

CALLBACK

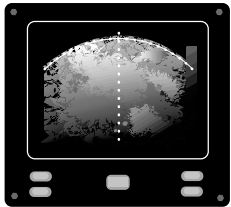
From NASA's Aviation Safety Reporting System



Number 272

April 2002

"TERRAIN, TERRAIN – Pull Up!"



A Minimum Safe Altitude (MSA) is defined by 14 CFR Part 91.119(a) as "an altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface."

The minimum altitudes depicted on approach charts provide at least 1,000 feet of obstacle clearance for emergency use within a specified distance from the navigation facility upon which a procedure is based. As a First Officer discovered, a night approach into an airport located in mountainous terrain requires good crew coordination and compliance with charted altitude minimums:

■ *Approach Control cleared us for visual approach approximately 30 nm northwest of the field. We were descending to 6,500 feet on the [STAR] when we received clearance for visual... The Approach controller directed us to "contact Tower 11 miles northwest." I looked down, set in the localizer frequency for the ILS and Tower frequency in VHF#1 [radio], but did not select Tower... While I was looking down, the Captain selected 4,500 feet in the altitude alerter, and I did not notice that this was well below the MSA of 5800 feet...*

Around 15 nm...I selected Tower. Shortly thereafter we received an EGPWS alert for terrain. I noticed the black shapes of terrain approximately 3 miles right of us and the Captain started a climb out of 5,200 feet to 5,500 feet. Tower contacted us...when Approach Control notified them that he had a low altitude alert on us.

I failed to provide proper back-up by not noticing the new altitude in the alerter, or noting that it was below MSA. I also switched the VHF to Tower prior to 11 miles, which prevented us from hearing Approach Control's warning,

Further, while I saw the mountains on the right, I failed to verbalize anything to the Captain because I assumed he was lining up on the runway and we would pass well left of them. These mountains rise to 4,687 feet and have no light or beacon on top. At night, with good visibility, it is hard to judge their position.

1 Controller, 3 Emergencies

An instrument-rated General Aviation pilot encountered unforecast IMC and a lower ceiling than he felt confident handling under IFR flight. Unfortunately, this emergency was not the only one being handled by ATC.

■ *After receiving a standard weather briefing with 2 updates, I filed IFR. Conditions were VFR and all Traffic Advisory Frequencies were calling for VFR. [Reported conditions] prior to departure were 4,700 feet broken and 5 miles [visibility]. Unfortunately...during climb I encountered IMC at 900 feet and immediately contacted the Tower to return to the airport. I then heard another pilot who departed just before me call in to report severe icing and spatial disorientation. The controller issued me a heading to turn to and I turned in the opposite direction, which took me over the airport. At this time a third plane declared an emergency due to icing and was inbound. I was also [encountering] icing, light and clear, as the controller vectored me out to the north and up to MSA. I flew [a VOR] approach to an uneventful landing on Runway 28L.*

The weather occurrence was not forecast and lasted only a short time. My personal minimums are 2,000 feet and 5 miles. My overflight of Runway 28 caused great problems for the controller and he told me that. All 3 pilots with problems landed uneventfully. My ILS antennas had 2 inches of ice.

Wanted GPWS: Gear Pin Warning System

A maintenance technician reports to ASRS that creative substitutes for maintenance manual procedures may cause their own set of problems:

■ *Aircraft X came in for overnight maintenance (routine). One deferral on the aircraft was a faulty Ground Proximity Warning System (GPWS). While troubleshooting the system per the maintenance manual, one step was to install gear pins. Not having any in the immediate area I chose to use my 6-1/4 inch drive ratchet extension for the nose gear down*

lock pin. After all the troubleshooting and testing... I returned the GPWS back to airworthy condition and released the aircraft back to service, failing to remove the 6-inch extension from the nose gear down lock assembly. Unfortunately, the aircraft was unable to retract the nose gear after takeoff, thus returning back to the airfield... Contributing factors to this event: poor choice in not following maintenance manual procedures.

ASRS Recently Issued Alerts On...

An ATC clearance-related runway conflict
EMB145 pitch trim failure during initial climb
A severe runway conflict involving a B767 and A321
CL-65 frozen aileron stabilizer trim incident at FL240
DHC8-100 aileron control wheel disconnect on landing

A Monthly Safety Bulletin
from

The Office of the NASA
Aviation Safety Reporting
System,
P.O. Box 189,
Moffett Field, CA
94035-0189

<http://asrs.arc.nasa.gov/>

February 2002 Report Intake

Air Carrier / Air Taxi Pilots	1856
General Aviation Pilots	678
Controllers	28
Cabin/Mechanics/Military/Other	97
TOTAL	2659

April Showers “Spring is showery, flowery, bowery...”

As some of our readers may know, April is National Poetry Month. In recognition of this annual cultural event, *CALLBACK* offers the following acrostic poem – and several recent ASRS reports – on incidents involving lowering weather and

Resourceful
Aviators
In
Need of
Safely procedures.



The Artful (Weather) Dodger

A GA pilot was repositioning an aircraft with no radios on a long cross-country flight. He was prepared for forecast rain showers, but not for worsening visibility.

■ *I was repositioning a single-engine aircraft... However, the aircraft did not have any navigation or communication radios. Therefore, it was necessary to fly a course that avoided several controlled airports and do this by pilotage... All forecasts, including my destination [airport], called for VFR conditions during my flight and for several hours after my estimated time of arrival. The only weather that posed a problem was an area of rain showers that covered an area I had to fly through in order to avoid the controlled airports... As it turned out, this area of rain showers had ceilings that were 800-1,000 feet, but the visibility was very good. However, as I left the rain showers...the visibility started to decrease to about 6 miles... As I neared my destination (about 20 miles out), the visibility dropped further. I was concerned that the visibility would decrease to less than 3 miles. (My destination has a control zone.) I did not have a lot of fuel to play around with, no electronic navigation, and no ability to talk to anyone. Therefore, I determined that the best action would be to continue to my destination, which was the closest airport and an area that was very familiar to me...*

Shortly after I landed, I went to the pilot lounge and checked the automatic weather. It was reporting a special observation of 2-1/2 miles visibility... I do not know what I could have done differently when confronted by the conditions so far into my flight... The best action was to get the airplane on the ground as soon as possible.

This pilot might also have planned a fuel stop for the trip, which would have allowed time for a weather update and needed fuel reserves. A handheld transceiver would have provided communications capability for an emergency.

Short Flight, Long Landing

A GA pilot was anxious to return a vintage radial-engine military trainer to his home base. But a line of thunderstorms was quickly moving into the area:

■ *I was attempting to make a short 30-mile flight to return to my home base. There was a line of thunderstorms moving towards us from the west. My route of flight was due south. After takeoff and flying south for 5 minutes, it became apparent that we would not be able to continue because rain showers had moved into that area. I turned around and headed back. The winds had been out of the south all day, so I re-entered the downwind for Runway 16. The winds were beginning to get gusty from the approaching thunderstorm. On final approach, the winds were requiring considerable right crab indicating stronger winds from the west. I landed 1,000 feet from the approach end of Runway 16, which is 3,800 feet long. Just as I touched down, we were hit from the rear by a very strong gust front of the approaching thunderstorm. The microburst and resulting windshear were recorded at 50 mph. With the strong tailwind on the runway, I was unable to stop the aircraft and feared doing a go-around in a potentially unsurvivable windshear condition. We impacted the fence off the end of the runway. There were no injuries [and] the aircraft sustained minor damage.*

I should have delayed the flight until the thunderstorms had moved through the area. On my return, I should have considered the possibility of windshear and diverted to a field which was further away from the approaching storm. ▲

Tail Feather Trespass

Just when we thought we'd read it all, we received this report describing how one pilot got the attention of another (*not recommended, we should add*):

■ *As I was working on an aircraft next to a taxiway, a C206 put his aircraft in such a position that the prop wash was directed at the plane I was working on. The pilot was not paying attention to what was around the airplane [and] was looking at his checklist and instrument panel. So as to get his attention, I moved his elevator to the level position and back down. A corrective action for this [prop wash] would be to post a sign that states, "perform run-ups only when parallel with the runway." This would prevent pilots from damaging other planes with their prop wash.*

Both pilots came up short on safety and etiquette in this incident. The Cessna pilot failed to observe what was around the airplane before starting the run-up. The elevator-lifting reporter could have been injured or caused damage to the Cessna. ▲