From: jeffrey E. <jeevacation@gmail.com>
Sent: Sunday, August 16, 2015 3:26 AM
To: Larry Visoski
Subject: Re:

so lets push kathy for an early engine, and put on l=aners at dallas.

On Sat, Aug 15, 2015 at 9:54 PM, Larry Visoski =lt;[redacted] <mailto:[redacted]> >= wrote:

Je=frey
Great email description of coffin corner,. weight and altit=de vs performance.,

Below Are comments from Cyrus=supervisor at PBI Gulfstream:

-Both left and righ= (cockpit and cabin) packs can feed the cabin silencer through some interc=nnect valves.
-Air data computer will only have effect on =uto-throttles, aileron trim and elevator trim (if autopilot is engaged). E=ough autopilot input from drastic course change may lift a little flight s=oiler but the plane would be banking rather aggressively from that input. =o no direct spoiler control.
-If you turn the right pack or righ= bleed air off in flight there is a cross-over duct and check valve that w=ll open and allow the left air/pack to supply air to both cockpit and cabi=.
The ADC does allow the turbine bypass valve on both ACM's =o open but that's at 42k feet
-The left and right pack inlet=valves go into high flow mode from 25 pounds per min to 26.5 PPM at 13k fe=t
-They jump again to 28 PPM to the packs at 23k feet
=So the ACM turbine bypass valves and the pack inlet valves are both altitu=e controlled but only the turbine bypass valve gets it altitude position f=om the ADC. The other has a built in aniroid on the side of the valve and =enses the atmospheric pressure in the boiler room in flight.
-</=iv>

-Larry,
<=iv>Honestly I doubt the bleed is your problem but only way to tell that I =an think of is to turn them off one at a time in flight. And see if the pr=blem changes,,
Best is to turn both off at altitude but that is =ot a flight I'm going on!
Cyrus

Sent from my iPhone

On Aug 1=, 2015, at 9:30 PM, jeffrey E. <jeevacation@gmail.com <mailto:jeevacation@gmail.com= target=> > wrote:

Up to about 28,000 feet the aircraft is limited by indicated air speed (Vne), so say you can do 350 kias at ground level, you can do that all the way up to 28,000 too. Above that the limit is by Mach number (Mmo), as you continue to climb your indicated air speed and your ground speed now decline as your Mach number remains constant.

However, even though you are slowing down you engines are burning less and less fuel, part of this is from the decreased IAS, but part is from the cold air. Colder air gives greater charge weight, it can be compressed more and the engines get greater thermodynamic efficiency.

Eventually you reach the lowest clean IAS for your current weight, and that's as high as you are going. It doesn't make any difference how=much power you could add, you still can't climb because to do so you would=20 need to slow down or break up, and to slow down you'd have to start deploying high lift devices which increase drag and reduce efficiency. This is what's called the coffin corner, your engines are probably running near max power, you are near or at max speed and you are just above the stall.

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=C2 please note