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**From:** jeffrey E. <[REDACTED]>  
**Sent:** Saturday, June 20, 2015 7:18 PM  
**To:** Peter Attia  
**Subject:** Re: Re:

seeing the fuel on the ground in palm beach

On Sat, Jun 20= 2015 at 3:12 PM, Peter Attia <[REDACTED] <mailto:[REDACTED]>> wrote:

Why did you tell me????? I wanted to figure this out=!!

How long did it take you to figure out? </=>

From: jeffrey =. [mailto:[REDACTED] <mailto:[REDACTED]> ]  
Sent: Saturday, June 20, 2015 12:11 PM  
To: Peter Attia  
Subject: Re:

i did not repaint ANS, =C2 fuel expands when heated, . so though the plane in=ially took the same amount of fuel the black wings heated the fuel a=d threw it overboard.!!!

On Sat, Jun 20, 2015 at 3:05 PM, Peter Attia <[REDACTED]> wrote:

I have a few ideas, and if wrong a few questions =80

Other ideas:

1. =ven though you dismissed weight, I wonder if there is something about the =eight that alters the optimal fuel burn ration during takeoff when thrust =s highest that hinders range down line?
2. =oes the pain alter the high lift devices such that takeoff and landing are=less fuel efficient?

Observations:

1. =ve never seen a commercial jet painted black... I wonder if=the problem is the color or the application/variant you used=/p>
2. =upersonic jets (no need for Bernoulli) are black all the time (though this=may have more to do with anti-radar) and/or they may be willing to give up=range in exchange for these
3. = was trying to do a Gedankenexperiment <<http://www.merriam-webster.com/dictionary/g=dankenexperiment>> to simplify the problem: imagine two fast cars, identical in every=way, except one is pained black. Would the same range-reduction effect be =bserved? If not, would it be because cars are dominated by rolling resistance and form drag, while subsonic pla=es are dominated by skin friction? Or would the effect be absent because t=e speeds are too low?

Lastly, a question:

When you “undid” this black paint th=ng, did you strip off the black paint, or did you just re-paint? If the la=ter, did you recoup the lost range?

P

From: jeffrey =. [mailto: [REDACTED] <mailto: [REDACTED]>]  
Sent: Saturday, June 20, 2015 5:34 AM  
To: Peter Attia  
Subject:

figure it out yet

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please no=e

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