

PAC OUTLET TEMP RISE AT fl430

The acft began experiencing both pac out let temps rising to 70 degrees but the cabin and cockpit temps remained normal. The captain was concerned he has NEVER seen the outlet temps at anything but 35.

He lowered his altitude to 38-39000 and the outlet temps became controllable again at 35 degrees. I asked him to go to 41000 and they were ok then he slowly went to 43000 at 42700 the outlet temps slightly rose to 37 then stabilized then after a moment he adjusted the cockpit temps in auto to request colder the outlet temps then began to rise both at the same time to 40 degrees . I asked him to go to manual and the outlet temps stayed at 40 degrees but he was only in manual on the L ACC when he went back to auto they started to increase again but stabilized at 40-41 degrees.

no recent maint no history found

It seems that he is seeing the turbine by pass valve opening increasing the turbine outlet temps. He is concerned and wondering why both are acting at the same time. Also if it would continue onto 160 and get a cool turb hot message. It could create a emergency situation for him.

Noted his engine temps are 440 and turbine inlet temps @400 outlets as described the cabin and cockpits were staying pretty much as requested in auto at 72 degrees the flow was in low

He is going to continue to monitor it onto Florence they have a 9-10 days on small trips before they come back to Hong Kong. I advised him that I would let everyone know he called and that Barry Kessler would be advised and asked for suggestions or recommendations. As I promised I cc'd him on this email so he may stay in touch with us

Answer

If you fly into air temperature which are not ISA conditions such as -55 degrees F when ISA is -65 degrees F there is the possibility for temps to creep up on the pack outlet.

There is no degradation of the system for pressurization and generally speaking duct temperatures required to maintain comfortable cabin will be higher than the increased pack outlet temperatures you experienced.

If you experience this phenomenon again, please respond to all on this e-mail and report to us the SAT, and if possible, TAT, during the anomaly.

Note: If you are at high altitude cruise and you notice an increase in the pack outlets to 50, 60, or 70 degrees during none ISA condition (ambient temps warmer than ISA), then you could increase the temperature in AUTO of all three zones by a few degrees F. This will relieve the airflow through the air cycle machines (acm) and the pack outlet temps will come down or closer to 35 degrees F.

If someone would like to inspect the low limit valves (LLV) we do not object. It just seems the parts on the aircraft are relatively new, and we would not expect the parts within the refrigeration unit to be worn. Plus, both sides experienced the condition, therefore atmospheric conditions may be a more reasonable explanation.