

From: Pete Rawson [REDACTED]
To: jeffrey E. <jeevacation@gmail.com>
CC: Larry Visoski <[REDACTED]>
Subject: Re: Fun
Date: Tue, 01 Dec 2015 22:44:47 +0000

Hello Jeffrey,

The quick answer is Yes.

Longer explanation:

Each side has a dedicated system since they only need to control the respective engine air output.

It is a loop system-

The engine bleed air temperature going to that side Pack is checked by a sensor and anticipator.

The resistance values change with temperature. This is sent to a controller which decides whether to more open or close the precooler valve to get the 400 degrees.

The controller then sends an output voltage to the Torque motor- that is the voltage seen on the panel-

The Torque motor has air pressure supplied. It either allows pressure through it, or vented, and regulates the air pressure depending on the voltage signal- that is the pressure reading on the panel-

The control air from the Torque motor flows through lines (including the kinked line that we replaced, and sent us down this path) to overcome spring pressure and change the position of the precooler valve. Either more open or closed.

The valve should respond to a new position and the sensor and anticipator monitor the change, send signals to the controller, which will signal the Torque motor, etc, etc.

From the video from Westfield-

Both readings were all over on the right side, left side had changes, but subdued. I suspect as normal with power changes, and the loop system. It was signaled to make a change, and kept track of the change.

We replaced the right precooler sensor, and swapped the Anticipators. The test flight seemed to show normal readings on both sides, so we left it at that for the next trips.

Next steps would be to swap Torque motors, they could have internal leakage causing an over/under shoot of the controller signals.

Swap controllers-

Regards,
Pete

Pete Rawson
Chief Inspector
Meridian Jet Center
[REDACTED]

www.meridian.aero

On Dec 1, 2015, at 3:47 PM, jeffrey E. <jeevacation@gmail.com> wrote:

so if the voltage is jumping around is the precooler valve opening and closing widely.

On Tue, Dec 1, 2015 at 4:44 PM, Larry Visoski <[REDACTED]> wrote:

From Pete

Sent from my iPhone

Begin forwarded message:

From: Pete Rawson <[REDACTED]>
Date: December 1, 2015 at 1:38:14 PM AST
To: Larry Visoski <[REDACTED]>
Subject: RE: Fun

Hi Larry,

The answers to the questions from JE and you are;

The dorsal allows ram air to normally go through the left and right heat exchangers. They are part of the air cycle machines, nothing to do with the precoolers. There are no components, the only change in flow is speed of the aircraft. It also allows ram air to enter the cabin when "Ram" is selected- part of the emergency pressurization system. The air cycle machines "Packs" then work the temperature for the cabin.

The overboard air from the pylon-
That is the fan air that goes through the precooler valve, and across the pylon radiator. The panel readings mean-
Low voltage, should also have low pressure indication- That allows the precooler valve to open-
Air flows across the pylon radiator and cools the input air to the temp system.

High voltage, should also have high pressure- that causes the precooler to close-
No air across the pylon radiator.

Each side is separate, both in control and function.

See you tomorrow-
Regards,
Pete

-----Original Message-----

From: Larry Visoski [[mailto:\[REDACTED\]](mailto:[REDACTED])]
Sent: Tuesday, December 01, 2015 9:01 AM
To: Pete Rawson [REDACTED]
Subject: Fun

What does dorsal fin do on the G4, I know in the G2 it provided emergency pressurization

Sent from my iPhone

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please note

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