29, 1961.
464. Baker, C. A. and Steedman, W. C. "Perceived movement in depth as a function of luminance," Science, Vol 133, pp 1356-1357, 1961.
465. Baker, C. A. and Steedman, W. C. "Perceived movement in depth as a function of luminance and velocity," Human Factors, Vol 3, pp 166, 1961.

466. Baker, C. A. and Steedman, W. C. "Perceived movement in depth as a function of object luminance," Science, pp 1356-1357, 1961.
467. Baker, C. A. "Visual aspects in collision avoidance of air force aircraft," National Academy of Science, National Research Council, Publication 712, 1960.
468. Bishop, H. P. and Crook, M. N. Absolute identification of color for targets presented against white and colored backgrounds, WADD Technical Report 60-611, March 1961. AD 266 403.
469. Blackwell, H. R., Ohmart, J. G. and Brainhard, R. W. Experimental evaluation of optical enhancement of literal visual displays, ASD Technical Report 61-568, October 1961.
470. Brown, C. W., Ghiselli, E. E., Jarrett, R. F. and Minium, E. W. Comparative effectiveness of speed of detection of visual stimuli in the prone and seated positions, AMC Memorandum Report MCREXD-694-41, May 1948. ATI 130 665.
471. Carter, L. F. The relative effectiveness of presenting numerical data by the use of tables and graphs, AMC Memorandum Report TSEAA-694-1, April 1946. ATI105 860.
472. Carter, L. F. A study of the best design of tables and graphs used for presenting numerical data, AMC Memorandum Report TSEAA-694-1C, September 1946. ATI 64 538.
473. Chalmers, E. L., Goldstein, M. and Kappauf, W. E. The effect of illumination of dial reading, AF Technical Report 6021, August 1950. ATI 84 004.
474. Cohen, J. and Senders, V. L. Factors affecting the frequency of various final digits, WADC Technical Report 55-371, November 1954. AD 99 566.
475. Connell, Shirley C. The relative effectiveness of presenting numerical data by the use of scales and graphs, AMC Memorandum Report TSEAA-694-1M, December 1947. ATI105 857.
476. Crannell, C. W. and Debons, A. Illumination and tilt as factors in the legibility of reflex-reflective numerals, WADC Technical Report 58-47, September 1958. AD 142 327.
477. Crook, M. N., Hanson, J. A. and Weisz, A. Aeronautical charts under red light, WADC Technical Report 54-198, May 1954. AD 52 509.
478. Crook, M. N. and Baxter, Frances S. The design of digits, WADC Technical Report 54-262, June 1954. AD50 080.
479. Crook, M. N., Harker, G. S., Hoffman, A. C. and Kennedy, J. L. Effect of amplitude of apparent vibration, brightness, and type size on numeral reading, USAF Technical Report 6246, September 1950. ATI 92 222.
480. Crook, M. N., Hoffman, A. C., Wessell, N. Y., Wulfeck, J. W. and Kennedy, J. L. Further studies of the effect of vibration and other factors on legibility of numerals, AMC Memorandum Report TSEAA-694-1K, October 1947. ATI 14 243.

481. Crook, M. N., Hanson, J. A. and Wulfeck, J. W. The legibility of type as a function of reflectance of background under low illumination, WADC Technical Report 52-85, June 1952. ATI 165 547.
482. Crook, M. N., Hanson, J. A. and Weisz, A. Legibility of type as a function of stroke width, letter width, and letter spacing under low illumination, WADC Technical Report 53-440, March 1954. AD 56 537.
483. Crook, M. N., Hanson, J. A. and Weisz, A. Legibility of type as determined by the combined effect of typographical variables and reflectance of background, WADC Technical Report 53-441, March 1954. AD 43 309.
484. Crook, M. N. and Baxter, F. S. Recognition time for dial-type numerals as a function of size and brightness, USAF Technical Report 6465, March 1951. ATI 119 387.
485. Crook, M. N., Harker, G. S., Hoffman, A. C. and Kennedy, J. L. Studies of the effect of typographical spacing on the legibility of numerals under vibration, AMC Memorandum Report MCREXD-694-1Q, December 1948. ATI 139 063.
486. Debons, A. and Crannell, C. W. Facilitating identification of aircraft by use of reflex-reflective ("scotchlite") material, WADC Technical Report 57-130, April 1957. AD 118 094.
487. Debons, A. and Crannell, C. W. "The legibility of "scotchlite" versus other materials," Journal of Applied Psychology, Vol 42, pp 389-395, 1958.
488. Deese, J. and Ormond, Elizabeth. Studies of detectability during continuous visual search, WADC Technical Report 53-8, September 1953. AD 24 214.
489. Eriksen, C. W. Partitioning and saturation of the perceptual field and efficiency of visual search, WADC Technical Report 54-161, April 1954. AD 40 730.
490. Grether, W. F. "Eye in the sky," USAF Flying Safety Magazine, 1957.
491. Gustafson, C. E. A method of estimating surface color discriminability for coding training equipment and predicting label legibility, WADD Technical Note 60-83, May 1960. AD 243 721.
492. Howell, W. C. and Kraft, C. L. "The judgment of size, contrast, and sharpness of letter forms," Journal of Experimental Psychology, Vol 61, pp 30-39, 1961.
493. Kennedy, J. L., Crook, M. N., Hoffman, A. C., Wessell, N. Y. and Wulfeck, J. W. Preliminary studies of the effect of vibration, illumination and type size on legibility of numerals, AMC Memorandum Report TSEAA-694-1F, June 1947. ATI 64 451.
494. Kraft, C. L. and Fitts, P. M. A broad-band blue lighting system for radar air traffic control center, WADC Technical Report 53-416, January 1954. AD 37 701.
495. Kraft, C. L. A broad band blue lighting system for radar approach control centers. Evaluations and refinements based on three years of operational use, WADC Technical Report 56-71, August 1956. AD 118 090.

496. Kraft, C. L. "A broad band blue lighting system for radar approach control centers: Evaluations and refinements based on three years of operational use," Illumination and visibility of radar and sonar displays, Armed Forces-NRC Committee on Vision, Publication No. 595, pp 44-54, 1959.
497. Kraft, C. L. and McGuire, J. C. Suitability of the installation of the illumination system for the experimental rapcon center, Bldg 206, WPAFB, WADC Technical Note 58-29, April 1958. AD 151 148.
498. Leibowitz, H. W. and Lomont, J. F. The effect of luminance and exposure time upon perception of motion, WADC Technical Report 54-78, March 1954. AD 35 163.
499. Leibowitz, H. W. "The relation between the rate threshold for the perception of movement and luminance for various durations of exposure," Journal of Experimental Psychology, Vol 49, pp 209-214, 1955.
500. Leibowitz, H. W. Visual factors influencing the precision of adjustment of reticle patterns. The influence of luminance, test object orientation, and test object-luminance relationship on vernier adjustments, WADC Technical Report 53-200, April 1953. AD 18 704.
501. Long, E. R., Reid, L. S. and Queal, R. W. Factors determining the legibility of letters and words derived from elemental printers: The third of a series of reports on the "Infomax" principle, USAF TR 5924, August 1951, ATI 184 797.
502. Long, E. R. and Reid, L. S. Factors determining the legibility of letters and words printed in "dot" patterns with differential brightnesses of the patterns proportional to the amount of degradation: The second of a series of reports on the "Infomax" principle, USAF Technical Report 5923, April 1952. AD 11 45.
503. Long, E. R. and Reid, L. S. Factors determining the legibility of letters and words printed in "dot" patterns with pure black and white when the patterns are degraded in varying amounts: The first of a series of reports on the "Infomax" principle, USAF Technical Report 5922, April 1952. AD 11 44.
504. Schapiro, H. B. Factors affecting legibility of digits, WADC Technical Report 52-127, June 1952. AD 11 17.
505. Spragg, S. D. S. and Rock, M. L. "Dial reading performance as a function of brightness," Journal of Applied Psychology, Vol 36, pp 128-137, 1952.
506. Spragg, S. D. S. and Rock, M. L. "Dial reading performance as a function of color of illumination," Journal of Applied Psychology, Vol 36, pp 196-200, 1952.
507. Spragg, S. D. S. and Rock, M. L. Dial reading performance as related to illumination variables: I. Intensity, AMC Memorandum Report MCREXD-694-21, October 1948. ATI 41 625.
508. Spragg, S. D. S. and Rock, M. L. Dial reading performance as related to illumination variables: II. Spectral distribution, AMC Memorandum Report MCREXD-694-21A, December 1948. ATI 44 188.
509. Spragg, S. D. S. and Rock, M. L. Dial reading performance as related to illumination variables: III. Results with small dials, AF Technical Report 6040, November 1950. ATI 92 219.

510. Spragg, S. D. S. and Wulfeck, J. W. "The effect of immediately preceding task brightness on visual performance," Journal of Applied Psychology, Vol 39, pp 237-243, 1955.
511. Spragg, S. D. S. and Kanwisher, J. The effects of brightness and color of illumination on performance of a complex perceptual-motor task (Flying a Link Trainer), WADC Technical Report 52-203, July 1952. AD 12 6.
512. Vanderplas, J. M. Interior color schemes for aircraft gray instrument panel, WCRD Technical Note 53-71, June 1953. ATI 203 286.
513. Vanderplas, J. M., Debons, A. and Crannell, C. W. Luminance and "expectancy" as determinants of response time to a light signal, WADC Technical Note 58-292, January 1959. AD 209 390.
514. Vanderplas, J. M. Some perceptual factors involved in the design of obstacle warning displays for aircraft, WCRD Technical Note 54-9, March 1954. AD 65 872.
515. Wolf, E. and Zigler, M. J. Some relationships of glare and target perception, WADC Technical Report 59-394, September 1959. AD 231 279.
516. Wulfeck, J. W. Review of the literature on aeronautical chart development and design for use under red lighting, WADC Technical Report 52-306, July 1952. AD 64 58.
517. Young, Katherine D. Legibility of printed materials, AMC Memorandum Report TSEAA-694-1A, June 1946. ATI 110 570.

H. Pilot Eye Movement

518. Fitts, P. M., Jones, R. E. and Milton, J. L. Eye fixations of aircraft pilots: III. Frequency, duration, and sequence of fixations when flying Air Force ground-controlled approach system (GCA), AMC Technical Report 5967, February 1950. ATI 69 038.
519. Jones, R. E., Milton, J. L. and Fitts, P. M. Eye fixations of aircraft pilots: I. A review of prior eye-movement studies and a description of a technique for recording the frequency, duration, and sequences of eye fixations during instrument flight, AMC Technical Report 5837, September 1949. ATI 65 996.
520. Jones, R. E., Milton, J. L. and Fitts, P. M. Eye fixations of aircraft pilots: IV. Frequency, duration, and sequence of fixations during routine instrument flight, AMC Technical Report 5975, March 1950. ATI 73 422.
521. Milton, J. L., Jones, R. E. and Fitts, P. M. Eye fixations of aircraft pilots: II. Frequency, duration, and sequence of fixations when flying the USAF instrument low approach system (ILAS), AMC Technical Report 5839, October 1949. ATI 65 996.
522. Milton, J. L., McIntosh, B. B. and Cole, E. L. Eye fixations of aircraft pilots: VI. Fixations during day and night ILAS approaches using an experimental instrument panel arrangement, USAF Technical Report 6570, October 1951. ATI 128 350.

523. Milton, J. L., Jones, R. E. and Fitts, P. M. Eye fixations of aircraft pilots: V. Frequency, duration, and sequence of fixations when flying selected maneuvers during instrument and visual flight conditions, AMC Technical Report 6018, August 1950. ATI 84 010.

524. Milton, J. L., McIntosh, B. B. and Cole, E. L. Eye fixations of aircraft pilots: VII. Fixations during day and night GCA approaches using an experimental instrument panel arrangement, USAF Technical Report 6709, February 1952. ATI 158 203.

525. Milton, J. L. and Wolfe, F. J. Eye fixations of aircraft pilots: VIII. Fixations during zero-reader approaches in a jet aircraft, WADC Technical Report 52-17, February 1952. ATI 149 050.

526. Milton, J. L., McIntosh, B. B. and Cole, E. L. Eye fixations of aircraft pilots: IX. Routine maneuvers under day and night conditions, using an experimental panel arrangement, WADC Technical Report 53-220, March 1954. AD 35 161.

I. Speech Communication and Auditory Signals

527. Cheatham, P. G. A comparison of the visual and auditory senses as possible channels for communication, AF Technical Report 5919, May 1950. ATI 76 871.

528. Day, W. F. and Beach, Barbara R. A survey of the research literature comparing the visual and auditory presentation of information, AMC Technical Report 5921, November 1950. ATI 93 012.

529. Erlick, D. E. and Hunt, D. P. Evaluating audio warning displays for weapon systems, WADC Technical Report 57-222, April 1957. AD 118 189.

530. Garvey, W. D. "The intelligibility of speeded speech," Journal of Experimental Psychology, Vol 45, pp 102-108, 1953.

531. Garvey, W. D. and Henneman, R. H. Practical limits of speeded speech, AF Technical Report 5917, May 1950. ATI 74 960.

532. Henneman, R. H., Lewis, Penelope and Matthews, T. L. Auditory and visual message presentation under distracting task conditions: I. The influence of the sensory requirements of the distracting task, WADC Technical Report 53-309, November 1953. AD 50 075.

533. Henneman, R. H. and Matthews, T. L. Auditory and visual message presentation under distracting task conditions. II. The influence of message length and distracting task complexity, WADC Technical Report 54-145, July 1954. AD 88 329.

534. Henneman, R. H. and Long, E. R. A comparison of the visual and auditory senses as channels for data presentation, WADC Technical Report 54-363, August 1954. AD 61 558.

535. Henneman, R. H. and Slivinske, A. J. A message analysis of strategic air communication, AF Technical Report 5918, October 1949. ATI 77 509.

536. Holland, J. G. and Lee, W. A. Auditory and visual message presentation under distracting task conditions: III. The influence of message distortion and message familiarity, WADC Technical Report 54-287, April 1955. AD 88 793.

537. Houston, R. C. and Walker, R. Y. The evaluation of auditory warning signals for aircraft, AF Technical Report 5762, June 1949. AT1 52 736.
538. Howes, D. H. "On the interpretation of word frequency as a variable affecting speed of recognition," Journal of Experimental Psychology, Vol 48, pp 106-112, 1954.
539. Kreezer, G. L. Attention value of audio and visual warning signals, WADC Technical Report 58-521, April 1959.
540. Licklider, J. C. R. Audio warning signals for Air Force weapon systems, WADD Technical Report 60-814, March 1961. AD 258 530.

J. Target and Form Recognition

541. Archer, E. J. Identification of target concepts as a function of information load, WADC Technical Report 54-202, March 1954. AD 35 129.
542. Archer, E. J. "Identification of visual patterns as a function of information load," Journal of Experimental Psychology, Vol 48, pp 313, 317, 1954.
543. Baker, C. A. and Morris, D. F. "Form recognition and detail resolution," Minutes of the XVth International Congress of Psychology, 1957.
544. Baker, C. A., Morris, D. F. and Steedman, W. C. Target recognition on complex displays, WADC Technical Report 59-418, August 1959. AD 228 809.
545. Baker, C. A., Morris, D. F., and Steedman, W. C. "Target recognition on complex displays," Human Factors, Vol 2, pp 51, 1960.
546. Bitterman, M. E. and Krauskopf, J. Some determinants of the threshold for visual form, WADC Technical Report 53-331, September 1953. AD 23 337.
547. Deese, J. The ability of untrained observers to match visual forms that are slightly disparate in contour, WADC Technical Report 56-570, October 1956. AD 110 535.
548. Deese, J. Complexity of contour in the recognition of visual form, WADC Technical Report 56-60, February 1956. AD 94 610.
549. Eriksen, C. W. Multidimensional stimulus differences and accuracy of discrimination, WADC Technical Report 54-165, June 1954. AD 50 076.
550. Hake, H. W. Contributions of psychology to the study of pattern vision, WADC Technical Report 57-621, October 1957. AD 142 035.
551. Hake, H. W. and Eriksen, C. W. Recognition and identification of complex visual forms as a function of the labeling system employed, WADC Technical Report 55-367, September 1955. AD 99 519.
552. Hake, H. W. and Eriksen, C. W. "Role of response variables in recognition and identification of complex visual forms," Journal of Experimental Psychology, Vol 52, pp 235-243, 1956.

553. Hyman, R. and Hake, H. W. Form recognition as a function of the number of forms which can be presented for recognition, WADC Technical Report 54-164, May 1954. AD 50 568.

554. Kinkade, R. G. and Kidd, J. S. The effect of procedural variations in the use of target identification and airborne position information equipment on the performance of a simulated radar approach control system, WADC Technical Report 58-624, May 1959. AD 216 361.

555. Steedman, W. C. and Baker, C. A. Target size and visual recognition, WADD Technical Report 60-93, February 1960. AD 235 129.

556. Steedman, W. C. and Baker, C. A. "Target size and visual recognition," Human Factors, Vol 2, pp 120, 1960.

557. Travis, R. C. Studies of visual discrimination time: The time required to recognize simple patterns at equal distances from the eye, and patterns at alternately far and near distances, AMC Memorandum Report TSEAA-694-1H, July 1947. ATI 85 49.

K. Processing of Information

558. Alluisi, E. A. and Martin, H. B. Comparative information-handling performance with symbolic and conventional arabic numerals: Verbal and motor responses, WADC Technical Report 57-196, April 1957. AD 118 160.

559. Alluisi, E. A. "Conditions affecting the amount of information in absolute judgments," Psychological Review, Vol 64, pp 97-103, 1957.

560. Alluisi, E. A. and Sidorsky, R. C. "The empirical validity of equal discriminability scaling," Journal of Experimental Psychology, Vol 55, pp 86-95, 1958.

561. Alluisi, E. A., Muller, P. F., Jr., and Fitts, P. M. "An information analysis of verbal and motor responses in a forced-paced serial task," Journal of Experimental Psychology, Vol 53, pp 153-158, 1957.

562. Alluisi, E. A., and Martin, H. B. "An information analysis of verbal and motor responses to symbolic and conventional Arabic numerals," Journal of Applied Psychology, Vol 42, pp 79-84, 1958.

563. Alluisi, E. A., Muller, P. F., Jr. and Fitts, P. M. Rate of handling information and the rate of information presentation, WADC Technical Note 55-745, December 1955. AD 91 878.

564. Alluisi, E. A. and Muller, P. F., Jr. Rate of information transfer with seven symbolic visual codes: Motor and verbal responses, WADC Technical Report 56-226, May 1956. AD 112 454.

565. Alluisi, E. A. and Muller, P. F., Jr. "Verbal and motor responses to seven symbolic codes: A study in S-R compatibility," Journal of Experimental Psychology, Vol 55, pp 247-254, 1958.

566. Bridgman, C. S. and Wade, E. A. Sensitivity to changes in stimulus size, Reaction time as a function of rate of change, WADC Technical Report 53-199, April 1953. AD 20543.

567. Eriksen, C. W. and Hake, H. W. Anchor effects in absolute judgments, WADC Technical Report 56-144, January 1956. AD 94 834.
568. Eriksen, C. W. and Hake, H. W. Absolute judgments as a function of the stimulus range and the number of stimulus and response categories, WADC Technical Report 54-162, April 1954. AD 38 145.
569. Eriksen, C. W. and Hake, H. W. "Absolute judgments as a function of stimulus range and the number of stimulus and response categories," Journal of Experimental Psychology, Vol 49, pp 323-332, 1955.
570. Erlick, D. E. "Judgments of the relative frequency of a sequential series of two events," Journal of Experimental Psychology, Vol 62, pp 105-112, 1961.
571. Erlick, D. E. Judgments of the relative frequency of sequential binary events: Effects of frequency differences, WADC Technical Report 59-580, October 1959. AD 232 139.
572. Erlick, D. E. Judgments of the relative frequency of two random sequential events: Effects of duration of observation, WADC Technical Report 60-673, September 1960. AD 247 334.
573. Erlick, D. E. and Palmore, J. Jr. Judgments of the relative frequency of two random sequential events: Effects of rate of presentation, WADC Technical Report 60-714, March 1961. AD 255 149.
574. Fitts, P. M., Jones, R. E., Milton, J. L. and Morris, J. B. Pilot reaction time: The time required to comprehend and react to contact and instrument recovery problems, AMC Memorandum Report TSEAA-694-13A, May 1947. AT1 66 99.
575. Hake, H. W. and Eriksen, C. W. "Effect of number of permissible response categories on learning of a constant number of visual stimuli," Journal of Experimental Psychology, Vol 50, pp 161-167, 1955.
576. Hake, H. W. and Eriksen, C. W. Effect of the number of permissible response categories on the learning of a constant number of visual stimuli, WADC Technical Report 54-163, April 1954. AD 50 284.
577. Henneman, R. H., Reid, L. S. and Long, E. R. "Set" as a determiner of perceptual responses: VII. The influence of categorical cuing on the identification of visually distorted words selected from a logically organized population, WADC Technical Report 54-362, April 1955. AD 85 567.
578. Henneman, R. H. and Outcalt, N. R. "Set" as a determiner of perceptual responses: IX. The influence of setting cues on manual responses made to following-instructions messages, WADC Technical Report 54-365, April 1955. AD 90 893.
579. Howes, D. H. On the interpretation of word frequency as a variable affecting speed of recognition, WADC Technical Report 54-282, June 1954. AD 43 066.
580. Jeantheau, G. The differential effects of speed and load stress on task performance, WADC Technical Report 59-7, July 1959. AD 233 460.

581. Kanareff, Vera T. and Lanzetta, J. T. "Effects of success-failure experiences and probability of reinforcement upon the acquisition and extinction of an imitative response," Psychological Review, Vol 7, pp 151, 1960.
582. Kanareff, Vera T. and Lanzetta, J. T. "Effects of task definition and probability of reinforcement upon the acquisition and extinction of imitative responses," Journal of Experimental Psychology, Vol 60, pp 340, 1960.
583. Kidd, J. S. and Kinkade, R. G. Operator change-over effects in a complex task, WADC Technical Report 59-235, August 1959. AD 234 778.
584. Kolers, P. A. Some aspects of problem solving: 1. Method and materials, WADD Technical Report 60-2, January 1960. AD 235 419.
585. Lanzetta, J. T. and Kanareff, Vera T. Some social factors affecting the choice of an "Imitative" response in a probability learning situation, WADD Technical Report 60-196, August 1960. AD 249 042.
586. Learner, D. B. and Alluisi, E. A. Comparison of four methods of encoding elevation information with complex line-inclination symbols, WADC Technical Note 56-485, November 1956. AD 110 547.
587. Lee, W. A. and Freitag, M. "Set" as a determiner of perceptual responses: VIII. The concept of response restriction applied to dial reading, WADC Technical Report 54-364, April 1955. AD 85 566.
588. Lewis, A. and Kanareff, Vera T. Use of autocorrelation and uncertainty measures for the analysis of decision behavior, WADC Technical Report 59-434, August 1959. AD 231 294.
589. Long, E. R., Henneman, R. H. and Reid, L. S. "Set" as a determiner of perceptual responses: I. Theoretical considerations and exploratory investigation of "set" as response restriction, WADC Technical Report 53-311, December 1953. AD 34 517.
590. Long, E. R. and Lee, W. A. "Set" as a determiner of perceptual responses: II. The role of spatial cuing as a response-limiter for location responses, WADC Technical Report 53-312, December 1953. AD 34 516.
591. Long, E. R. and Lee, W. A. "Set" as a determiner of perceptual responses: III. The influence of specific stimulus cuing on location responses, WADC Technical Report 53-314, December 1953. AD 34 520.
592. Long, E. R., Reid, L. S. and Garvey, W. D. "Set" as a determiner of perceptual responses: IV. The role of stimulus ambiguity and degree of response restriction in the recognition of distorted letter patterns, WADC Technical Report 54-147, May 1954. AD 48 906.
593. Long, E. R. and Garvey, W. D. "Set" as a determiner of perceptual responses: V. The role of setting cues in reducing the simultaneous location and identification ambiguity of letter patterns, WADC Technical Report 54-289, April 1955. AD 85 564.
594. Long, E. R. and Garvey, W. D. "Set" as a determiner of perceptual responses: VI. The influence of sensory channel of cuing on the identification of aurally presented distorted words, WADC Technical Report 54-361, April 1955. AD 85 565.

595. Muller, P. F., Jr. Efficiency of verbal vs. motor responses in handling information encoded by means of colors and light patterns, WADC Technical Report 55-472, December 1955. AD 107 260.

596. Muller, P. F., Jr., Sidorsky, R. C., Slivinske, A. J., Alluisi, E. A. and Fitts, P. M. The symbolic coding of information on cathode ray tubes and similar displays, WADC Technical Report 55-375, October 1955. AD 103 239.

597. Narva, M. A. Evaluation of decision making performance on three pictorial navigation displays, WADC Technical Report 58-49, November 1958. AD 142 329.

598. Reid, L. S. and Slivinske, A. J. Experimental analysis of complex task performance: I. Rationale, experimental methodology, and exploratory investigation, WADC Technical Report 53-310, December 1953. AD 33 355.

599. Reid, L. S. and Holland, J. G. Experimental analysis of complex task performance: III. The influence of stimulus similarity and stimulus rate, WADC Technical Report 54-146, May 1954. AD 49 630.

600. Reid, L. S. and Morse, W. H. An experimental analysis of complex task performance: IV. The influence of complex task variables on the relative efficiency of auditory and visual message presentation, WADC Technical Report 54-288, April 1955. AD 88 065.

601. Schipper, L. M. "Prediction of critical events in contexts of different numbers of alternative events," Journal of Experimental Psychology, Vol 52, pp 377-389, 1956.

602. Sidowski, J. B., Morgan, R. L. and Eckstrand, G. A. "Influence of task complexity and instructions upon simple and discrimination reaction times," Journal of Experimental Psychology, Vol 55, pp 163-166, 1958.

603. Slivinske, A. J. Experimental analysis of complex task performance: II. The factors of task complexity and previous practice on a patterned component, WADC Technical Report 53-313, December 1953. AD 33 354.

604. Teichner, W. H. The simple reaction time, a review with reference to Air Force equipment, WCRD Technical Note 52-47, August 1952. ATI 20 451.

605. Williams, A. C., Jr. and Hopkins, C. O. Aspects of pilot decision making, WADC Technical Report 58-522, December 1958. AD 209 382.

XI. SIMULATION TECHNIQUES

A. Mathematical Models for Simulation

606. Barling, H. B., Durant, J. R., Samson, R. L. and Wescott, H. W. Programming techniques for communication and navigation facilities, WADC Technical Report 59-792, October 1959. AD 231 260.

607. Buddenhagen, T. F. and Wolpin, M. P. A study of visual simulation techniques for astronautical flight training, WADD Technical Report 60-756, March 1961. AD 260 093.

608. Bunning, H. Aerodynamic information required for six degrees of freedom simulation, ASD Technical Report 61-171 (III),

609. Doty, A. B. Generation of a function of two independent variables using a variable density photo plane, WADC Technical Report 58-122, April 1958, AD 151 093.
610. Easley, J. G. An investigation of the relative effect of stability derivatives on the dynamic characteristics of the F-106A, WADC Technical Report 58-235, August 1958. AD 303 082,
611. Fogarty, L. E. and Howe, R. M. Flight simulation of orbital and reentry vehicles: Part II. A modified flight path axis system for solving the six-degree-of-freedom flight equations, ASD Technical Report 61-171 (II), October 1961.
612. Fox, P. L. Design study for trainer, visual flight attachment for aircraft flight simulators, WADC Technical Note 57-137(I), September 1957. AD 216 438.
613. Fox, P. L. Design study for trainer, visual flight attachment for aircraft flight simulators, WADC Technical Note 57-137 (II), September 1957. AD 216 437.
614. Greenwood, D. T. An extended euler angle coordinate system for use with all-altitude aircraft simulators, WADC Technical Report 60-372, August 1960. AD 249 068.
615. Hart, E. M. Effects of outer-space environment important to simulation of space vehicles, ASD Technical Report 61-201, August 1961.
616. Howe, R. M. Coordinate systems for solving the three dimensional flight equations, WADC Technical Note 55-747, June 1956. AD III 582.
617. Howe, R. M. Final report, flight simulator theory study, WADC Technical Report 58-456, December 1957. AD 211 768.
618. Howe, R. M. An investigation of flight equation requirements for simulators of aircraft up to mach 3.5, WADC Technical Note 55-144, March 1957. AD 210 834.
619. Howe, R. M. An investigation of the relative effect of stability derivatives on the dynamic characteristics of the F-100A, WADC Technical Note 57-297, December 1957. AD 303 082.
620. Howe, R. M. and Gilbert, E. J. A new resolving method for analog computers, WADC Technical Note 55-468, January 1956. AD III 581.
621. Isakson, G. and Howe, R. M. Flight simulation of orbital and reentry vehicles. Part I. Development of equations of motion in six degrees of freedom, ASD Technical Report 61-171 (I), October 1961.
622. Isakson, G. A study of problems in flight simulation of VTOL aircraft, WADC Technical Note 59-305, February 1960.
623. Isakson, G. and Bunning, H. A study of problems in flight simulation of VTOL aircraft, WADC Technical Note 59-309 (I), February 1960.
624. Johnson, L. L. and Christenson, K. K. Study to determine methods of simulating g effects, WADC Technical Note 58-314, August 1959. AD 211 849.
625. Lohrenz, C. A. and Zymet, B. L. Synthesized equipment for ground based radar systems, I. Radar operator training the man the machine and the simulator, ASD Technical Report 61-411 (I)

626. Ryken, J. M. and Austin, R. M. Study of energy management simulation techniques, WADD Technical Report 60-751, December 1960. AD 321 313.
627. Samson, R. L. and Zhaner, C. F. Programming techniques for communication navigation facilities, WADC Technical Note 58-315, October 1958. AD 216 083.
628. Schelhorn, A. E. A study of the dynamic response characteristics of flight simulators, WADC Technical Report 59-98, April 1959. AD 210 566.

B. Mechanization for Simulation

629. Harter, G. A. and Gain, P. An electronic target simulator for use with operational radar surveillance systems, WADC Technical Report 57-277, May 1957. AD 118 261.
630. Hixon, W. C., Harter, G. A., Warren, C. E. and Cowan, J. D., Jr. An electronic radar target simulator for air traffic control studies, WADC Technical Report 54-569, December 1954. AD 95 405.
631. Howe, R. M. A standardized computer for solving the three dimensional flight equations, WADC Technical Note 58-283, May 1959.
632. Kamm, L. J., Sheretz, P. C. and Sheffen, L. E. An electronic two-variable function generator, WADC Technical Report 59-546, March 1960. AD 236 964.
633. Pinkernell, H. Flight path recorder, WADD Technical Note 60-4, January 1960. AD 243 928.
634. Rasmussen, S. B. Two variable analog function generator, WADC Technical Report 59-439, February 1960.
635. Rose, L., Bogan, C. J. and Heaviside, J. B. Instrumentation of flight simulators, WADC Technical Note 58-295, December 1958. AD 208 319.
636. Study program for simulator component interconnections, ASD Technical Report 61-71, April 1961. AD 262 512.
637. Xhignesse, L. V. Selective survey of French developments in flight simulators and flight instruments. I. Flight simulators, WADC Technical Note 57-378, June 1958. AD 142 130.

XII. MISCELLANEOUS

638. Christensen, J. M. "Les Rouages de l'Homme," Revue de Psychologie Applique, Vol 7, 1957.
639. Christensen, J. M. Psychological research projects of selected British laboratories and establishments, USAF Memorandum Report WCRDP-694-24C, July 1951. ATI 151 644. (RESTRICTED report, title unclassified).
640. Christensen, J. M. Research projects of certain British laboratories and establishments that relate to air defense, (SECRET report, title unclassified), WCRD Technical Memorandum Report 52-95, November 1952. AD 52 78.

641. Christensen, J. M., Collins, H. R. Reports of research in the field of engineering psychology, WADC Technical Report 53-75, April 1953. AD 69 91.

642. Christensen, J. M., et al. "Training in engineering psychology," The American Psychologist, Vol 16, 1961.

643. Christensen, J. M. "Trends in human factors," Human Factors, Vol 1, 1958.

644. Fitts, P. M. "German applied psychology during World War II," The American Psychologist, Vol 1, pp 151-161, 1946.

645. Fitts, P. M. and Connell, Shirley C. Psychological analysis of reports of unidentified aerial objects, (RESTRICTED report, title unclassified), USAF Memorandum Report MCREXD-694-18D, April 1949.

646. Fitts, P. M. "Psychological research on equipment design in the AAF," The American Psychologist, Vol 2, pp 93-98, 1947.

647. Fitts, P. M. "Psychology and aircraft design: A study of factors pertaining to safety," Mechanical Engineering, pp 135-141 and 163, 1947.

648. Warrick, M. J. Report of visit to selected psychological facilities of the United Kingdom, USAF Memorandum Report MCREXD-694-18, July 1948. ATI 202 769.

XIII. STATISTICS (see Methodology and Statistics)

XIV. SYSTEMS RESEARCH

649. Ernst, A. A. Feasibility study for a man-machine systems research facility, WADC Technical Report 59-51, March 1959. AD 213 589/

650. Fitts, P. M., Schipper, L., Kidd, J. S., Shelly, M., and Kraft, C. "Some concepts and methods for the conduct of system research in a laboratory setting." In G. Finch and F. Cameron (Ed.), Air Force human engineering, personnel, and training research, NAS-NRC Publication Nr. 516, Washington, D. C., pp 174-187, 1958.

651. Howell, W. C., Christy, R. T. and Kinkade, R. G. System performance following radar failure in a simulated air traffic control situation, WADC Technical Report 59-573, September 1959. AD 234 011.

652. Huebner, W. J., Jr. and Ryack, B. C. Linear programming and workplace arrangement; solution of assignment problems by the product technique, WADD Technical Report 61-143, March 1961. AD 244 270.

653. Kidd, J. S. and Kinkade, R. G. Air traffic control system effectiveness as a function of the division of responsibility between pilots and ground controllers. A study in human engineering aspects of radar air traffic control, WADC Technical Report 58-113, June 1958. AD 151 082.

654. Kidd, J. S. A comparison of one-, two-, and three-man control units under various conditions of traffic input rate, WADC Technical Report 59-104, June 1959. AD 225 965.

655. Kidd, J. S. "A comparison of one-, two-, and three-man work units under various conditions of work load," Journal of Applied Psychology, Vol 45, pp 195-200, 1961.
656. Kidd, J. S. A comparison of two methods of controller training in simulated air traffic control task. A study in human engineering aspects of radar air traffic control, WADC Technical Report 58-449, January 1959. AD 212 269.
657. Kidd, J. S. and Hooper, J. J. Division of responsibility between two controllers and load balancing flexibility in a radar approach control team. A study in human engineering aspects of radar air traffic control, WADC Technical Report 58-473, April 1959. AD 214 616.
658. Kidd, J. S., Shelly, M. W., Jeantheau, G. and Fitts, P. M. The effect of enroute flow control on terminal system performance. A study in human engineering aspects of radar air traffic control, WADC Technical Report 57-663, April 1958. AD 142 096.
659. Kidd, J. S. Some sources of load and constraints on operator performance in a simulated radar air traffic control task, WADC Technical Report 60-612, March 1961. AD 255 232.
660. Kidd, J. S. A summary of research methods, operator characteristics, and system design specifications based on the study of a simulated radar air traffic control system, WADC Technical Report 59-236, July 1959. AD 235 126.
661. Kidd, J. S. and Christy, R. T. "Supervisory procedures and work-team productivity," Journal of Applied Psychology, Vol 45, pp 388-392, 1961.
662. Kinkade, R. G. and Kidd, J. S. The effect of different proportions of monitored elements on operator performance in a simulated radar air traffic control system, WADC Technical Report 59-169, June 1959. AD 227 420.
663. Kinkade, R. G. and Kidd, J. S. The effect of team size and intermember communication on decision making performance, WADC Technical Report 58-474, April 1959. AD 215 621.
664. Kinkade, R. G. and Kidd, J. S. The use of an operational game as a method of task familiarization, WADC Technical Report 59-204, July 1959. AD 232 474.
665. McGuire, J. C. Effect of traffic configurations on the accuracy of radar air traffic controller judgments, WADC Technical Report 56-73, May 1957. AD 118 268.
666. McGuire, J. C. and Kraft, C. L. Reaction of six radar air traffic controllers to conference control of targets simulated on a 19 inch horizontal display, WADC Technical Note 56-542, December 1956. AD 110 692.
667. McGuire, J. C. and Kraft, C. L. Reaction of ten radar air traffic controllers to operational use of the telex twin microphone, boom-type, split headset, WADC Technical Note 56-541, December 1956. AD 110 691.
668. Moss, S. M., Kraft, C. L. and Howell, W. C. The influence of overlay configuration on the estimation of heading and speed, WADC Technical Report 61-141, March 1961. AD 255 233.

669. Schipper, L. M. and Versace, J. Human engineering aspects of radar air traffic control. I: Performance in sequencing aircraft for landings as a function of control time availability, WADC Technical Report 56-67, February 1956. AD 106 758.
670. Schipper, L. M., Versace, J., Kraft, C. L. and McGuire, J. C. Human engineering aspects of radar air traffic control. II and III: Experimental evaluations of two improved identification systems under high density traffic conditions, WADC Technical Report 56-68, July 1956. AD 110 527.
671. Schipper, L. M., Versace, J., Kraft, C. L. and McGuire, J. C. Human engineering aspects of radar air traffic control. IV. A comparison of sector and in-line control procedures, WADC Technical Report 56-69, September 1956. AD 110 528.
672. Schipper, L. M. Prediction of critical events in contexts of different numbers of alternative events, WADC Technical Note 55-744, December 1955. AD 97 631.
673. Schipper, L. M., Kidd, J. S., Shelly, M. and Smode, A. F. Terminal system effectiveness as a function of the method used by controllers to obtain altitude information. A study in human engineering aspects of radar air traffic control, WADC Technical Report 57-278, June 1957. AD 118 267.
674. Schipper, L. M., Kraft, C. L., Smode, A. F. and Fitts, P. M. The use of displays showing identity versus no-identity. A study in human engineering aspects of radar air traffic control, WADC Technical Report 57-21, February 1957. AD 110 713.
675. Shapero, A., Cooper, J. I., Rappaport, M., Schaeffer, K. H. Bates, C., Jr. Human engineering testing and malfunction data collection in weapon system test programs, WADD Technical Report 60-36, February 1960. AD 235 420.
676. Smithson, J. E. Power spectral densities of aircraft deviations from a heading, WCRD Technical Note 54-16, August 1954. AD 58 435.
677. Thomas, R. E., Pritsker, A. B. A., Christner, Charlotte A., Byers, R. H. and Huebner, W. J. The effects of various levels of automation on human operators' performance in man-machine systems, WADD Technical Report 60-618, February 1961. AD 254 687.
678. Versace, J. The effect of emergencies and communications availability with differing entry rates. A study in human engineering aspects of radar air traffic control, WADC Technical Report 56-70, December 1956. AD 118 320.
679. Wright, G. O. A general procedure for systems study, WADD Technical Note 60-18, January 1960. AD 236 040.

XV. TRACKING AND SERVO ANALYSIS

680. Ammons, R. B., Ammons, Carol H. and Morgan, R. L. Movement analysis of the performance of a simple perceptual-motor task under various conditions, WADC Technical Report 54-36, April 1954. AD 34 306.
681. Ammons, R. B., Ammons, Carol H. and Morgan, R. L. "Movement analysis of the performance of a simple perceptual-motor task under various conditions," Journal of General Psychology, Vol 58, pp 259-279, 1958.

682. Ammons, R. B., Alprin, S. L. and Ammons, Carol H. "Rotary pursuit performance as related to sex and age of pre-adult subjects," Journal of Experimental Psychology, Vol 49, pp 127-133, 1955.
683. Archer, E. J., Wyckoff, L. D. and Brown, F. G. Tracking performance as measured by time continuously on target, WADC Technical Report 54-210, March 1954. AD 35 128.
684. Bamford, H. E., Jr. and Ritchie, M. L. "Complex feedback displays in a man-machine system," Journal of Applied Psychology, Vol 42, pp 141-147, 1958.
685. Benepe, O. J., Narasimhan, R. and Ellson, D. G. An experimental evaluation of the application of harmonic analysis to the tracking behavior of the human operator, WADC Technical Report 53-384, May 1954. AD 38 148.
686. Burke, C. J., Narasimhan, R. and Benepe, O. J. Some problems in the spectral analysis of human behavior records, WADC Technical Report 53-27, July 1953. AD 18 754.
687. Coppock, H. and Ellson, D. G. Further analysis of the psychological range effect, AMC Technical Report 6012, August 1951. ATI 123 320.
688. Craig, D. R. Effect of amplitude range on duration of responses to step function displacements, AMC Technical Report 5913, September 1949. ATI 66 070.
689. Ellson, D. G. and Hill, H. Action potentials during tracking, AMC Memorandum Report TSEAA-694-2I, December 1947. ATI 90 301.
690. Ellson, D. G. and Gilbarg, D. The application of operational analysis to human motor behavior, AMC Memorandum Report MCREXD-694-2J, May 1948. ATI 27 519.
691. Ellson, D. G. and Craig, D. R. A comparison of one-handed and two-handed tracking, AMC Memorandum Report MCREXD-694-2M, July 1948. ATI 42 457.
692. Ellson, D. G. and Craig, D. R. A comparison of a two-handed and several one-handed control techniques in a tracking task, AMC Memorandum Report MCREXD-694-2L, July 1948. ATI 34 069.
693. Ellson, D. G. and Gray, Florence E. Effects of friction and mode of operation upon accuracy of tracking with the G. E. pedestal sight, AMC Memorandum Report TSEAA-694-2C, March 1947. ATI 123 315.
694. Ellson, D. G. and Gray, Florence. E. Frequency responses of human operators following a sine wave input, AMC Memorandum Report MCREXD-694-2N, December 1948. ATI 52 939.
695. Ellson, D. G. The independence of tracking in two and three dimensions with the B-29 pedestal sight, AMC Memorandum Report TSEAA-694-2G, August 1947. ATI 64 453.
696. Ellson, D. G. and Hill, H. The interaction of responses to step function stimuli: I. Opposed steps of constant amplitude, AMC Memorandum Report MCREXD-694-2P, November 1948. ATI 52 661.

697. Ellson, D. G., Hill, H. and Craig, D. R. The interaction of responses to step function stimuli: II. Equal opposed steps of varying amplitude, AMC Technical Report 5911, August 1949. ATI 44 495.
698. Ellson, D. G. and Wheeler, L., Jr. The range effect, AF Technical Report 5813, May 1949. ATI 53 593.
699. Ellson, D. G. and Wheeler, L., Jr. Resonance in the human operator, USAF Technical Report 5834, April 1951. ATI 157 967.
700. Ellson, D. G. and Hill, H. A review of muscle activity and action potentials as they are related to movement, AMC Memorandum Report TSEAA-694-2E, June 1947. ATI 64 452.
701. Ellson, D. G. and Gray, Florence E. The validity of time-on-target (clock) scores as an estimate of tracking error magnitude, AMC Memorandum Report TSEAA-694-2F, June 1947. ATI 64 481.
702. Ellson, D. G., Hill, H. and Gray, Florence E. Wave length and amplitude characteristics of tracking error curves, AMC Memorandum Report TSEAA-694-2D, April 1947. ATI 64 480.
703. Ellson, D. G. and Hill, H. Wave length and amplitude characteristics of tracking error curves: II. Individual differences and learning effects, AMC Memorandum Report TSEAA-694-2H, October 1947. ATI 14 240.
704. Fitts, P. M. and Schneider, R. "Reproduction of simple movements as a function of factors influencing proprioceptive feedback," Journal of Experimental Psychology, Vol 49, pp 445-454, 1955.
705. Fitts, P. M. and Simon, C. W. "Some relations between stimulus patterns and performance in a continuous dual-pursuit task," Journal of Experimental Psychology, Vol 43, pp 428-436, 1952.
706. Ford, A., Rigler, D. and Dugan, Genevieve E. Pantograph radar tracking: Point centering experiments, AF Technical Report 5969, September 1949. ATI 66 065.
707. Ford, A., Rigler, D. and Dugan, Genevieve E. "Point centering of signals on an area," Journal of Applied Psychology, Vol 34, pp 429-433, 1950.
708. Ford, A., Olson, M. W., Rigler, D., Dugan, Genevieve, E. and Getz, M. H. Single-operator signal tracking on ground radar, USAF Technical Report 6370, September 1950. ATI 105 863.
709. Gilinsky, A. S. and Brown, J. L. Eye dominance and tracking performance, WADC Technical Report 52-15, April 1952. AD 64 60.
710. Hall, I. A. M. Effects of controlled element on the human pilot, WADC Technical Report 57-509, August 1958. AD 130 979.
711. Howell, W. and Briggs, G. E. "The effects of visual noise and locus of perturbation on tracking performance," Journal of Experimental Psychology, Vol 58, pp 166-173, 1959.
712. Hunt, D. P. "The effect of the precision of informational feedback on human tracking performance," Human Factors, Vol 3, pp 77, 1961.

713. Hunt, D. P. Tracking performance as a function of feedback specificity, WADC Technical Report 58-584, March 1959. AD 212 311.
714. Krendel, E. S. and Barnes, G. H. Interim report on human frequency response studies, WADC Technical Report 54-370, June 1954. AD 47 529.
715. Krendel, E. S. A preliminary study of the power-spectrum approach to the analysis of perceptual-motor performance, USAF Technical Report 6723, October 1951. ATI 158 428.
716. Krendel, E. S. The spectral density study of tracking performance. I. The effect of instructions, WADC Technical Report 52-II (Part I), January 1952. ATI 184 276.
717. Krendel, E. S. The spectral density study of tracking performance. II. The effects of input amplitude and practice, WADC Technical Report 52-II (Part II), January 1952. ATI 186 688.
718. Levine, M. Tracking performance as a function of exponential delay between control and display, WADC Technical Report 53-236, October 1953. AD 26 450.
719. McConnell, D. and Shelly, M. W. Tracking performance on a sequence of step functions which approaches a continuous function as a limit, WADC Technical Report 59-43, July 1959. AD 227 417.
720. McConnell, D. and Shelly, M. W. "Tracking performance as a sequence of step functions which approaches a continuous function as a limit," Journal of Experimental Psychology, Vol 59, pp 312-320, 1960.
721. McGuire, J. C. The effect of target velocity and the area of error-tolerance circles upon performance in a two-dimensional compensatory tracking task, WADC Technical Report 54-431, August 1954. AD 99 642.
722. McRuer, D. T. and Krendel, E. S. Dynamic response of human operators, WADC Technical Report 56-524, October 1957. AD 110 693.
723. Muckler, F. A. Man-machine tracking performance with short-period oscillatory control system transients, WADC Technical Report 60-3, January 1960. AD 236 939.
724. Narasimhan, R. and Benepe, O. J. The use of auto-correlation functions in the harmonic analysis of human behavior, USAF Technical Report 6529, October 1951. ATI 168 121.
725. Parker, J. F. and Fleishman, E. A. Prediction of advanced levels of proficiency in a complex tracking task, WADC Technical Report 59-255, December 1959. AD 236 907.
726. Platzer, H. L. The phase-plane as a tool for the study of human behavior in tracking problems, WADC Technical Report 55-444, November 1955. AD 95 758.
727. Ritchie, M. L. and Bamford, H. E., Jr. The effect upon the output of a complex man-machine system of quickening and damping a derivative feedback display, WADC Technical Report 57-103, April 1957. AD 118 069.
728. Ritchie, M. L. and Bamford, H. E., Jr. Quickening and damping a feedback display, Memorandum Report 57-3, February 1957.

729. Ritchie, M. L. and Bamford, H. E., Jr. "Quickening and damping a feedback display," Journal of Applied Psychology, Vol 41, pp 395-402, 1957.
730. Rockway, M. R. The effect of variations in control-display ratio and exponential time delay on tracking performance, WADC Technical Report 54-618, December 1954. AD 62 763.
731. Rockway, M. R. and Franks, P. E. Effects of variations in control backlash and gain on tracking performance, WADC Technical Report 58-553, January 1959. AD 250 537.
732. Rockway, M. R. Effects of variations in control deadspace and gain on tracking performance, WADC Technical Report 57-326, September 1957. AD 118 347.
733. Seckel, E., Hall, I. A. M., McRuer, D. T. and Weir, D. H. Human pilot dynamic response in flight and simulator, WADC Technical Report 57-520, August 1958. AD 130 988.
734. Senders, J. W., Christensen, J. M. and Sabeh, R. Comparisons of a single operator's performance with team performance on a tracking task, WADC Technical Note 55-362, July 1955. AD 96 355.
735. Senders, J. W. and Bradley, J. V. Effect of backlash on manual control of pitch of a simulated aircraft, WADC Technical Report 56-107, March 1956. AD 95 404.
736. Senders, J. W. The influence of surround on tracking performance. Part I. Tracking on combined pursuit and compensatory one-dimensional tasks with and without a structured surround, WADC Technical Report 52-229, February 1953. AD 12 618.
737. Senders, J. W. Survey of human dynamics data and a sample application, WADC Technical Report 59-712, November 1959. AD 234 002.
738. Senders, J. W. and Cruzen, M. Tracking performance on combined compensatory and pursuit tasks, WADC Technical Report 52-39, February 1952. ATI 158 805.
739. Senders, J. W. Tracking with intermittently illuminated displays, WADC Technical Report 55-378, October 1955. AD 100 695.
740. Simon, C. W. The presence of a dual perceptual set for certain perceptual-motor tasks, WADC Technical Report 54-286, June 1954. AD 52 500.
741. Warrick, M. J. Conference with Dr. John R. Ragazzini on servo-analysis as applied to responses of human operators, USAF Memorandum Report MCREXD-694-2K, July 1948. ATI 205 906.
742. Warrick, M. J. Effect of exponential type control lags on the speed and accuracy of positioning a visual indicator, WADC Technical Note 55-348, June 1955. AD 99 520.
743. Warrick, M. J. Effect of transmission-type control lags on tracking accuracy, AMC Technical Report 5916, September 1949. ATI 66 089.
744. Wyckoff, L. B., Bridgman, C. S. and Tabory, L. The effect of an improved orientation aid on target acquisition with the hemispheric sight, WADC Technical Report 54-67, January 1954. AD 28 900.

XVI. TRAINING AND LEARNING

A. Applications, Descriptions and Evaluations

745. Beer, M., Jayson, R. M., Carter, V. E. and Kresse, F. H. Survey of escape training in the Air Force, WADD Technical Report 60-792, March 1961. AD 255 917.
746. Eckstrand, G. A. "A human factors approach to the design of training equipment," Air Training Command Instructors Journal, Vol 5, pp 145-151, 1954.
747. Kopstein, F. F. and Morgan, R. L. Human factors considerations in the design proposals for a ballistic missile unit proficiency system, WADC Technical Note 57-352, December 1957. AD 142 040.
748. Randle, R. J., Jr. Vibrations in helicopters: Training considerations, WADC Technical Note 59-61, March 1959. AD 212 314.
749. Rockway, M. R. A survey of pilots' opinions of the C-97 Flight simulator, WCRD Technical Note 53-38, April 1953. AD 62 899.
750. Schohan, B. Human factors recommendations for the design of cockpit procedures trainers, WADC Technical Report 56-527, September 1958. AD 110 654.
751. Spacecrew training study evaluation (SR-49756) Advanced Design Trainer, (SECRET report, title unclassified), ASD Technical Report 61-127, June 1961.
752. Stave, A. M. Human factors in design of automatic programming and recording for trainers (AN/ASG-15-T1 fire control system trainer), WADD Technical Report 60-558, August 1960. AD 243 967.

B. Crew Training

753. Eckstrand, G. A. and Rockway, M. R. "The role of simulators for spacecrew training," Astronautics, Vol 5, pp 38-39, 76, 78, 80, 1960.
754. Eckstrand, G. A. and Rockway, M. R. Spacecrew Training: A review of progress and prospects, December 1961. ASD Technical Report 61-721.
755. Hood, P. D., Krumm, R. L., O'Sullivan, F. J., Buckhout, R., Cave, R. T. Cotterman, T. E. and Rockway, M. R. Conference on integrated aircrew training (March 1960), WADD Technical Report 60-320, July 1960. AD 240 688.

C. General Experimental-Theoretical

756. Briggs, G. E. and Waters, L. K. "Training and transfer as a function of component interaction," Journal of Experimental Psychology, Vol 56, pp 492-500, 1958.
757. Christensen, J. M. and Crannell, C. W. The effect of selected visual training procedures on the visual form field, WADC Technical Report 54-239, April 1955. AD 76 423.
758. Cotterman, T. E. Task classification: An approach to partially ordering information on human learning, WADC Technical Note 58-374, January 1959. AD 210 716.

759. Crannell, C. W. and Christensen, J. M. Expansion of the visual form field by perimeter training, WADC Technical Report 55-368, October 1955. AD 99 643.

760. Crannell, C. W. and Christensen, J. M. A study of perimeter training with diversified stimuli, WADC Technical Report 56-63, June 1956. AD 107 273.

761. Duncan, C. P. "Development of response generalization gradients," Journal of Experimental Psychology, Vol 50, pp 26-30, 1955.

762. Duncan, C. P. and Underwood, B. J. The effect on transfer of varying stimulation during training, WADC Technical Report 56-279, December 1957. AD 142 134.

763. Duncan, C. P. and Underwood, B. J. Retention of transfer in motor learning after 24 hours and after 14 months as a function of degree of first-task learning and inter-task similarity, WADC Technical Report 52-224, October 1952. AD 32 47.

764. Duncan, C. P. and Underwood, B. J. "Retention of transfer in motor learning after twenty four hours and after fourteen months," Journal of Experimental Psychology, Vol 46, pp 445-452, 1953.

765. Duncan, C. P. and Underwood, B. J. Spatial error gradients in motor learning and transfer, WADC Technical Report 53-65, April 1953. AD 13 029.

766. Duncan, C. P. and Underwood, B. J. Transfer after 10 days of practice with one task or with varied tasks, WADC Technical Report 54-115, May 1954. AD 43 067.

767. Duncan, C. P. "Transfer after training with single versus multiple tasks," Journal of Experimental Psychology, Vol 55, pp 63-72, 1958.

768. Duncan, C. P. "Transfer in motor learning as a function of degree of first-task learning and inter-task similarity," Journal of Experimental Psychology, Vol 45, pp 1-11, 1953.

769. Duncan, C. P. and Underwood, B. J. Transfer of training after five days of practice with one task or with varied tasks, WADC Technical Report 54-533, December 1954. AD 62 687.

770. Duncan, C. P. and Underwood, B. J. Transfer of training after two days of practice with one task or with varied tasks, WADC Technical Report 54-381, September 1954. AD 54 619.

771. Duncan, C. P. and Underwood, B. J. Transfer of training in motor learning as a function of degree of first-task learning and inter-task similarity, WADC Technical Report 52-64, April 1952. ATI 172 519.

772. Eckstrand, G. A. Cue attention habits as a factor in training, AF Technical Report 6566, August 1951. ATI 122 739.

773. Eckstrand, G. A. Response practice as a factor in transfer of training, AMC Technical Report 6017, July 1950. ATI 82 501.

774. Eckstrand, G. A. Studies in cue utilization behavior; I. The influence of a relevant "unused" cue in training upon transfer in a positive transfer situation, WADC Technical Report 52-79 (Part I), April 1952. ATI 164 224.

775. Eckstrand, G. A. and Morgan, R. L. A study of verbal mediation as a factor in transfer of training, WADC Technical Report 53-34, February 1953. AD 13 030.

776. Eckstrand, G. A. and Wickens, D. D. "Transfer of perceptual set," Journal of Experimental Psychology, Vol 47, pp 274-278, 1954.

777. Kidd, J. S. "A comparison of two methods of training in a complex task by means of task simulation," Journal of Applied Psychology, Vol 45, pp 165-169, 1961.

778. Montgomery, V. E., Duncan, C. P. and Underwood, B. J. Transfer of training in motor learning as a function of distribution of practice, WADC Technical Report 52-115, October 1952. AD 43 067.

779. Montgomery, V. E. "Transfer of training in motor learning as a function of distribution of learning," Journal of Experimental Psychology, Vol 46, pp 440-444, 1953.

780. Morgan, R. L., Eckstrand, G. A., Rockway, M. R. and Newton, J. M. Verbally mediated transfer as a function of order of tasks, WADC Technical Report 54-41, February 1954. AD 33 353.

781. Naylor, J. C. and Briggs, G. E. Long-term retention of learned skills: A review of the literature, ASD Technical Report 61-390, August 1961. AD 267 043.

782. Wickens, D. D. An interpretation of the development of a perceptual set in S-R terms, WADC Technical Report 52-305, September 1952. AD 50 08.

D. Guide and Handbooks Applicable to System Development
(see as major topic)

E. Knowledge of Results and Scoring

783. Ammons, R. B. Knowledge of performance: Survey of literature, some possible applications, and suggested experimentation, WADC Technical Report 54-14, February 1954. AD 34 543.

784. Cotterman, T. E. Effects of variations in specificity of knowledge of results on the improvement of a perceptual skill, WADC Technical Report 58-673, August 1960. AD 246 349.

785. Cotterman, T. E. "Effects of variations in specificity of knowledge of results on the improvement of a perceptual skill," NAS-USAF Symposium of Personnel, Training and Human Engineering, G. Finch, Ed., Washington: NAS-NRC, 1960.

786. Eriksen, C. W. Effects of practice with and without correction upon discrimination learning under absolute conditions, WADC Technical Report 57-71, February 1957. AD 118 027.

787. Smode, A. "Learning and performance in a tracking task under two levels of achievement information feedback," Journal of Experimental Psychology, Vol 56, pp 297-304, 1958.

F. Programmed Learning and Automated Instruction

788. Carr, W. J. Self-instructional devices: A review of current concepts, WADC Technical Report 59-503, August 1959. AD 230 640.

789. Eckstrand, G. A., Rockway, M. R., Kopstein, F. F. and Morgan, R. L. Teaching machines in the modern military organization, WADD Technical Note 60-289, December 1960. AD 253 338.

790. Hatch, R. S. An evaluation of the effectiveness of a self-tutoring approach applied to pilot training, WADC Technical Report 59-320, July 1959. AD 230 980.

791. Kopstein, F. F. and Shillestad, Isabel J. A survey of auto-instructional devices, ASD Technical Report 61-414, September 1961. AD 268 223.

792. Sidowski, J. B., Kopstein, F. F. and Shillestad, Isabel J. "Prompting and confirmation variables in verbal learning," Psychological Reports, Vol 8, pp 401-406, 1961.

G. Maintenance Training and Performance Aid (see Maintenance)

H. Transfer of Tracking Skill

793. Ammons, R. B., Ammons, Carol H., and Morgan, R. L. Transfer of training in a simple motor skill along the speed dimension, WADC Technical Report 53-498, March 1954. AD 32 537.

794. Ammons, R. B., Ammons, Carol H. and Morgan, R. L. "Transfer of training in a simple motor skill along the speed dimension," Perceptual and Motor Skills, Vol 6, 1956.

795. Levine, M. Transfer of tracking performance as a function of a delay between the control and the display, WADC Technical Report 53-237, November 1953. AD 29 359.

796. Morgan, R. L. and Eckstrand, G. A. Effects of a changed environmental context upon performance of a tracking task, WADC Technical Report 53-235, October 1953. AD 25 503.

797. Muckler, F. A., Obermayer, R. W., Hanlon, W. H. and Serio, F. D. Transfer of training with simulated aircraft dynamics. I. Variations in period and damping of long period oscillatory transients, WADD Technical Report 60-615 (I), December 1961.

798. Muckler, F. A., Obermayer, R. W., Hanlon, W. H. and Serio, F. P. Transfer of training with simulated aircraft dynamics. II. Variations in central gain and plugoid characteristics, WADD Technical Report 60-615 (II), December 1961.

799. Muckler, F. A., Obermayer, R. W., Hanlon, W. H. and Serio, F. P. Transfer of training with simulated aircraft dynamics. III. Variations in course complexity and amplitude, WADD Technical Report 60-615 (III), December 1961.

800. Rockway, M. R. The effect of variations in control-display during training on transfer to a "high" ratio, WADC Technical Report 55-366, October 1955. AD 98 317.

801. Rockway, M. R., Eckstrand, G. A. and Morgan, R. L. The effect of variations in control-display ratio during training on transfer to a low ratio, WADC Technical Report 56-10, October 1956. AD 110 640.

802. Rockway, M. R., Morgan, R. L. and Eckstrand, G. A. "Effects of variation in control-display ratio and amount of original practice on transfer of tracking skill," Symposium on Air Force Human Engineering, Personnel, and Training Research, National Academy of Sciences, National Research Council, Washington, D. C., pp 108-113, 1958.

803. Wickens, D. D. and Cotterman, T. E. The effect of display interruption on transfer of training between tasks of different control sensitivity, WADC Technical Report 57-548, March 1958. AD 131 027.

XVII. ZERO G STUDIES

804. Dzendolet, E. "The ability to apply forces while tractionless," Proceedings of the Institute of the Environmental Sciences Meeting, Palm Springs, Florida, 1960.

805. Dzendolet, E. and Rievley, J. F. Man's ability to apply certain torques while weightless, WADC Technical Report 59-94, April 1959. AD 220 363.

806. Dzendolet, E. Manual application of impulses while tractionless, WADD Technical Report 60-129, February 1960. AD 238 021.

807. Hammer, Lois R. Aeronautical systems division studies on weightlessness: 1959 - 1960, ASD Technical Report 60-715, December 1961.

808. Hertzberg, H. T. E. "Biomechanics of weightlessness," Aircraft and Missiles Manufacturer, Human Factors Magazine, 1959.

809. Kama, W. N. The effect of simulated weightlessness on positioning responses, ASD Technical Report 61-555, October 1961.

810. Kama, W. N. Speed and accuracy of positioning weightless objects as a function of mass, distance, and direction, WADD Technical Report 61-182, March 1961. AD 267 247.

811. Loftus, J. P. and Hammer, Lois R. Weightlessness and performance: A review of the literature, ASD Technical Report 61-166, June 1961. AD 267 041.

812. Nicholson, J. F., and Naas, D. W. Magnetic shoes for human orientation in space, WADC Technical Note 59-352, February 1960. AD 236 362.

813. Pigg, L. D. and Kama, W. N. The effect of transient weightlessness on visual acuity, WADD Technical Report 61-184, March 1961.

814. Simons, J. C. and Gardner, M. S. Self-maneuvering for the orbital worker, WADD Technical Report 60-748, December 1960. AD 252 125.

815. Simons, J. C. Walking under zero-gravity conditions, WADC Technical Note 59-327, October 1959. AD 232 469.

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60-320	755	61-447	308
60-372	614	61-473	21
60-412	287	61-502	277

<u>TR NO.</u>	<u>TITLE NO.</u>
61-533	13
61-548	280
61-549	281
61-550	279
61-555	809
61-568	469
61-577	214
61-599	60
61-626	263
61-627	268
61-629	272
61-720	178
61-721	754
61-733	309
61-734	104
61-739	304