

# Lost Com: Let's Get Real

*Some practical advice on exercising your PIC authority to handle these types of emergencies.*

By Wally Roberts

THE LOST COM REGULATION (FAR 91.185), is a favorite exercise in IFR "logic" by many instrument pilots, CFIs, designated examiners, and even the FAA when certifying pilots.

I've read and heard over the years countless versions of all the "i" dotting and "t" crossing that goes with endless versions of how to apply this rule if the lost com situation ever really occurs. Often, the debate seems to be more of an exercise in one-upmanship than in practical realities.

But, how likely is it apt to happen?

## Two scenarios

There are really two subsets to the issue: (1) a brief loss of communications because

of communications frequency overload, or an insidious radio station failure (ground or air); or (2) the "classic" failure where essential nav equipment is still okay, but all ability to communicate with the ground is lost for the duration of a flight that is in the en route phase of operations. In addition to FAR 91.185, some guidance is provided in AIM 6-4-1.

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## Any possible hook to ATC

There is general language in FAR

91.185, which is virtually always overlooked in a discussion of lost com procedures:

"(a) General. **Unless otherwise authorized by ATC**, each pilot who has two-way radio communications failure when operating under IFR shall comply with the rules of this section." (emphasis mine.)

The question this brings to mind is: how can ATC authorize anything after an aircraft has experienced two-way com failure? Probably no one at the FAA today really knows what was in the minds of those who wrote this regulation many years ago. Nonetheless, lacking any explanation or interpretation, the words have to be taken at face value. If any link can be established with ATC at all, such as with the transpon-

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der in combination with the voice feature on a VOR station, or simply a blind transmission by ATC on VOR voice, that type of direction from ATC is to take precedence over FAR 91.185 (b) or (c).

Further, as set forth in AIM 6-4-1, in the event the aircraft transceiver still appears to be operable, every means should be employed, from relays via other aircraft, to FSS frequencies, to even broadcasting in the blind on 121.5. Also, squawking Code 7600 should be second nature.

### If it really is VFR

If reliable VFR conditions are encountered, then you should land short of destination in accordance with FAR 91.185 (b). This doesn't mean, however, you should create a greater problem by spiraling down through a sucker hole, especially at night.

### Lost com for real

Let's say none of this works, but a navigation capability still exists. This would mean at least one fully functional VOR receiver. In this situation, FAR 91.185 (c) comes into play. I think most of us know how to apply the route and altitude requirements in the unlikely event we get into a "stable" 91.185(c) condition.

If it becomes necessary to hold at an "EFC" en route fix: if there's a published holding pattern, hold as published. There's a common misconception that you should hold on the arrival course, right turns. This is only true when there's no published pattern. Further, if there's no published pattern, and you know the airway hugs a high mountain range on the right, use your silent emergency authority and hold left.

Keep in mind that it's probably impossible to fly for any length of time under FAR 91.185 (c), or to a busy terminal area, without exercising some measure of emergency authority. You shouldn't deviate from the prime altitude and route rules of FAR 91.185 (c), but you should resolve terminal route ambiguities in the most conservative manner.

After a significant period of time has passed, ATC is likely going to treat you as missing, and provide full emergency protection of airspace until it appears you aren't going to show up at all. If nothing else, this means it's better to show up a bit early than way too late.

Even with solid IFR weather conditions, it sometimes might be better to silently declare an emergency and do an instrument approach and landing at an airport short of

destination, rather than perhaps crossing an icy mountain range in a light airplane, or pressing on to a really busy terminal area. These are difficult judgment calls that no one can make except for the person on the spot.

### "Emergency" ILS minimums

If it's a really bad day, and you miss the approach at your destination, you have a full-blown emergency on your hand. ATC doesn't know your alternate, and might not be able to get the flight plan information on a timely basis. If you're flying an unrestricted ILS at your destination, it would probably be far safer to descend to an emergency DH of 100 feet, HAT, rather than going to the alternate.

However, if you don't have the good fortune of a "200 and 1/2" ILS, don't bust a non-precision approach's MDA, or even a

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higher-than-standard ILS approach's DH. The risk in the latter cases is unquantifiable unless you have intimate knowledge of the close-in obstacle environment.

By the time you begin the approach, both a considerable time and distance from the last altimeter setting could mean a fair amount of altimeter error. With a sustained lost com situation, it's best to keep the altimeter set to the closest station from those hourly sequence reports you printed during preflight and threw in your flight bag.

### The most likely reality

All of the foregoing is nice to cover, but what are the odds that a typical light aircraft will end up in a stable FAR 91.185 (c) condition? The odds are *real* small. Either it's a short-term loss of com because of out-of-range/wrong frequency/ATC problem, or it's a dead/shorted avionics bus and/or dead electrical system.

### Ace in the hole

When it goes bad, chances are you'll be solid IMC and out of electronics. This is a real bad place to be, especially around

mountains. But, this is 1996, not 1976 or 1986. What should be considered as important to light airplane IFR as a raft is to extended overwater flight? Right! A portable, battery-powered GPS receiver.

You shouldn't even consider serious IFR without one of these goodies in the flight bag. It doesn't matter, either, whether you have a full-blown, panel mounted, IFR-approved GPS suite. You absolutely should not leave town without a portable GPS, and a good supply of spare batteries. Talk about cheap life insurance!

Stay away from the combined transceiver/GPS receivers. Stick with a good GPS-only unit, and preferably one that has a full database, including VOR intersections and approach-end-runway waypoints. If you want to carry a separate portable transceiver as well, that's fine, but don't ever count on it working when you really need it. If it does, consider it a bonus and a great augmentation to the portable GPS.

### External antenna

If you own the airplane, it's far preferable to be able to connect the portable GPS to an external antenna. I'd have a separate permanent antenna for my portable GPS even if I had a panel-mounted GPS suite. If they ask, tell the FAA you won't ever hook the portable GPS to the external antenna except for a lost-nav, full IFR emergency. With rental aircraft, you should practice to make sure you can make the suction-mount antenna (or equivalent) work when you really need it.

The use of a portable GPS for "lost nav" under IFR is an automatic use of your emergency authority. Having said that, you'll be flying the airways and terminal routes more accurately than the VOR folks. When it comes time for the approach, don't hesitate to use any non-precision approach, including a LOC approach.

If you can easily change the portable's CDI sensitivity, +/- 1/2 mile would be a good selection for the FAF inbound. If you keep the CDI off the pegs, and adhere to the minimum altitudes, the odds are way, way in your favor that the approach will stay well within protected airspace. But, don't even consider it unless it's an genuine emergency.

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