

SINGLE PILOT CRM

AN AAIB PERSPECTIVE

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IS SP CRM AN ISSUE?

TYPICAL ACCIDENT EXPERIENCE

Wx;
Fuel management;
Handling,
Technical
etc.

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4 large public transport a/c
1 twin engine GA type (2 pilots)
13 light singles (11 single pilot)

WHAT IS A SINGLE PILOT OPERATION?



TWIN ENGINE, PUBLIC TRANSPORT
CARGO OPN, 1 POB,(CPL) AUTOPILOT

SINGLE PILOT OPERATION?

SINGLE ENGINE, PUBLIC TRANSPORT
(PAX), CPL+IR+INSTRUCTOR RATING,
WITH STUDENT



SINGLE PILOT OPERATION



SINGLE ENGINE PRIVATE CAT CofA, PPL+IMC

SINGLE PILOT OPERATION

PERMIT A/C, NPPL?



MICROLIGHT?

AUTOGYRO?

WORKLOAD MANAGEMENT & EMERGENCIES

Super King Air 200 G-WSJE

Rayleigh, Essex, 1987

Night operation, newspapers and magazines

4 previous sectors that night

0223hrs departure, 5/8 1000ft, rain.

Low flight path, low speed

Left turn at about 3nm, descent to impact.



Crashed on garage in a steep diving turn

Gear and flap retracted

Evidence of left engine problem

LH prop blades close to feather

Ruptured diaphragm in LPC bleed valve



Cessna 421B, G-HAST, Stansted, 1987



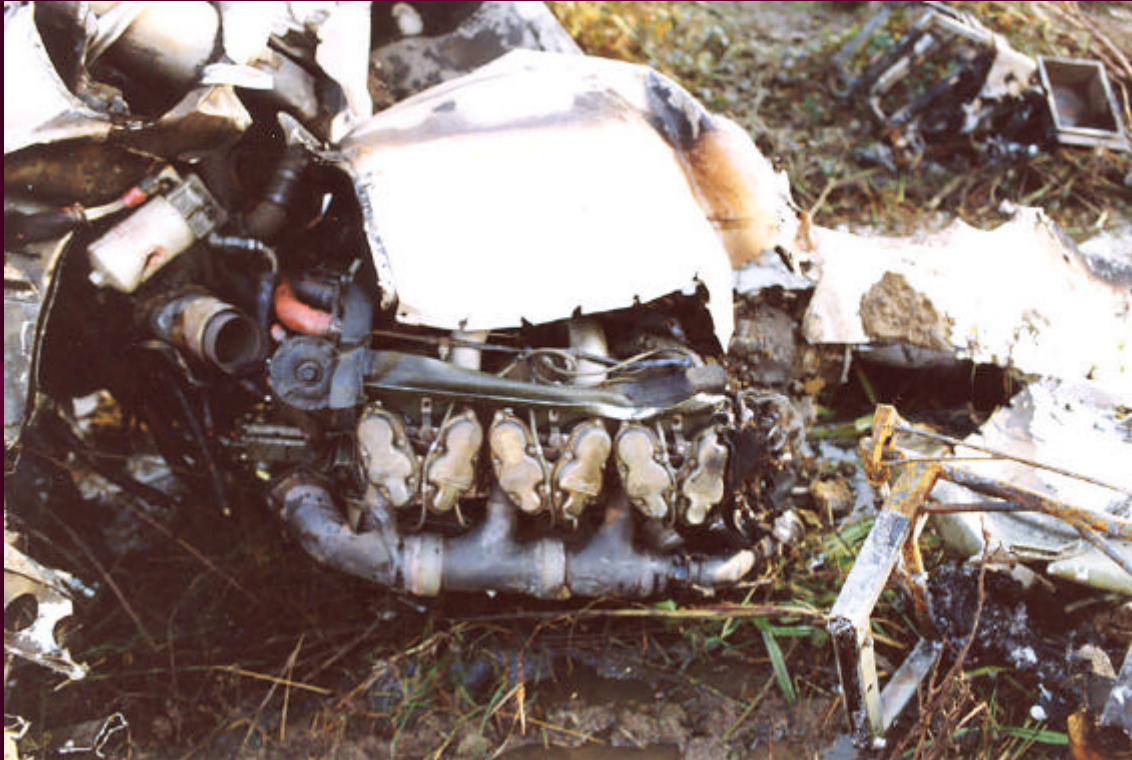
Problems reported immediately after departure, return requested

At 200ft, entered left turn, lost speed,

On reaching downwind position, a/c rolled over.

Wreckage examination showed:

Gear down, flaps retracted, left prop low power, not feathered



Severe ground fire precluded positive identification of left engine problem, but possible rough running due to problem with aneroid unit in fuel pump identified

PARTENAVIA P68 G-BMCB, EAST MIDLANDS, 1990



Night freight EMA/Dublin

Positioning to Manchester, 0330 hrs, after revenue flight

Shut down, cleared customs, restarted and taxied

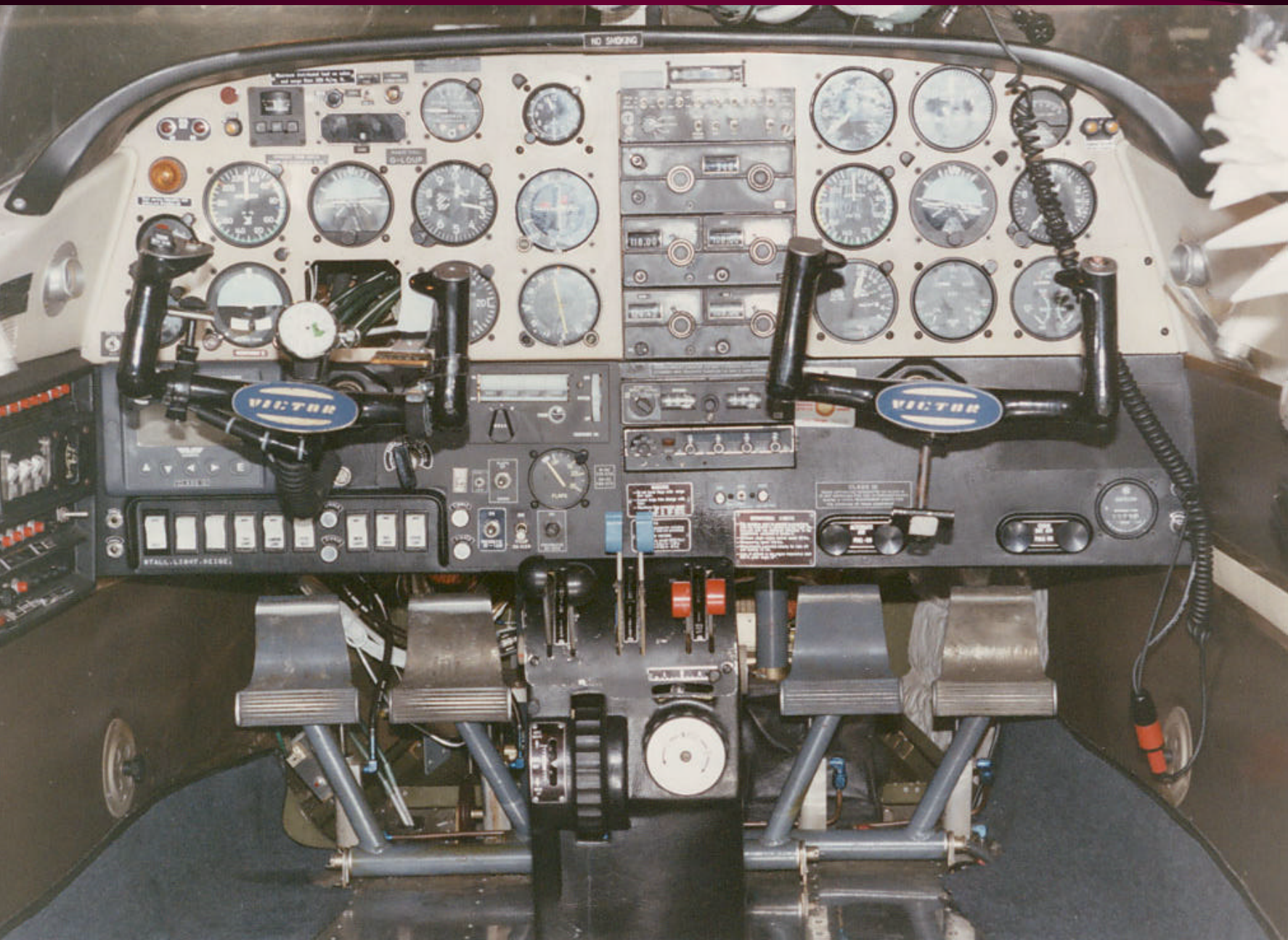
At least four turns, lined up within 3 minutes without stopping.

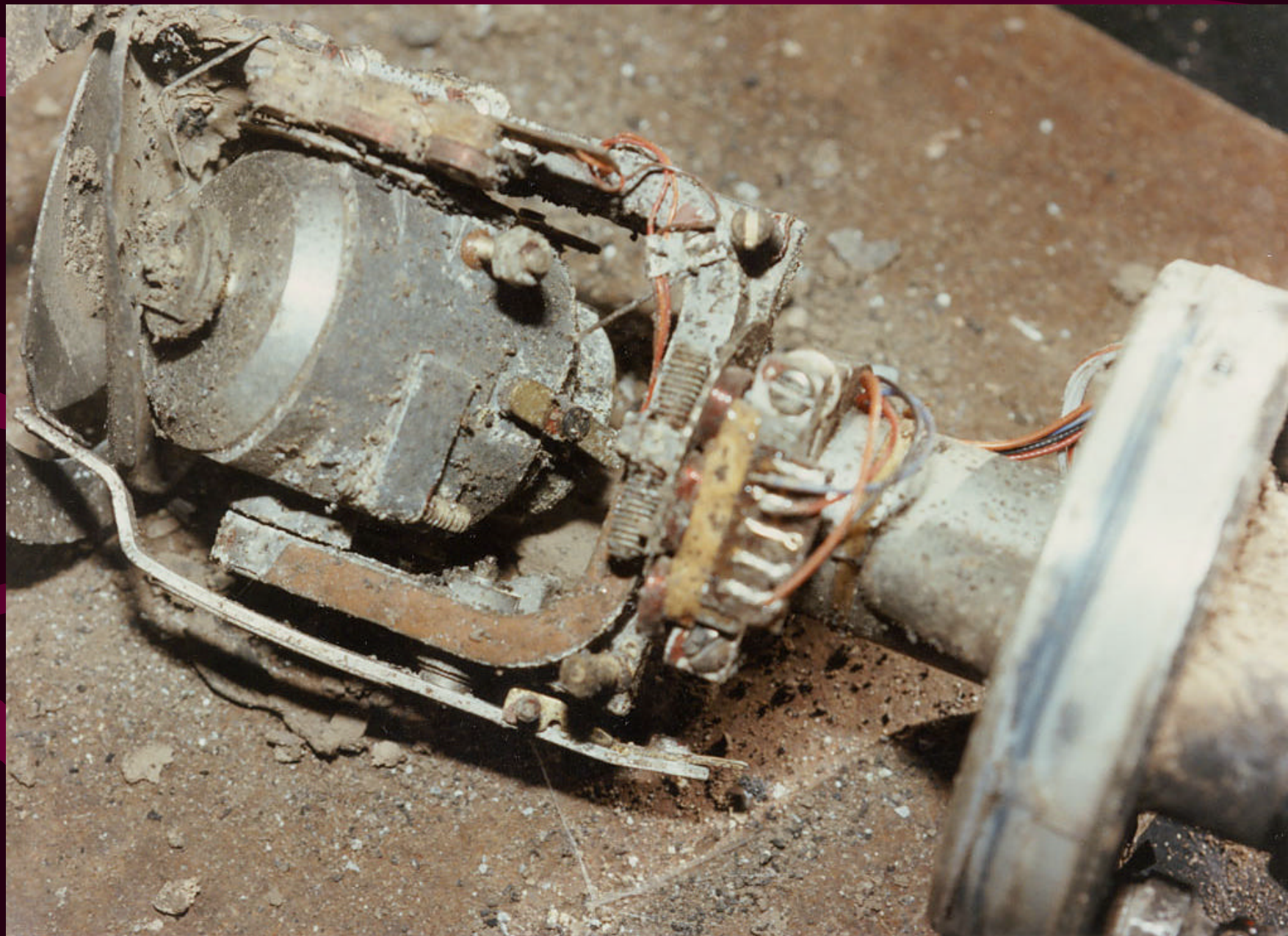
Wx. 1200m in mist, 6/8 at 200ft, 8/8 at 2000ft,

Temp +12, Dewpoint +13.

No power checks, rolled, entered cloudbase

Struck ground in a shallow turn about 2nm from runway.





Some other examples:

Knight-Air Bandierante G-OEAA double horizon failure
(2 crew) 1995

C404 G-ILGW engine failure(2 crew) 1999

C152 G-BNGD, Instructor, double instrument failure, 1997

Cessna T310R, N6843L, smoke in cabin, crashed while
returning, Janitrol heater, currently under investigation

SOME ISSUES:

COMMUNICATIONS

- No inter-crew communications
- R/T communications
- (Self) Briefings before flight
- Club environment v. private owners

MEDICAL

- A relatively small number of SP accidents are due to medical incapacitation
- However, with only one pilot, any risk of incapacity is even more critical
- Far more cases of incapacitation are suspected than ever confirmed.

COMMERCIAL PRESSURES

1000hr pilots, SP night operations, poor Wx. - ???

TRAINING

Is the current training adequate given the difficult circumstances in which these pilots sometimes operate - alone?

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