



MEMORANDUM FOR RECORD

Albert Nixon
Senior Aviation Accident Investigator
Western Pacific Region-Aviation Safety

Date: May 28, 2021
Subject: Record of Email from Pierre Scarfo (NTSB Aerospace Engineer – Powerplants Lead)
NTSB Accident Number: WPR21FA203

In an email from Pierre Scarfo, the following is a summary of what he stated:

- Thanks for sharing the pictures and walking me through the engine.
- Everything I saw was consistent with high rotation to the engine at impact.



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Date: June 17, 2022
Subject: Record of Email from Michel Hughes (Safran Aircraft Engines)
NTSB Accident Number: WPR21FA203

In an email from Michel Hughes, the following is a summary of what he stated:

- Their failure analysis laboratory experts reviewed the engine pictures.
- Examination of the compressor blades showed that they are bent in the direction of engine rotation.
- The stripped and oxidized electrical cables found at the front of the compressor showed signatures consistent with a fire starting outside the engine following this accident.
- On the first stages of the compressor casing, we can see significant traces of scratches which are the result of the rotor blades and stator interferences.
- The picture of the engine's variable exhaust nozzle shows that the flaps are in the fully open position.
- Taking these observations into account, we can conclude the observations were consistent with the engine running when the plane crashed on the ground and taking into consideration the fact that the exhaust nozzle was found in the fully open position, we can also tell that the engine was not commanded at full throttle.