

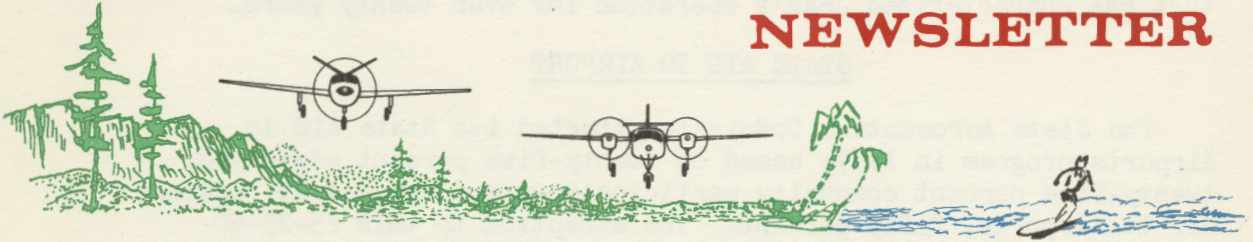
SOUTH CAROLINA



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AVIATION

NEWSLETTER



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G. C. MERCHANT, JR., DIRECTOR

J. F. BARRY, ASSISTANT DIRECTOR

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JEAN BRANNON

BRANNON AERO SERVICE

Jean Brannon, one of the most respected operators in the Southeast, is about to hang up his helmet and goggle. On July 1, Jean sold Brannon Aero Service to Eagle Aviation Inc., and will remain with Eagle for a time as a consultant.

He began his career in 1926 flying Jennies and Wacos. In 1938, he was employed by Southern Airways in the CPT Program. During World War II

Jean instructed at the Army Primary School at Camden, South Carolina, and at the Army Basic School at Augusta, Georgia. After the war, he returned to Greenville as a pilot for the Dixie Home Stores, and opened Brannon Aero Service in 1947.

In 1964, Jean was named Mechanic of the Year by the Federal Aviation Agency. He received this award for the development of an unfeathering system for Twin Beeches.

John M. Harris, Executive Vice President of Eagle Aviation, Inc. has moved to Greenville and will be in charge of the operation.

Larry Welter has returned as Customer Relations Manager, and Chuck Fair will manage the Maintenance Department. Dick Reid, formerly with South Atlantic Airlines is also in the Maintenance Department. Jean's daughter, Mrs. Joan Mundy, will remain with Eagle as secretary.

We are glad that Jean is not retiring completely, and feel sure that Eagle Aviation will continue to provide the excellent service that has characterized Jean's operation for over twenty years.

STATE AID TO AIRPORT

The State Aeronautics Commission started its State Aid to Airports program in 1957, based on twenty-five percent state aid, twenty-five percent community participation, and matched by Federal Air to Airports, fifty percent. The exception to this 25-25-50 formula is that the State does not participate in land acquisition.

Since the inception of state aid, until July 1, 1969, the total costs of these projects in which the state has participated has amounted to \$5,455,993.00. State aid totaled \$1,511,733.00. Community participation was \$2,727,966.00.

State Aid to these airports has been confined to the small counties; general aviation facilities and those airports in the small counties served by local service air carriers.

All total, there have been fifty-one airports included in the state aid, which includes both new developments and improvements to the existing airports.

The Aeronautics Commission, during these years since 1957, has moved county by county in this direction in implementing airport location design according to industrial progress and plant location.

Additionally, the Commission has provided repairs and maintenance to the state system of airports without cost to the communities. These repairs and maintenance operations consist of building repairs, fencing, grading, lighting, grading and clearing.

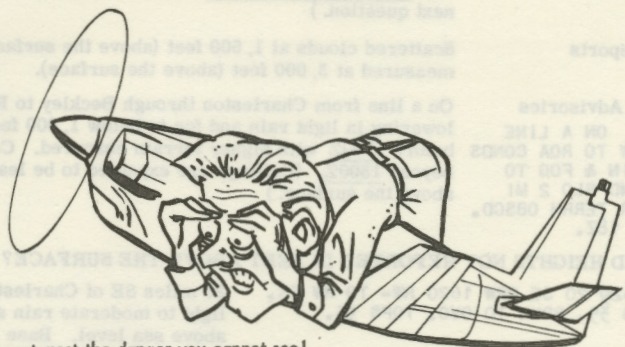
From 1959 to 1964, the Commission searched for and obtained new and unused surplus medium-intensity runway lighting equipment valued at approximately \$40,000.00 which was sufficient to light seventeen airports, without cost to the State or airport owners other than transportation which was provided by the Commission. This lighting was installed by personnel of the Commission, also without cost to the owner.

Additional new developments, and improvements to those existing, are now in planning stages in further carrying out airport design and improvement.

The latest airport to be completed under this program is Pickens County which will be dedicated September 13.

Department of Transportation
FEDERAL AVIATION ADMINISTRATION
VFR PILOT EXAM-O-GRAM* NO. 44

HOW HIGH THE CLOUDS?



Respect most the danger you cannot see!



Analysis of results on FAA written tests reveal that frequently applicants do not properly interpret the height of clouds or ceilings as given in Aviation Weather Forecasts and Reports. Even more often, they are unable to relate these reports and forecasts of cloud and ceiling heights to altimeter indications and safe terrain clearance.

It may well ruin the balance of the day to learn that a written test was failed because of inability to determine the ceiling or to answer questions related to this knowledge, but there are even more serious consequences. General aviation accident statistics reveal that far more serious problems may be experienced if this same lack of knowledge prevails during flight operations.

Though not likely to improve the weather, perhaps the following questions and answers will help to clear up some of the aforementioned confusion.

TO WHAT IS THE HEIGHT OF THE BASES OF CLOUDS REFERENCED IN AVIATION WEATHER REPORTS, FORECASTS, AND BROADCASTS?

1. With certain exceptions which will be discussed later, cloud bases, whether they constitute a ceiling or not, are normally reported in feet above ground level.
2. Whenever a cloud base height is specifically designated "ceiling," it will always be with reference to above ground level. Ceiling heights are mentioned in Aviation Weather (hourly sequence) Reports, Area Forecasts, Terminal Forecasts, In-flight Advisories, Transcribed Weather Broadcasts, Scheduled Weather Broadcasts (at 15 and 45 minutes past the hour). Also the cloud heights indicated on Surface Weather Charts and Weather Depiction Charts are above ground level.

Examples (Excerpted)

Terminal Forecasts

C2500 16Z 0V0

Area Forecasts

200V0 TOPS 90

Hourly Weather Reports

150M300

In-Flight Weather Advisories

AIRMET BRAVO 1. ON A LINE
FRM CRW THRU BKW TO ROA CONDS
LWRNG IN LGT RAIN & FOG TO
BLO 1 THSD FT AND BLO 2 MI
BFR 17Z WITH HIR TERRN OBSCD.
CONDS CONTG BYD 18Z.

Decoding:

Forecast ceiling 2500 feet broken variable to overcast above the surface (AGL).

Base of clouds, variable scattered to broken, is forecast to be 2,000 feet above sea level. Tops of clouds forecast to be 9,000 feet above mean sea level (MSL). (Explained further in item 3 of next question.)

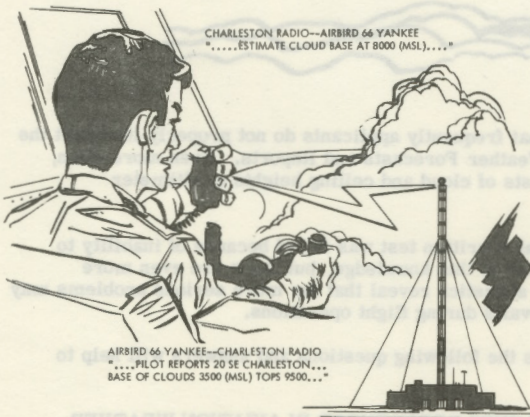
Scattered clouds at 1,500 feet (above the surface), overcast ceiling measured at 3,000 feet (above the surface).

On a line from Charleston through Beckley to Roanoke conditions lowering in light rain and fog to below 1,000 feet and below 2 miles before 1700Z with higher terrain obscured. Conditions continuing beyond 1800Z. (Ceilings are expected to be less than 1,000 feet above the surface.)

WHEN ARE CLOUD HEIGHTS NOT REPORTED IN FEET ABOVE THE SURFACE?

1. CRW PIREP 1629 20 SE CRW 1620 RW- TO RW 55.
CLD BASE BLO 35. BRKN TO OVC. TOPS 95.

20 miles SE of Charleston at 1620 GMT, light to moderate rain showers at 5,500 feet above sea level. Base of clouds below 3,500 mean sea level (MSL). Clouds broken to overcast. Tops of clouds at 9500 MSL.



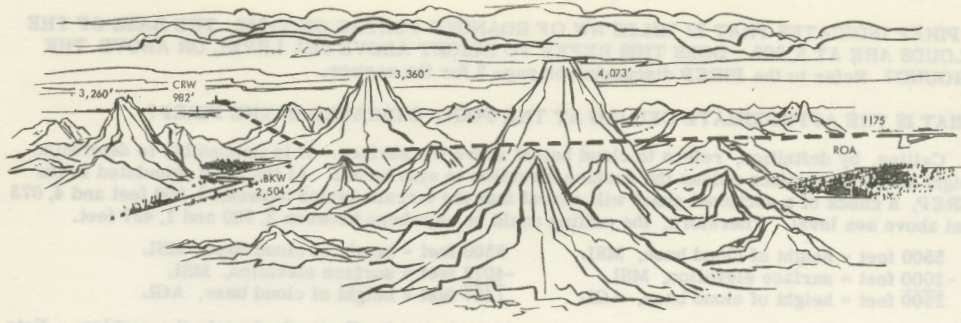
2. As the example just preceding shows, Pilot Weather Reports (PIREPS) and Pilot Weather Report Summaries (UA) give cloud heights in feet above sea level. Since flight altitudes are normally determined by reading an altimeter set to sea level pressure (MSL), all references to cloud heights as reported by pilots are in feet above sea level. This applies whether the report is from the pilot to the FSS or vice versa. (It is also true of turbulence, icing, and freezing levels.) Note that the specific term "ceiling" is not used in the preceding PIREP. Only the height of "cloud bases" above sea level are mentioned.

3. As is the case with PIREPS, all cloud heights in Area Forecasts are normally given in feet above sea level. Such information is usually more useful to the enroute pilot when it is referenced to the same thing as his flight altitude or altimeter indication - sea level.

4. Occasionally, however, the height of cloud bases in Area Forecasts will be given in feet above the ground level. Ordinarily "above ground" references will be limited to descriptions of layers sufficiently near the ground to be of appreciable concern to VFR operations and to clouds formed primarily by convection turbulence. In such cases, the exception to the general rule stated in (3) is always noted in the forecast.

5. Although Terminal Forecasts and as previously noted, some Area Forecasts, give cloud bases in feet above the surface, references to cloud tops in Area Forecasts are based in heights above sea level. Terminal forecasts do not include information about cloud tops.

6. References to radar echoes of cloud bases are seldom found in Weather Radar Observations (SD and SD-1), but if they are, both the bases and tops of echoes are referenced to sea level. Of course, radar reports are not to be accepted as proof that cloud bases or tops exist at the exact height indicated by the radar echo.

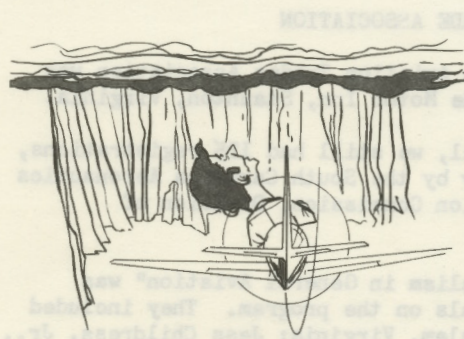


IF CLOUDS AND CEILINGS REMAIN AS GIVEN IN THE FOLLOWING AVIATION WEATHER REPORT EXCERPTS IS VFR FLIGHT FROM CHARLESTON TO ROANOKE VIA BECKLEY POSSIBLE?

Charleston, W. Va. (CRW)	450 M5005	LRG BIN0VC
Beckley, W. Va. (BKW)	M12V03	HIR RDGS OBSCD CIG 10V130V0
Roanoke, Va. (ROA)	M1803	SUN DIMLY VSBL

1. NOT LIKELY! One cannot say that it is impossible, but in the mountainous country crossed by this flight, it is improbable, indeed. It is even more unlikely that it can be done safely.

2. A check of the illustration above will reveal that Charleston is 982 ft. above sea level, Beckley is 2,504 ft. above sea level, and Roanoke is 1,175 ft. above sea level. On Airway V-258 from CRW to BKW one mountain ridge is approximately 3,260 ft. above sea level. From BKW to ROA, other ridges are 3,360 and 4,073 ft. above sea level. If you were to approach to, or depart from Beckley, flying 500 feet below the clouds as reported above, you would be at an altitude of approximately 3,200 feet.



DIDN'T HE SAY THE CEILING WAS 2500 FEET?

- 2504 feet = field elevation at Beckley (MSL)
- +1200 feet = height of ceiling above the ground at BKW
- 3704 feet = height of clouds above sea level at BKW
- 500 feet = clearance below the clouds
- 3204 feet = your flight altitude above sea level.

Ignoring the fact that the ceiling at Beckley is only 1,000 ft. at times, 3,204 ft. MSL is 56, 156, and 869 ft. below the tops of the 3 ridges mentioned previously.

3. When evaluated in terms of terrain and the distances between stations reporting weather, this situation obviously precludes any reasonable assumption that all enroute weather is likely to be VFR -- even though all stations report VFR weather. Note carefully that the remarks portion of the Beckley report states that the "higher ridges of the mountains are obscured."

4. Without specific pilot reports on enroute ceilings or other weather conditions, it would be reasonable to assume that clouds might be "on the deck" for portions of this flight.

IS THE PROBLEM DISCUSSED IN THE PREVIOUS QUESTION PECULIAR TO MOUNTAINOUS REGIONS?

No! ! The same problem exists in some measure, at least, in flat, open country - particularly during periods of rapidly changing weather and where there is considerable distance between weather reporting points. It is neither reasonable nor wise to assume that cloud bases along a flight route are uniform in height. Under the circumstances outlined, hourly Aviation Weather Reports alone do not afford enough information upon which to base a prudent decision that the flight can be safely accomplished.

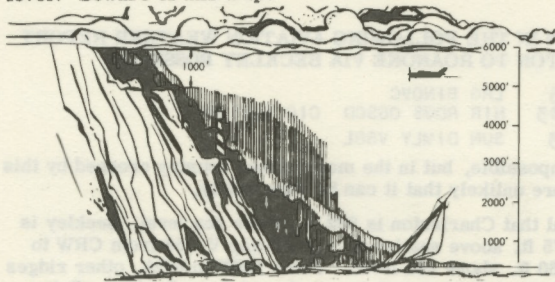
A PIREP INDICATES THAT 27 MILES NW OF ROANOKE VORTAC ON V-258, THE BASE OF THE CLOUDS ARE AT 5,500. DOES THIS REFER TO HEIGHT ABOVE SEA LEVEL OR ABOVE THE GROUND? Refer to the PIREP discussion on page 2 for the answer.

WHAT IS THE APPROXIMATE CEILING AT THE POINT INDICATED IN THE PIREP?

1. Ceiling, by definition, refers to cloud height above the surface. It is impossible to determine height above the surface unless the surface elevation is also known. At the point stipulated in the PIREP, a check of a sectional chart will reveal that the terrain varies between 3,000 feet and 4,073 feet above sea level. Therefore, the ceiling could be anywhere between 2,500 and 1,427 feet.

2. 5500 feet = height of cloud base, MSL 5500 feet = height of cloud base, MSL
 -3000 feet = surface elevation, MSL -4073 feet = surface elevation, MSL
 2500 feet = height of cloud base, AGL 1427 feet = height of cloud base, AGL

3. Admittedly, the illustration below is not too typical, but it effectively depicts the problem. Note that in one instance the ceiling is 6,000 feet; in another, it is only 1,000 feet. In fact, toward the left in the illustration the ceiling becomes zero, yet there has been no change in cloud height above sea level! Beware of this trap!



SOUTHEASTERN AVIATION TRADE ASSOCIATION

The 19th Annual Meeting of the Southeastern Aviation Trades Association was held on July 23, 24, and 25 at the Ingleside Motor Inn, Staunton, Virginia.

While the weather did not cooperate too well, we still had 125 registrations, for the meeting which was sponsored jointly by the South Carolina Aeronautics Commission and the Virginia State Corporation Commission, Division of Aeronautics.

The theme of the meeting, "More Professionalism in General Aviation" was well chosen as indicated by the professionals on the program. They included Ed Marshall, Aviation Insurance Service, Salem, Virginia; Jess Childress, Jr., President, Southern Airways Company, Atlanta, Georgia; J. Pat Murphy, Sales Training Manager, Narco Avionics, Ft. Washington, Pennsylvania; Raymon R. Finch, CPA, Raymon R. Finch Company, Columbia, South Carolina; Thomas C. Ferguson, Manager, Piedmont Aviation, Inc., Norfolk, Virginia; Professor Edwin C. Marsh, School of Commerce & Business Administration, V.P.I., Blacksburg, Virginia; Will Plentl, Division of Aeronautics, Richmond, Virginia; Tom S. Myles, President, Air Transportation Conference; Ronald Blackmon, Champion Spark Plug Company, Newnan, Georgia; R. S. "Bob" Northington, Vice President, Piedmont Aviation, Inc., Winston-Salem, North Carolina; Judge Jesse W. Dillon, Virginia's Commissioner for Aviation.

The banquet speaker was the Honorable Mills E. Godwin, Jr., Governor of Virginia.

The 20th meeting is tentatively scheduled for Huntsville, Alabama.

The nation's largest privately owned collection of antique aircraft on public display at Wings and Wheels in Santee, South Carolina, has planned an action packed weekend August 30 and 31, with representatives from all major manufacturers of light planes exhibiting their products. A skydiving team from Shaw Air Force Base, and also several local jumpers, will demonstrate their abilities in several precision individual and mass jumps. The Army Aviation Section and the United States Air Force will have aircraft on display and will demonstrate airborne assault maneuvers. Pan American World Airways' first Ford Tri-Motor, Les Hembel's Enstrom helicopter, and also various models of sailplanes will offer passenger rides and flight demonstrations. "Bevo" Howard, the six time winner of national and international precision aerobatic competition will perform in his famous red and white Jungmeister. Saturday, a queen will be chosen from bathing beauty contestants sponsored by the manufacturer representatives to reign over the two day activity. Sunday morning, attendees will fly across the lake to Goat Island Resort for the South Carolina Breakfast Club, to be hosted by Bill and Morrison Davis. Overnight accommodations may be obtained through Clark's Motel, Holiday Inn, Congress Inn, Royal Motor Lodge, Mansion Park Motel, and the Gamecock Motel in Santee, South Carolina. Fly to the Vance VOR (110.4 Mhz) on the South shore of the lake, and look for the crowded traffic pattern one mile west.



SANTEE AIRPORT

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BREAKFAST CLUB NEWS

On September 14 the Big Sky Flying Club in conjunction with The Boys Home of The South is planning to participate in the annual Air Show and Fly-In Breakfast scheduled for the Greenville Municipal Airport. This will be on the same order as the one held last October, with Big Sky Flying Club hosting the bi-weekly Breakfast and then supervising the plane rides for the Boys Home of the South. The Flying Club will not have any responsibility for the Air Show which is being sponsored by the Committee for the Boys Home.

For the Fly-In Breakfast Club Meeting, there will be a spot landing contest for all incoming guests.

The breakfast will be held in the hangar of Thermal Belt Aviation. Warren Guinn is making the hangar available and is planning for a good attendance.

The Flying Club has organized itself into 8 committees to manage the Fly-In and the public rides. All thirty members of the club will be present to assist in the coordinated effort to provide safety and security for the Fly-In and rides.

On July 20, the meeting was held at Wings and Wheels. Approximately 180 members were present for the breakfast at the Holiday Inn at Santee. The "Bouncing Ball" was awarded to John Mixon of Kingstree for his downwind landing. Captain Lange flew up from Jacksonville and brought 13 members of the Florida Pilots Association with him.