

**Investigation of the Impact of Turboprop Propulsion on
Fuel Efficiency and Economic Feasibility**

Kevin Richard Antcliff

Thesis submitted to the faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

Master of Science

In

Aerospace Engineering

Mark D. Guynn, Co-Chair

Craig A. Woolsey, Co-Chair

Pradeep Raj

August 12, 2014

Blacksburg, Virginia

Keywords: turboprop, aircraft design, energy efficiency, FLOPS, Vehicle Sketch Pad

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4 messages

Kevin Antcliff <antcliff@vt.edu>

Tue, Aug 19, 2014 at 11:47 AM

To: mchristy@mit.edu

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I am emailing you to ask for permission in the use of two images in my Masters thesis.

These two images, MIT-1.png and MIT-2.png, are attached to this email.

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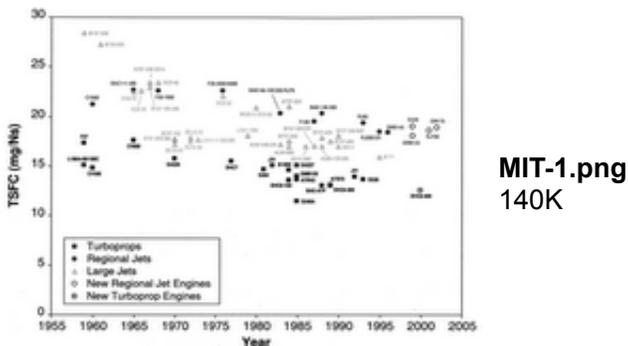
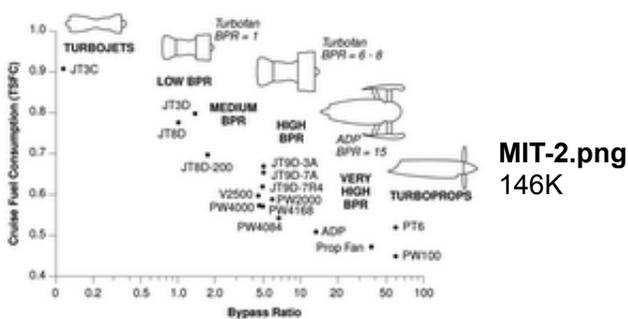
The second is found on a course website and is labeled Figure 11.11:

<http://web.mit.edu/16.unified/www/FALL/thermodynamics/notes/node84.html>

Thank you for your time.

Kevin R. Antcliff
 Aerospace Engineering
 Virginia Tech
antcliff@vt.edu
 (757)268-7192

2 attachments


Michelle D Christy <mchristy@mit.edu>

Tue, Aug 19, 2014 at 9:14 PM

To: Kevin Antcliff <antcliff@vt.edu>

Hi Kevin

I believe you need to seek permission from the author to use the images.

Sorry I can't help with this.

Michelle

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Kevin Antcliff <antcliff@vt.edu>

Wed, Aug 20, 2014 at 8:54 AM

To: iaw@mit.edu

Good morning Prof. Waitz,

I am currently finishing up my Masters degree at Virginia Tech and am emailing you to ask for the permission to use some images that are found in your reports and websites in my Masters thesis.

The first, MIT-1, is found in Figure 3 of a report published by MIT that can be found at the following website:

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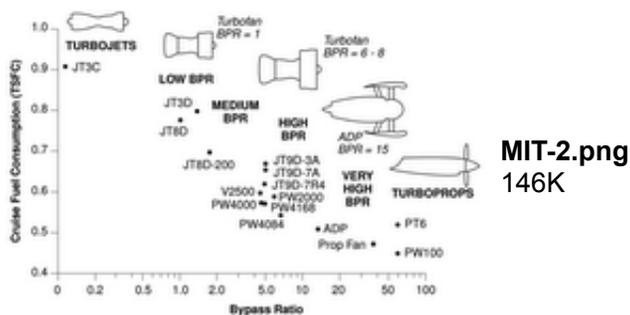
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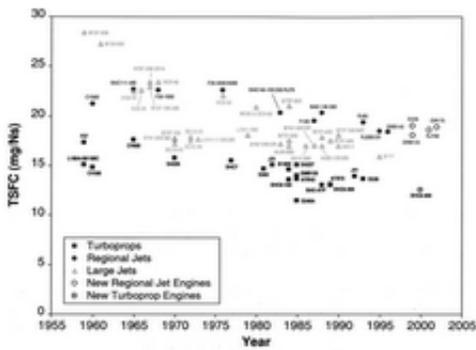
Thank you for your time.

Kevin R. Antcliff
Aerospace Engineering
Virginia Tech
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(757)268-7192

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2 attachments





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Ian A Waitz <iaw@mit.edu>
To: Kevin Antcliff <antcliff@vt.edu>
Cc: Ian A Waitz <iaw@mit.edu>

Wed, Aug 20, 2014 at 9:26 AM

Dear Kevin,

The first figure has been published: <http://www.sciencedirect.com/science/article/pii/S0969699702000200>, so it is best to contact the journal or Elsevier for permission to use the figure (or reference Babikian's MIT thesis which also has the figure).

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Good luck with your thesis!

Thank you,

- Ian

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Ian A. Waitz
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2 messages

Kevin Antcliff <antcliff@vt.edu>
 To: info@arvaigroup.com

Wed, Aug 20, 2014 at 2:53 PM

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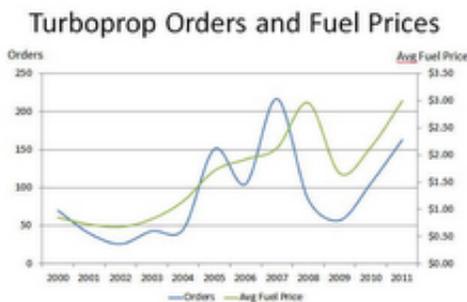
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It can be found at this website...

http://airinsight.com/2012/05/15/the-resurgence-of-the-turboprop-in-regional-operations/#.U_Tuu0sfCG9

Thank you for your time.

Kevin R. Antcliff
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 (757)268-7192



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Ernest S. Arvai <earvai@arvaigroup.com>
 To: Kevin Antcliff <antcliff@vt.edu>
 Cc: Schonland Addison <addison@airinsight.com>

Wed, Aug 20, 2014 at 2:59 PM

Hi Kevin,
 Sorry our contact form didn't work. Thanks for alerting us.
 Permission granted with pleasure.
 If you are able, please send me a copy of your thesis upon completion.
 (Or if you want an independent review of a draft, I'd be happy to look it over for you and provide comments.)
 Best regards,

Ernie

=====

Ernest S. Arvai
 Partner
 AirInsight
 t: +1.603.894.0000
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earvai@airinsight.com

[Quoted text hidden]

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RE: Speed-Fuel Trade Model

George.Price@faa.gov

Sent: Monday, August 18, 2014 7:02 PM

To: ANTCLIFF, KEVIN R. (LARC-E403)

Cc: hschlickenaier@crownci.com

Kevin -

Yes, of course you can use it -- NASA paid us for the work, and I'm glad someone found it useful. I don't know what the rules are for your Master's paper, but (1) if you specify credit, it should be courtesy of NASA, and (2) if you'd like me to comment on it, let me know.

Best regards,

George Price
Crown Consulting, Inc.
FAA Interagency Planning Office
Tel.: 202-267-4972
Cell: 202-361-0582

From: ANTCLIFF, KEVIN R. (LARC-E403) [kevin.r.antcliff@nasa.gov]

Sent: Monday, August 18, 2014 3:33 PM

To: Price, George (FAA)

Subject: Speed-Fuel Trade Model

Mr. Price,

My name is Kevin Antcliff and I have been working with Mark Guynn in the ASAB at NASA Langley for the past 2 years. I have recently finished my Masters based on this work. In this study, which investigated the impact of turboprop propulsion on energy efficiency and economic feasibility, your speed-fuel trade model was utilized.

In my thesis, I included a screenshot of a part of this spreadsheet to show the user what I was working with. I was asking if you would be willing to allow me to use this image of a spreadsheet that you created.

Thank you for your time.

Kevin R. Antcliff
Aeronautics Systems Analysis Branch
Systems Analysis and Concepts Directorate
NASA Langley Research Center
kevin.r.antcliff@nasa.gov
(757)864-4826

Full-Configuration Drag Estimation

2 messages

Kevin Antcliff <antcliff@vt.edu>

Mon, Aug 18, 2014 at 3:54 PM

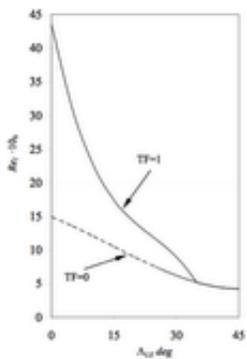
To: ptiger <ptiger@vt.edu>

Prof. Scherzo,

In my Masters thesis, I reference and include the attached image from a paper you co-authored: Full-Configuration Drag Estimation. Before publishing through ETD, would you be willing to give me the right to use this image.

Thank you for your time.

Kevin R. Antcliff
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Joseph Schetz <ptiger@vt.edu>

Mon, Aug 18, 2014 at 4:17 PM

To: Kevin Antcliff <antcliff@vt.edu>

Sure

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