

SAFETY CORNER

MILES COVERDALE

The question of the dangers inherent in the downwind turn (which was deleted from the January article when it appeared that my basic assumptions on the problem might be in error) has now been thoroughly discussed with pilots, aerodynamicists and physics professors, and the subject appears to be much simpler than I had tried to make it.

First of all it is necessary to consider the airstream to be homogenous and moving at a constant speed, for if we do not then the problems previously discussed under gusts and wind shear enter the picture. But if we consider a sailplane flying in a steady wind, with the pilot referring only to his airspeed indicator and not paying attention to the ground, then the aircraft maneuvers exactly as if it were flying in still air—although meanwhile its pattern *with respect to the ground* is being affected by the wind component. The control movements and the aircraft's response are independent of the wind, however, and therefore the downwind turn is made the same as any other turn.

But there is a danger involved that has not yet been mentioned, and from our records over the past years it would appear that a number of fatalities may very well have resulted therefrom. What happens is that a pilot turning downwind near the ground (or on his downwind leg for a landing) sees the ground going past nearby at high speed, since he is moving over the ground at wind speed plus his indicated airspeed, and instinctively but wrongly slows his airspeed by pulling back on the stick. If this in itself doesn't get him into trouble then the fact that he does it just where turbulence and the wind gradient are likely to be the worst surely will.

There have been several accidents and near accidents as the result of sailplanes getting too far out of position while on airplane tow, and the stories should be told here as a lesson to all just how quickly a minor problem can turn into pure catastrophe.

Just after takeoff a sailplane moved to low tow position, but having moved too low it pulled down the towplane's tail and slowed the tow down until the sailplane was unable to climb back up to the correct position. At this point the towplane was almost directly above the glider, which was in a nose-high stall attitude and oscillating from side to side at the end of the towline. It was necessary to release the glider in this condition at an altitude of about 100 feet, and the pilot was unable to recover from the stall before the aircraft struck the ground.

In another incident the glider was allowed to wander above the correct position, which pulled the towplane's tail upward and forced it into a dive. By this

NATIONALS NOTICE

The entry deadline for the 1966 Nationals is 60 (not 90) days prior to the start of the contest, thus will be April 28, not March 30. For applications address: Nevada Soaring Assn., Box 2425, Reno, Nevada.

time the load on the towline was so great that neither release could be operated. The sailplane wound up rotating like a maple seed at the end of the rope while the towplane dove for the ground, and when the safety weak link broke the towplane pilot barely had enough altitude left to enable him to avoid a crash.

From the above it can be seen how important it is not to wander either intentionally or inadvertently from the correct position behind the towplane.

Second Annual 1-26 Championships

The Second Annual North American 1-26 Championships will be held at Guthrie, Oklahoma, starting Sunday, August 14, and continuing through Saturday, August 20, 1966. Guthrie is 30 miles north of Oklahoma City and connected by an expressway. The airport has two turf runways (2800 and 2700 feet) with ample tie-down area. It is managed by Sailplanes, Inc., so that there will be no conflict with local traffic. The area is generally flat farming country, and in August most fields will be free of crops. The Oklahoma farmers have the reputation of being most friendly. Thermal soaring in August is superb. Heights of 10,000 ft. may be expected. Ground elevation is about 1000 ft. Marion Cruce will be the contest manager, assisted by Marshall Claybourn and Bill Cleary. The contest will be conducted under rules which will permit sanction by the SSA, including the prohibition of gyro instruments in the sailplane. Each contestant must be a member of the 1-26 Association. For further information contact Marion C. Cruce, 804 Midwest Building, Oklahoma City, Oklahoma 73102.

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