



Notes From The Washington Counsel

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COMMUNICATIONS FAILURE UNDER IFR

■ I have always had difficulty remembering the procedures to be used in the event of a communications failure while operating under the instrument flight rules. And I was ashamed to admit it, until I found that lots of other pilots have the same problem. Every once in a while I pull out FAR 91.127, which sets out these procedures, and study it. Recently, the FAA issued a clarifying amendment to these rules [May PILOT, page 80], which gives us an opportunity to explain the amendment as well as to review the procedures required by FAR 91.127.

Before getting into the regulation, we should consider one practical aspect which is very important. A significant number of "communications failures" are caused by the sticking of a microphone button. If you have a failure, *check your mike!*

Now to the regulation. The first thing to notice is that the procedures of FAR 91.127 apply to *two-way* radio communications failure. If you have lost transmitting capability but not receiving capability, and you can still hear the controller issuing clearances and instructions to you, you will be expected to comply with them unless you are in an emergency requiring otherwise. Probably you will have been under radar control prior to the failure. Communications will be transmitted to you on all suitable air/ground radio frequencies as well as on the voice feature of all available radio navigation or approach aids. The controller will request that you acknowledge his transmission by executing suitable turns or making certain transponder changes or replies. If ATC sees you acknowledge by one of these methods, the controller will advise you, and you can continue your flight under radar control. If ATC does not see any acknowledgment, the controller will assume that you have lost your receiving capability as well, and you will be expected to follow the procedures for two-way radio communications failure.

Where there is a two-way failure, the procedures depend on whether you are in VFR or IFR conditions. If you are in (or, at some point along the way, find) VFR conditions, you should continue your flight under VFR and land as soon as practicable. Under the regulation requiring cancellation of a flight plan, you should advise ATC of your landing as soon as practicable.

If the two-way failure occurs in IFR conditions, the procedures are more complicated, and are most easily remembered by recognizing that the procedures are set up to get you to your

destination using the most practical route and altitude consistent with insuring protected airspace to you all the way. *ATC must be able to predict what you are going to do in order to protect the airspace in which you will be flying.* That's why it's so important to know and understand the procedures.

Where the failure occurs in IFR conditions, the rules spell out the procedures with respect to four elements: (1) "route," (2) "altitude," (3) "leave holding fix" and (4) "descent for approach."

1. *Route*—You should continue your flight by the route assigned in the last ATC clearance which you received. If you have not been assigned a route, you should continue by the route that ATC has advised may be expected in a further clearance. If you have not been assigned a route, or given an EFC (expected further clearance) route, then you should proceed by the route filed in your flight plan.

If you were being radar-vectorred at the time of the two-way failure, proceed by the direct route from the point of failure to the fix, route or airway specified in the vector clearance.

2. *Altitude*—You should continue your flight at the highest of the following altitudes: the altitude assigned in the last ATC clearance, the minimum IFR altitude (the MEA for en route), or the altitude ATC has advised may be expected in a further clearance.

It is this portion of the rule which the FAA attempted to clarify in the recent amendment. What was confusing was the situation where, somewhere along the route, the MEA is higher than the last assigned altitude and a pilot climbs to the MEA. The question then is, if the MEA drops on future segments, does the pilot stay at the higher altitude until reaching the fix from which the approach is to begin, or can he descend to the assigned altitude or the MEA appropriate to the route segment he is flying? The confusion arose because the rule was silent on this point. The rule has now been amended to make clear that the pilot should fly at the appropriate altitude *for the particular segment* being flown. In other words, after flying the segment with the higher MEA, the pilot can descend to the MEA appropriate to the next segment, or to the last assigned altitude, or to the EFC altitude, whichever is higher. An example given by FAA well illustrates the rule. "If a pilot sustaining radio failure had an assigned altitude of 7,000 feet, and while en route to his destination came to a route segment for which the MEA was 9,000 feet, he would climb to

9,000 feet at the time or place where it became necessary to comply with that MEA. If later, while he was proceeding to his destination, the MEA dropped from 9,000 feet to 5,000 feet, the pilot would descend to 7,000 feet (the last assigned altitude), because that altitude is higher than the MEA."

3. *Leave holding fix*—The communications failure may occur after a pilot has received holding instructions. The problem then is to determine when to leave the holding fix for the approach phase of the flight. If an expect-further-clearance time has been received, you should leave the fix at the EFC time. If an EFC time has not been received, you should leave the holding fix in order to arrive over the approach fix as close as possible to the expected approach clearance time.

4. *Descent for approach*—Flying by the routes and altitudes specified in the rule, we eventually wind up at the approach fix at an en route altitude, and the question then is, when do we start the approach? If we have received an expect-approach-clearance time, we should not descend or leave the fix until that time. If no expect-approach-clearance time has been received, we should not descend or leave the fix until the estimated time of arrival shown on our flight plan (as amended with ATC). If these times have expired, we can start our descent and approach upon reaching the approach fix.

In addition to the procedures of FAR 91.127, there are some additional procedures which should be followed in the event of IFR communications failure. If you are transponder-equipped, you should squawk code 7600 on Mode A/3, which will indicate to ATC that you have had a radio failure. There is some question as to whether you should squawk 7700 or 7600 if you have an emergency along with the communications failure. You'll recall that code 7700 is the emergency code. The question seems academic since either code will alert ATC to your predicament.

If you have lost your receiving capability, you may still have transmitting capability, although this situation is rare. Therefore, it would make sense to continue to transmit on the blind, not continuously so that you tie up the frequency if you are getting through, but you should continue to make the required position reports. This raises the question of what frequency to use. As you proceed en route you will fly out of range of the ATC facility with which you last communicated. It seems to me that you have two choices. You can change frequencies to the appropriate facilities indicated on your chart, as you pass from sector to sector, or you can use the emergency frequency of 121.5.

It may happen that you lose your navigation as well as your communications capability while operating IFR in the soup. The regulations don't specifically cover this situation. And, thank heaven, it is a rare situation. Common sense, considering the specific circumstances, is the only rule which can apply. □