

Introduction to the Japanese translation of LIGHT AIRPLANE DESIGN by L. Pazmany

It takes a wide range of knowledge and understanding to make an airplane. Most of the people except for those who have any experiences are puzzled, because they do not know where to start.

This book, LIGHT AIRPLANE DESIGN, however explains this difficult problem in an explicit way. The reader does not have to struggle with a large and difficult volume. Thanks to Mr. Pazmany for writing this book in such a lucid way. The reader can grasp the important points by just going through it and by making full use of it.

This book is full of American spirit. The spirit which make truly practical airplanes. For example, it tells the key point of the design for the safety of the crew in case of an accident. Also it explains intelligently all the problems in great detail, e.g., designing a "good looking" airplane, or solving the problem of manufacturing parts.

It is necessary to have an "all around" ability to design an airplane. Of course, it is also significant to know aerodynamic, theory of structures, engines, and electronics. Even if you could separately master each such a knowledge, it would not be of any help in designing an airplane. Thus, you need to learn something which put all these knowledge together systematically. In the long run, it is necessary to synthesize various kinds of knowledge, but not to investigate each problem analytically. "Synthesizing ability" which is completely different from "Analyzing ability", is the most important.

Most of the readers may know the famous story of an elephant and the blinds. The first blind, touched an elephant's leg; the second touched his belly, and the third touched his tail, and all them tried to conclude how does an elephant look. However, they could not arrive to a conclusion. You may say that this is a fable which shows the necessity of "synthesizing ability".

There are many analytical and technically oriented books available in the market, but there are not very many books which emphasize synthesis rather than analysis. It would be safe to say that this book is one of the rare books which treat this subject synthetically. Also in college, there is a lack of synthetic lectures on this subject because of limited time. This book make up for it. In this sense, this can be a text book for college students.

I would strongly recommend this comprehensive book which is also useful in the technical field. For example, in the subject of aerodynamics, with the aid of the son of the famous Lawrence K. Loftin of NACA, it accounts for the specific points which cannot be found even in a highly technical book. References on this subject, which few Japanese, I suspect have mastered, are properly introduced at the end of this book. The design of landing gear, explains important parameters very well.

I examined the plans of the PL-1 which can do aerobatics as an FA 200, with which I had some connection and I found out their designs are similar. I could see the progress of simplification from a conventional horizontal tail (stabilizer and elevator) to a single piece "flying tail". We have to admit that airplanes designed by a team of experts, are better if we compare them in minute details. So the reader may find some more interesting advancements that can be added to the PL-1. I would recommend to the interested reader to read "Aerodynamics". Even so, it is only possible to make progress after reading this Pazmany's book.

This book has been translated by Mr. Ikuyu Abe. He supplements some additional useful formulae for the metric system and some notes to the book. He also adds numbers and letters to the formulas for better understanding of the readers.

I hope the readers will fully use this book and start to develop "synthesizing ability".

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Shisho Naito

NOTE: Professor Naito, is one of the authorities in aerodynamics in Japan. Also Chief Design Engineer of the FA-200 light airplane, produced by Fuji Heavy Industries Co. Ltd.