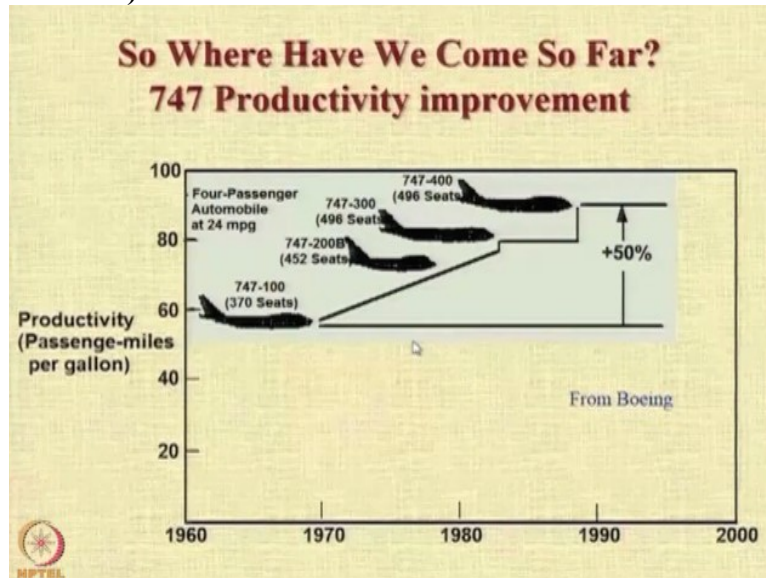


Introduction to Aircraft Design
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Lecture - 30
Aircraft Configuration Design - Closing Remarks

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So, where have we come so far from the beginning of aviation till date so, you can see this information has come from Boeing, the Boeing 747 - 100 was launched somewhere in the mid 60s and the productivity as measured in passenger miles per gallon was approximately 60 you can see that there is a 50% improvement in the productivity in about 1995 in the introduction of Boeing 747 - 400.

So, with every version of the aircraft, there has been a consistent improvement in the productivity. Let us see how this compares with a typical force passenger automobile at 24 miles per gallon, the productivity of that is actually far, far lower.

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To Learn More, Read These:

The Anatomy of the Airplane, by Darrol Stinton. Few equations and deceptively simple, but it's not. Lots of good information.

Design for Air Combat by Ray Whitford. Takes a deeper look at the details, again without equations and with lots of good graphics showing typical data to use deciding on design options. The title suggests a much narrower focus than the book has.

Aircraft Design: A Conceptual Approach, by Daniel Raymer. Chapter 8, "Special Considerations in Configuration Layout" and Chapter 22, "Design of Unique Aircraft Concepts" is good once you've read the first two references.

Airplane Design, Pt. II Preliminary Configuration Design etc., by Jan Roskam. Chapter 3, and 3.3 "Unusual Configurations", in particular.

So, if you want to have an idea about these novel configurations, why they are provided what the benefits are, there are some good textbooks which are recommended the book by Darrol Stinton on the anatomy of the airplane is a good book for information, design for air combat by Ray Whitford it is also a very good book and actually, the book has a much larger focus than the title Raymer's textbook has 2 chapters which are dedicated to configuration layout and also on unique aircraft concepts. And then Jan Roskam has a series of books on aircraft design chapter 3 has 1 section 3.3 on unusual configurations in particular.

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There is Still Enough Room for Dreamers

We don't yet know what the ultimate airplane concept is.

Concerning the comments on configurations given above,

Remember:

there is a time and place for everything.

If you can justify it, you can have it !

Some closing notes, you might see many configurations which are very unique and so you might think that all has already been investigated, but no, there is still enough room for dreamers. Remember, there is a time and place for everything and if you can somehow justify what you are providing as a configuration, you can have it. Thanks for your attention we will now move to the next section.