File

AC NO: AC 90-60

DATE: 31 Mar 72

ADVISORY CIRCULAR

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUBJECT: WEATHER OBSERVATIONS REPORTING OBSCURED OR PARTIALLY OBSCURED SKY CONDITION

1. PURPOSE. This Advisory Circular provides pilots with information concerning weather conditions reported by weather observers as obscuration or partial obscuration.

2. BACKGROUND. Review of accident reports in which instrument approaches preceded the accident leads to the conclusion that unexpected changes in visibility were a factor in several cases. Obscuration or partial obscuration conditions provide a great potential for this problem.

3. DISCUSSION.

   a. In the Aviation Weather Code used in the United States, an obscuration is reported to indicate to the user that all or part of the sky is not visible to the Weather Observer due to some weather phenomenon on the ground (fog, smoke, rain, snow, haze, etc.). If the observer cannot see any of the sky because of the phenomenon on the ground, he reports the sky as "Obscured" and indicates this in the observation with an "X". If some of the sky can be seen, either through holes in the phenomenon or through thin portions of the phenomenon, he reports the sky "Partially Obscured" and indicates this with a "-X" in the report.

   b. Whenever an "X" condition is reported, it constitutes a Ceiling. The height given to this Ceiling is the distance the observer, on the ground, can see (vertically) upward into the phenomenon. This height is reported in hundreds of feet, and is always prefixed with a "W", e.g., W3X indicates that the Ceiling is indefinite and that the sky is completely hidden from the observer by a phenomenon on the ground and that the observer estimates that he can see 300 feet into the phenomenon overhead. Over the radio this report would be read: "Indefinite ceiling three-hundred feet sky obscured."

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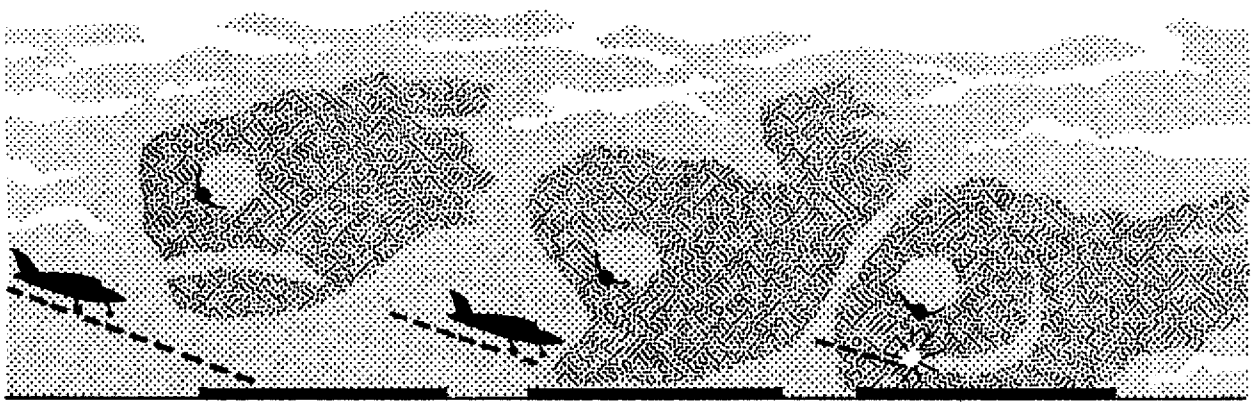
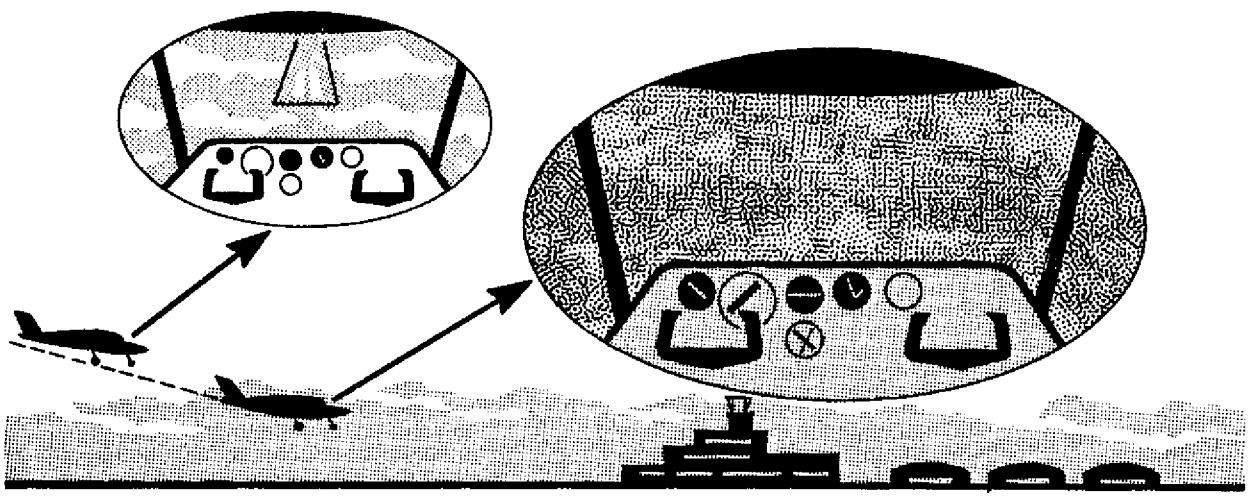
c. A "-X" condition never constitutes a Ceiling by itself, regardless of the amount of sky that is hidden from the observer. By itself, the report "-X" does not tell very much about the sky. It may mean that only 1/10 of the sky is not visible to the observer, or it may mean that almost all of the sky is hidden. Because of this, whenever "-X" is used in the weather report, a Remark is added to the observation telling how much of the sky is hidden by the "-X" condition. This Remark indicates the tenths of sky hidden, and the phenomenon hiding the sky. For example, if the weather report had a Sky Condition of -XE50 Ø, you would find something like F6 near the end of the report. This would indicate that fog at the surface was hiding 6/10 of the sky, and in other words, the observer was unable to report any clouds that may have been present in that 6/10 of the sky. If the Remark near the end of the report was F9, it would mean that the observer was unable to observe and report clouds that may have been present in 9/10 of the sky. Over the radio, a report with a "-X" condition such as the -XE50 Ø, mentioned above, would be read: "Sky Partially Obscured, estimated ceiling five-thousand overcast." Unless you ask for it, the Remark giving the amount of "-X" is not broadcast by Enroute and Terminal Air Traffic controllers. Flight Service Stations do include Remarks in their weather broadcasts.

d. The most important thing to consider whenever you get a report of an obscuration, whether it is total or partial, is that there may be clouds present over the field that are not being reported because they cannot be seen by the observer on the ground. The greater the amount of obscuration reported means greater chance that clouds may be encountered unexpectedly at low altitude.



e. For the noninstrument rated pilot, loss of visual reference can be disastrous. Such a pilot, who is operating on a special VFR clearance or on the basis of FAR 91 minimums for uncontrolled airspace (clear of clouds and visibility one mile), may lose control of his airplane while flying in or attempting to avoid unreported, obscured clouds which suddenly appear out of the haze. For the instrument rated pilot, the same potential problem may develop after leaving DH or MDA. The approach lights or the runway may have been sighted, then become obscured during the descent due to movement of low clouds or increasing density of ground fog as the descent progresses.



4. RECOMMENDED ACTION. It is recommended that pilots be alert to the possibility of rapidly changing conditions due to hidden clouds when the sky is reported as obscured or as partially obscured. It is also recommended that pilots read or request any available remarks pertaining to the amount of sky hidden when the sky is reported as "partially obscured." This information will aid the pilot in judging whether actual cloud conditions may be significantly different than reported cloud cover.

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