



SPOTTING AIR WRECKAGE IN LIGHT PLANE ACCIDENTS

**Lessons from the Steve Fossett,
N2700Q and Other Cases**

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By Lew Toulmin
with extensive inputs
from Chris Killian
and others

Many air wrecks are **VERY** hard to see

Several knowledgeable respondents who knew the Steve Fossett Bellanca plane said:

“If it went in at a steep angle, all that is left is a small crumpled pile of burnt black metal the size of two washing machines, and a few girders and control wires.”



The pic on the left shows a hillside with no apparent wreck or disturbance. In fact, that hillside hides a wreck---see closeup on the right, which looks like a downed pine tree.

Similar air wrecks vary from easy to hard to spot



3

ALL of these pics are of plane crashes

More actual wrecks, all difficult to spot



← Looks like car parts

Hill with tiny fold
of land, has this
air wreck behind the
fold.



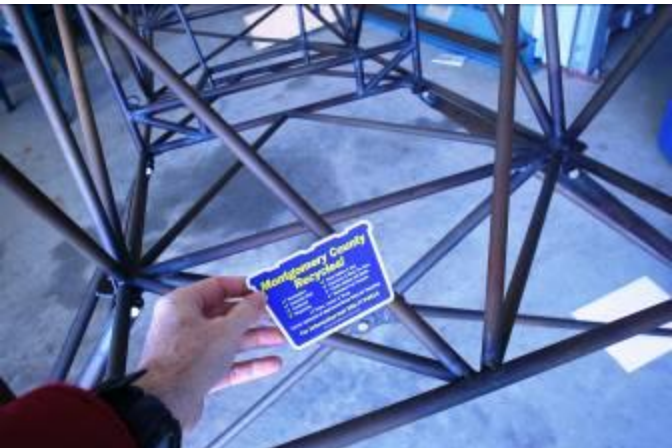
Wreck in shadows. North-facing
highly vegetated areas are good
locations to search.



Downed but
recognizable
Bellanca →



Analysis of an identical Steve Fossett Bellanca showed few metal parts



↙ Magnet facing viewer shows that the frame IS magnetic (ferrous). But even much of the engine is not ferrous

Wing mostly wood →



↙ Tail frame of metal



↙ Engine only 30 inches long



A model illustrated what the crashed plane might look like in the Fossett case. You need to think about the likely -- and possible -- target in your case.

An experienced air accident investigator said: “You could be looking for it, and walk within 50 feet of it, and not see it.”

Engine with crumpled firewall over it, with twisted girders scattered nearby



Actual pic of the Fossett wreck shows some burned trees and hard to spot fuselage.



The wreck was strewn across a steep hillside



Transfer marks of paint onto rock



Remains of crumpled wing



Reg. #
from
dash



8

Burned but
standing trees



Ironically, the Fossett wreck site was in sight of the Mammoth Lakes ski area

Instrument



Half of prop



Engine thrown
300 feet upslope



Mammoth Lakes
ski area from the
wreck site

The N2700Q Cessna 182 in AZ was also hard to spot



The Cessna was in a gully under trees apparently knocked over by the crash



Conclusions:

- Crashed light planes can be very hard to detect from fixed wing aircraft or in aerial photos
- Satellite, aerial photo or Google Earth images usually have a low probability of detection (POD)
- This does not mean that these search methods should not be used, but understand their limitations
- Helicopter searching with trained aerial observers is useful and has a higher POD, but is expensive
- Burn spots and broken branches may be more visible than the plane itself
- Careful analysis to determine likely areas for searching, followed by ground searching of those areas, has the highest POD but is labor intensive and slow
- Even ground searching can miss light planes that are thought to be “small piles of trash”