Pratt & Whitney PW610F, Coked Combustion Line, ATA 7250

(This engine report references an Eclipse EA500 business jet aircraft.)

An FAA inspector writes, "*(This aircraft)* developed a problem with the left engine temperature running high, followed by a 'left engine exceed' CAS (Crew Alerting System) message. The pilot reduced power on that engine hoping to reduce its temperature—but the temperature continued to climb. The engine was shut down, and then he notified *(the destination's ATC)* Air Traffic Control center. The aircraft was flying at FL 370 *(flight level 37,000)* when the call was made. The *(flight)* was diverted to an *(alternate)* airport due to the loss of the left engine, landing without incident." *(Here the engine was replaced by Pratt and Whitney.)*

"Airworthiness Directive AD 2008-24-07 limits this aircraft to FL 370—higher altitudes cause this aircraft engine to quickly produce hard carbon buildup (coking)."

(Given the aircraft was operating within its altitude parameters, what caused the coking? Answer: Since this defect report submission early last year, AD 2008-24-07 has been superseded by AD 2011-06-06, lowering the maximum operating altitude to 30,000 feet. Reference:

http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAD.nsf/0/2cc04439cdf7038e8625784f0051ba17/$FILE/2011-06-06.pdf

Only one paper-scanned photo survived multiple e-mail transmissions sufficiently well to show some of the coke (carbon) buildup on what appears to be the turbine's rotor or stator—Ed.)