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SOURCE Aerodinamika Bol'shikh Skorostey (Gazovaya Dinamika), Encl 11 to ID No 674579.

INFORMATION ON THE BOOK "AERODYNAMICS OF HIGH VELOCITIES (GAS DYNAMICS)" BY YA. I. LEVINSON

The following presents information from the Preface and gives the Table of Contents of Aerodinamika Bol'shikh Skorostey (Gazovaya Dinamika).

The book was written as a textbook for combat units and schools of the Soviet Air Forces and, in the author's opinion, represents a first attempt for presenting the fundamentals of aerodynamics of high velocities in application to the problems of aviation.

Classical aerodynamics based its conclusions on the laws of mechanics. Gas dynamics is based on the laws of thermodynamics as well as on the laws of mechanics, thus being a part of physics in a wider sense. For understanding gas dynamics, knowledge of mechanics, thermodynamics, and acoustics is necessary. Development of flights at high velocities requires also a considerable knowledge of the atmospheric conditions at various, including very high, altitudes. Therefore, Part 1 of the book represents an introduction to the physics of gases, giving the fundamentals of thermodynamics, meteorology, and acoustics in popular form. Generally, the emphasis in the entire book is on clarification of the physical nature of the phenomena under investigation.

The author considers the following scientists as prominent representatives of the Soviet school of gas dynamics: ~~Academicians~~ S. A. Khristianovich, N. Ye. Kochin (1901 - 1944), and M. V. Keldysh; I. A. Kibel', corresponding member of the Academy of Sciences; Professor F. I. Frankl', corresponding member of the Academy of Artillery Sciences; Professors A. A. Dorodnitsyn and Ya. M. Serebriyskiy. The bibliography lists 36 titles, mostly those of Soviet authors.

The present, second, posthumous (Levinson died 10 March 1948) edition of the book was edited by Docent B. Ya. Shumyatskiy, instructor of aerodynamics in the Military Aeronautical Engineering Academy imeni Professor N. Ye. Zhukovskiy. In 1948, the academy published Ya. I. Levinson's other work, Physical Fundamentals of the Aerodynamics of High Velocities.

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50X1-HUM

TABLE OF CONTENTS

Part 1. Introduction to the Physics of Gases		<u>Page</u>
I. General Information on Gases		
1.	Physical Structure of Gases	11
2.	Basic Parameters of Gases and Their Relations	15
3.	Changes in the State of Gases	21
4.	Basic Processes in Gases	28
II. Atmosphere of the Earth		
1.	General Information	50
2.	Troposphere and Stratosphere	51
3.	International Standard Atmosphere (MSA)	55
4.	Atmospheric Conditions at High Altitudes	60
III. Sound, Sound Waves, and Sound Velocity		
1.	Sound, Sound Waves	64
2.	Sound Velocity	72
Part 2. Fundamental Laws of the Motion of Air (Gases) and Their Practical Application		
IV. Compressibility of Gases and Mach Number		
1.	Manifestation of the Gas Compressibility in Aerodynamic Phenomena	84
2.	High and Low Velocities	86
3.	Mach Number	89
4.	Influence of the Flight Altitude on the Effect of Air Compressibility	90
V. Fundamental Laws of the Motion of Gases		
1.	Physical Models of Flows and Methods for Investigation	96
2.	Equation of Continuity	104
3.	Bernoulli Equation	107
4.	Fast and Slow Flows	112
5.	Incompressible Fluid	113
6.	Application of the Continuity and Bernoulli Equations to Separate Air Streams	116
VI. Heating of Bodies in Gas Flow of High Velocity		
1.	Heating Due to Compression of Gas	119
2.	Temperature of the Air Drag (Temperature at a Critical Point)	120
3.	Heating Due to the Internal Friction of Gas in a Boundary Layer	123
4.	Distribution of Temperatures on the Cylinder Surface	124
5.	Temperature Measurements in a Gas Flow	126
6.	Influence of the Air Drag on the Cooling of Aircraft Engines	129
7.	Wear of the Turbine Blades	131
8.	Problems Connected With the Heating of High-Speed Aircraft	131

- 2 -

CONFIDENTIAL**CONFIDENTIAL**

CONFIDENTIALCONFIDENTIAL

50X1-HUM

	<u>Page</u>
VII. Pressure and Instruments Based on Pressure Measurements	
1. Pressure of Air Drag (Pressure at a Critical Point)	135
2. Measuring the Velocity of Flight (Flow) With a Pitot Tube. Consideration of the Effect of Air Compressibility	143
3. Mach-Number Indicator	156
Part 3. Flow of Gases in Pipes and Nozzles	
VIII. Flow out of a Chamber	
1. Maximum Velocity of Flow out of a Chamber (Discharge Into Vacuum)	165
2. Dependence of the Gas Parameters in Various Cross Sections on the Flow Velocities	166
3. Dependence of the Sound Velocity on the Gas-Flow Velocity	168
4. Critical Velocity	170
5. Pressure, Density, and Temperature at the Critical Velocity of Sound	171
IX. Dependence of the Velocity of Gas Flow on the Shape of Channel	
1. Laval Nozzle	174
2. Work Principle of the Laval Nozzle	175
3. Possible Processes in the Laval Nozzle	179
4. Elementary Calculation of the Laval Nozzle	180
5. Influence of Friction on the Flow Process of Gas in Pipes and Nozzles	184
6. Application of Laval Nozzles in Pipes and Nozzles	186
7. Laval Nozzle Under the Conditions Different From Those Prescribed by Design	191
8. Additional Notes to the Calculation of Nozzles	195
9. Transition Through the Sonic Velocity in the Pipe of Constant Section	197
X. High-Speed Wind Tunnel	
1. Working Principle and Layout of a Wind Tunnel	203
2. Methods for Decreasing the Power of High-Speed Tunnels	204
3. Peculiarities in Construction of the Tunnels of High Sub- and Supersonic Velocities	206
4. Short-Action Wind Tunnels	208
Part 4. Supersonic Air Flow Around Bodies and Shock Stall at Near-Sonic Velocities	
XI. Supersonic Air Flow Around Bodies. Boundary Waves of Small Disturbances, Compression Shocks, and Wave Drag	
1. Propagation of Small Disturbances in an Air Flow	210
2. Dissipation of Disturbances at the Subsonic Velocity of a Flow and Their Concentration in Supersonic Flows. Boundary Waves of Small Disturbances	212
3. Supersonic Flow of Gas Around an Outer Obtuse Angle	215

- 3 -

CONFIDENTIAL**CONFIDENTIAL**

CONFIDENTIALCONFIDENTIAL

50X1-HUM

	<u>Page</u>
4. Multiple Change in the Direction of Supersonic Flow and Flow Around a Convex Curved Surface	216
5. Flow Around a Concave Curved Surface and Inner Obtuse Angle. Origination of Compression Shocks	216
6. Compression Shocks in the Front of Bodies in Supersonic Air Flow. Trailing Compression Shock	219
7. Physical Nature of the Compression Shocks	222
8. Analogy to the Phenomenon of Explosion	224
9. Wave Drag. Connection of Wave Losses With the Shape of the Compression Shock	225
10. Compression Shocks in the Laval Nozzles	236
 XII. Theory of the Compression Shocks	
1. Theory of the Plane Compression Shock	240
2. Theory of the Oblique Compression Shock	258
 XIII. Wave Stall at Near-Sonic Velocities	
1. Local Supersonic Velocities and Local Compression Shocks. Critical Mach Number	275
2. Changes in Distribution of Pressure Along a Wing	279
3. Determination of the Critical Mach Number According to S. A. Khristianovich's Method Based on a Wind-Tunnel Test of an Airfoil at Low Velocities	288
4. Influence of the Airfoil Shape and Angle of Attack on the Critical Mach Number	289
 Part 5. Aerodynamic Characteristics and Aerodynamic Shapes of High-Speed Airplanes	
 XIV. Influence of the Compressibility of Air on the Aerodynamic Characteristics of Airfoils and Solids of Revolution	
1. Formulas of Aerodynamic Forces and Moments	294
2. Influence of Air Compressibility on Aerodynamic Characteristics at Subcritical Mach Numbers	297
3. Aerodynamic Characteristics of Airfoils at Subsonic Mach Numbers	300
4. Drag of Bodies at Supersonic Speeds and Certain Generalizations	305
 XV. Aerodynamic Shapes of High-Speed Aircraft	
1. Wing Profiles for High-Speed Aircraft	318
2. Wings of Small Aspect Ratios	323
3. Backswept Wings	326
4. Fuselage and Mutual Influence of Wing and Fuselage	330
5. Problems of the Aerodynamics of a Supersonic Aircraft	332
6. Possibilities for Application of Propellers	337
7. Optimum Altitude of Flight	342
8. Some Remarks on the Problems Related to the Repair and Servicing of High-Speed Aircraft	342

- E N D -

- 4 -

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