

### THE FLIGHT

The S76A++ helicopter was on a post-maintenance flight with three occupants, pilot and two engineers. One of the engineers was seated at the co-pilot's seat with dual controls installed.

A radio call made by the pilot to the Operator's OCC reported unspecified problems and the attempt for an emergency landing.

Unfortunately, the helicopter collided with the terrain and caught fire. All three occupants died on the impact.



The helicopter's wreck, source NTSB

Witnesses reported the helicopter was flying low and descending, producing unusual noises. Only two of the four tail rotor blades were recovered. Investigators concentrated on a tail rotor failure.

### PROBABLE CAUSE OF THE ACCIDENT

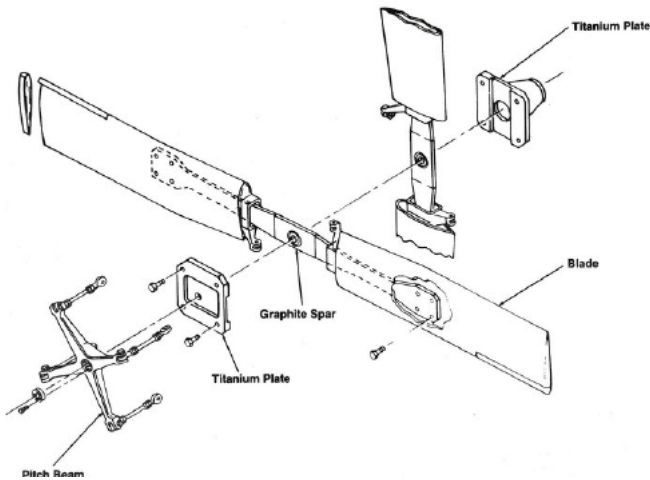
Probable cause of the accident was the fracture of the (red) tail rotor blade causing the loss of the same blade and the unbalance of the whole tail rotor assy.

Dynamic unbalance generated a situation the pilot was unable to manage properly up to the catastrophic accident.

### TAIL ROTOR MAINTENANCE

Tail rotor blades maintenance resulted in accordance with the manufacturer's recommendations. A recent requirement from the operator to carry out tail rotor inspections for cracks, security and spar deflection was recently carried out. Verifications on the helicopter were satisfied.

Back in 1991 another S76 helicopter suffered a similar accident losing a pair of tail rotor blades, luckily with no consequence for the occupants.



S76 Tail Rotor configuration (example only)

## CONSIDERATIONS

I'd like to focus on the inspection for cracks carried out by the operator's mechanics and particularly on the requirement laid down by 145.A.30(f) regarding such personnel training, without pointing any finger towards anyone who carried out and assessed such inspection.

AMC 145.A.30(f) para 8 requires that personnel who carries out non-destructive inspections, not to be confused with non-destructive tests NDT, and including delamination and borescopic inspections, must be trained and qualified according to an approved procedure.

It's then very important that AMOs gives absolute importance to personnel training and qualification, however and in any case, but especially for those personnel carrying out sensitive inspections.

Better to spend money for personnel training rather to support money loss caused by lack of personnel training.

## DISCLAIMER

This document is not to be intended as an investigation report.

This document is only a personal and partial view of a real case as seen by the author, aimed to highlight a particular aspect of the application of human factors, useful to diffuse a just culture throughout Organisations and their employees.

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