# GOLDEN CONTRAILS

CONTINENTAL AIRLINES

fall -1968

PAGE 16-22
AIR MIKE

1938

1968

O. R. Haueter

GOLDEN CONTRAILS

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ABOUT OUR COVER.....
Cover by P. W. Hoffman and in tribute to O. R. Haueter.....

**the all FanJet airline**

Fall - 1968 Issue

**CONTINENTAL AIRLINES**

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TO: All Continental Airlines Pilots

FROM: C. M. Stubben

SUBJECT: Retirement of Captain O. R. "Ted" Haueter

On July 1, 1968, Captain O. R. "Ted" Haueter retired from Continental Airlines after more than thirty years of service. During Captain Haueter's career, he saw the Continental Flight Operation grow from three Lockheed 12s with six pilots to 54 high performance jets with 874 pilots. As head of this Flight Operation, he contributed immeasurably to its growth. Ted's career with Continental covered almost the entire history of the airlines. His career in aviation has covered almost the entire history of the industry. His contributions to this industry are numerous, ranging from the original spin tests of the "Eagle Rock Bullet" to assisting in the development of C-Band weather radar.

Ted learned to fly in 1919 in an OX5 Standard. During the 1920's he flew as a test pilot, barnstormer and served as a sergeant pilot with the Army Air Corps at Brooks and Kelly Fields in Texas. His military service also included a number of years as a commissioned officer and pilot in the U. S. Naval Aviation Reserve. He worked for Von Hoffman Aircraft Company in St. Louis, Missouri from 1929 until 1931 as Vice President and General Manager. He then went to work for National Air Transport (a predecessor of United Airlines) as a pilot. In June of 1934 he went to work for TWA where he served as a captain and a pilot supervisor, during which time he was instrumental in setting up TWA's dispatch system.

Early in 1938, Mr. Six negotiated with TWA to obtain Mr. Haueter's services. He came to Continental on February 1, 1938 as Operations Manager. Continental at this time had a total of 29 employees. He became Vice President of Operations on October 1, 1939, and served in this capacity until March of 1965, at which time he became Vice President of Operations Standards.

Ted is one of the truly dedicated individuals who helped make Continental Airlines and the airline industry what it is today. He was instrumental in setting the standards for a flight operation that is second to none in the industry. Our hats are off to you, Ted, for a job well done!

C. M. Stubben
Vice-President,
Flight Operations

(When the "Golden Contrails" editor visited with O. R. "Ted" Haueter on a mid-September afternoon, he found Mr. Haueter in his office in Hanger #5 at Stapleton Air Field in Denver poring intently over some long columns of figures. After a few words of greeting, Ted went on to finish his work while the "Golden Contrails" editor set up his tape-recorder and camera. In a few minutes, they sat down for a relaxed one-and-a-half hour conversation, ranging from Ted's first aviation experiences at the turn of the century near Cosby, Missouri, to his most recent participation in the flight surveys prior to the inauguration of Air Micronesia operation. We thought you'd like to sit in with us on some of the dialogue.)

Q. Looking back over your 30 years with Continental Airlines, what do you remember most?

HAUETER: Most of all, besides the challenge of helping build an airline, what I remember most is the people I've worked with. From the top down through all levels, I've met some extremely capable people.

Q. Do you think our airplanes are getting too complicated for our pilots?

HAUETER: I can't quite feel that they're too complicated. I feel that the equipment today, that they fly and navigate with, is so much better than what we had in the early days.

Q. What do you foresee in the future as far as flight crews?

HAUETER: That is something I would hate to predict, because every time I've said something in the past, I've been proven wrong. I think eventually, it won't be in my time, but probably sometime in a future generation they'll be flying missiles. They're almost flying them now.

Q. Project for me your description of the commercial airline pilot of the year 2000.

HAUETER: Well, I think he will not only have to be a pilot, but he will need to have more of an electronics background. I think that flight crews in the future will have to be more highly technically trained people than they have been in the past.

Q. Do you foresee continued human control in future aircraft?

HAUETER: Yes, the pilot will still have to fly the airplane in case of emergency ... except that maybe the touchdown and takeoff will be automatic. There'll always be the need for a good pilot in the aircraft to take over from any machine.

Q. Just out of curiosity, what was your favorite airplane?

HAUETER: The one I would enjoy flying the most? If I had more experience, I'd probably say the present day jets.

Q. Going back through your career, who inspired you the most? Who was -- sort of your hero in your earlier days?

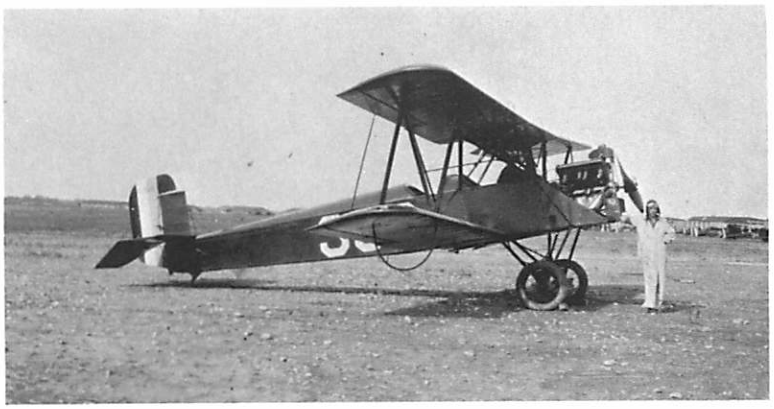
HAUETER: Well, I never had an exact hero. No, I tried to set my own ambitions and tried to accomplish what I could on my own.

Q. What do you regret most of all during your aviation history?

HAUETER: I've always said I was born 50 years too soon and I'd like to be a young man now in the new involvements. Right now, if I had the opportunity to ride one of those missiles around here, I'd go if I could.

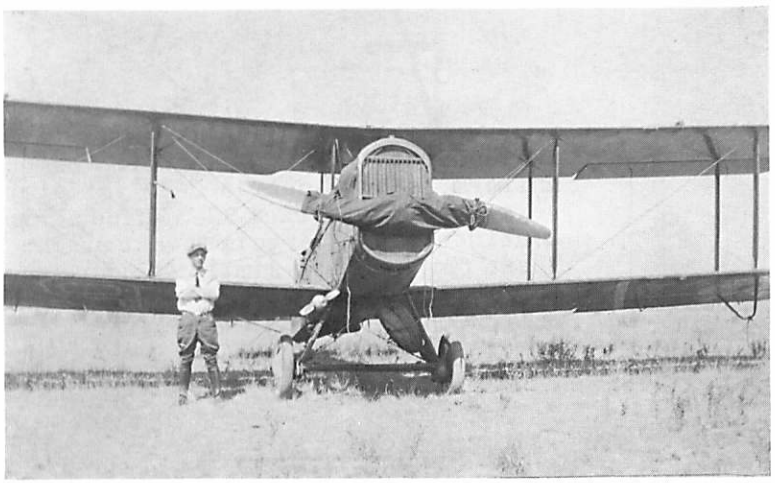
Q. Any other thoughts before we close?

HAUETER: I'd say that in the past few years, I think that one of the successes of Continental Airlines was that we had a top bunch of pilots. I wouldn't take my hat off to any other airline for the type of pilots we have.

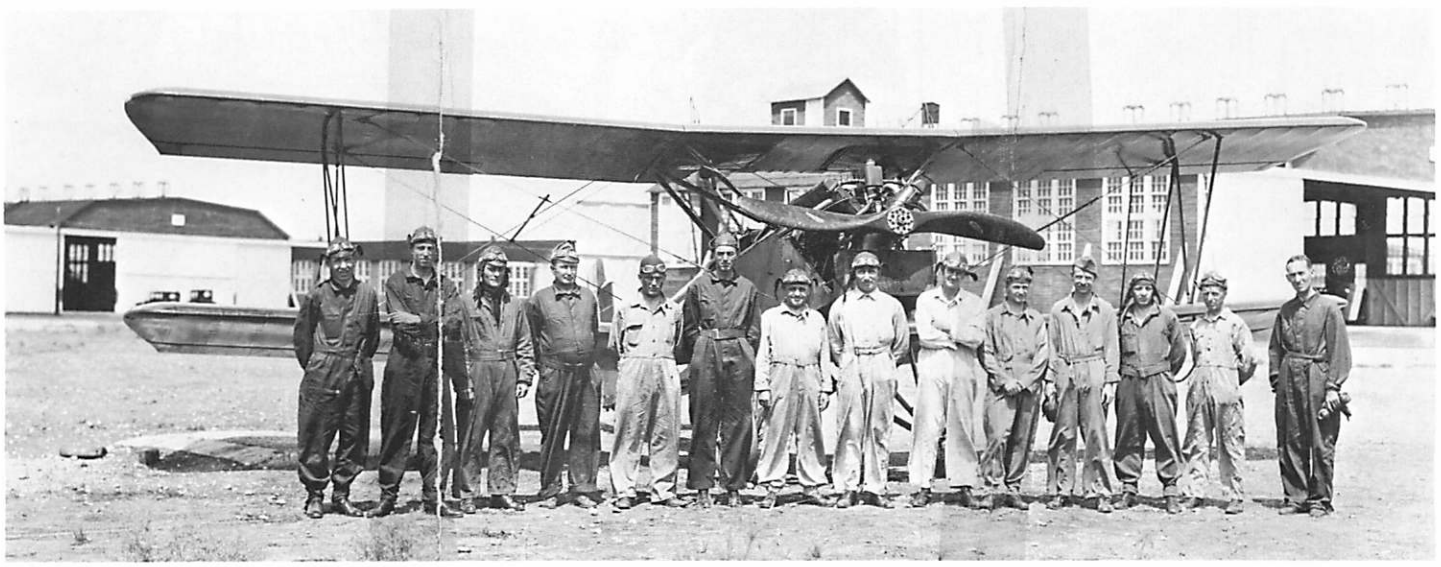


Ted Haueter stands near a U. S. Army Air Corps PT-1 primary trainer (built by Consolidated Aircraft Co., Buffalo, N. Y.) at Brooks Field, San Antonio, Texas, in 1923.


O. R. Haueter (in cockpit), Cynthia Carr and C. C. West, Jr., cutting the ribbon on the first flight of the Lockheed Lodestar in late 1939.



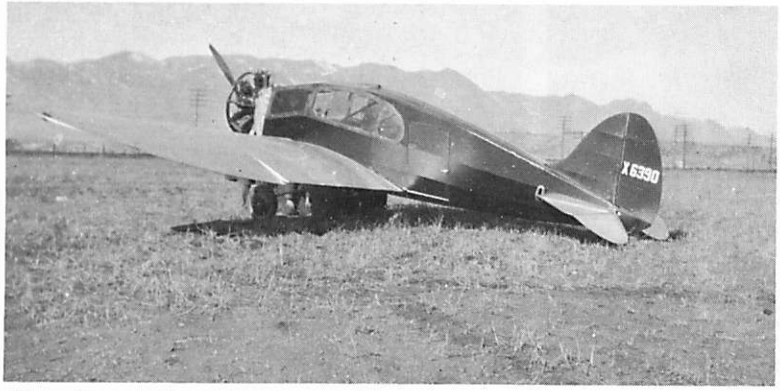
A U. S. Army Air Corps D-H-4 advanced trainer aircraft with Liberty engine, in background, Ted Haueter standing at wing. Taken at Kelly Field, San Antonio, Texas, in 1923, while Ted was a sergeant-pilot in the AAC Reserve.

The 389th Observation Squadron (U. S. Army Air Corps Reserve) at Brooks Field, San Antonio, Texas, in July, 1923. O. R. "Ted" Haueter stands third from right.

Ted Haueter near a WW-I Italian Ensaldo fighter aircraft. The aircraft was used for a short time by the U. S. Army Air Corps in the early 1920's as an advanced trainer.

Ted Haueter, in Air Transport Command uniform, stands near a C-47 (military version of commercial DC-3) used during Continental ATC cargo contract flights. These flights were similar to our present MAC contract flights. (Photo probably taken in later 1942.)




The first Eaglerock Bullet built by Alexander Aircraft Co., Colorado Springs, Colo. in late 1928. This was the type aircraft Ted Haueter flew as a test pilot.

CONTINENTAL AIR LINES

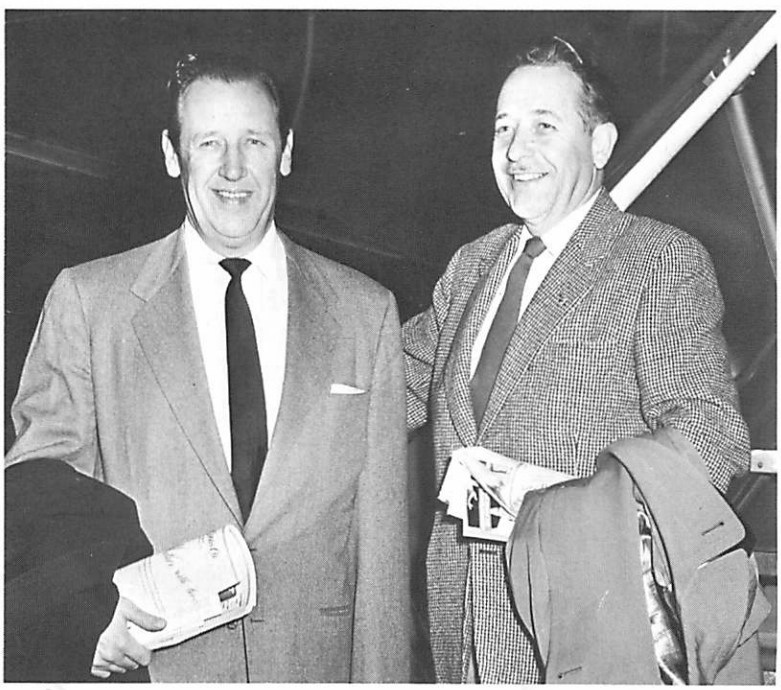
Ted Haueter, test pilot, sits at rear cockpit of OX-5 Eaglerock biplane built by Alexander Aircraft Co. in 1926 through 1928.

Robert F. Six presents 20-year pin to O. R. "Ted" Haueter in 1958.

From left to right: Ted Haueter, R. C. Croft (#132), and J. F. Weiler during acceptance of Convair-Liner 440 in San Diego, Calif. (Sometime in 1952.)

CONTINENTAL AIRLINES


O. R. Haueter (center) and Jack F. Weiler (at left) accepting the Convair-Liner 340 in San Diego, Calif. in November, 1952.



Robert F. Six and O. R. "Ted" Haueter (on right) at start of their trip to London on May 4, 1955. In England, they investigated the performance of the Viscount II aircraft at the Vickers Aircraft Corp. facilities in Weybridge.

Representatives from United Air Lines and Coombs Aircraft Co. (in DEN) join Ted Haueter (on right) in examining a newly-arrived foam-and-fog truck at Stapleton Field on August 16, 1961.

O. R. "Ted" Haueter, in cockpit, and D. R. Wilson (now Vice-President of Training), standing near a Continental Airlines Link Trainer which was donated to West High School in Denver, Colorado, in March, 1948.

CONTINENTAL

From left to right: Don Davis (Manager - Flight Control), Eric Forsman, Robert F. Six, W. T. "Bill" Roberson, Jr. (Director - Line Station Maint.) and O. R. "Ted" Haueter, attending the retirement party of Eric Forsman on July 10, 1963. With the retirement of O. R. "Ted" Haueter on July 1, 1968, only Messrs. Davis, Six and Roberson remain from the 29 people at Continental Airlines when Ted Haueter joined CAL on February 1, 1938.

TO: All Pilots

FROM: E. J. Horrell

SUBJECT: Pilot Reports

Due to the increasing complexity of aircraft systems and the stringent requirements of Category II operations, it has become necessary to look into all phases of our operation for possible improvements. One area in which we feel an additional effort will yield substantial results is that of pilot reports.

At this point, let me emphasize that positive repair of a reported malfunction is essential if an aircraft is to be released for continued Category II operation. To do this, a positive pilot report, positive maintenance action and positive repair or replacement procedures are required.

Navigation and Auto Pilot equipment are vital to operation at Cat II minima and many problems in these areas simply cannot be duplicated on even detailed ground checks. In these instances, it is extremely important that Maintenance personnel have all possible information concerning the observed malfunction. Reports stating erratic, unreliable, or inoperative, without additional data, do not provide sufficient basis for positive corrective action. We need reports which indicate such things as the amount of fluctuation, any flags which may appear intermittently, whether problem occured in cruise or on approach, etc.

All pilots are requested to provide detailed reports regarding any malfunctions of Category II equipment. Only through your continued cooperation can the Category II maintenance program be successful.

E. J. Horrell
Director, Quality Control
Maintenance Division

EJH:RMS:ml

EDITORS' NOTE: Also see article on page 8 in re same subject.

## COMFORT OR CAPABILITY?

Which do you do? Do you adjust your seat for comfort? Or for your capability to apply full rudder pressure whenever it's necessary?

Think about it--and you'll find that your capability to perform correctly is the criterion by which seat adjustments should be made.

## DECEPTIVE APPROACH TO RWY. 22 AT ORD

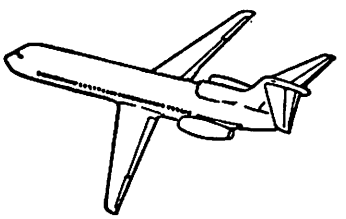
Portions of a letter received from the FAA Air Carrier District Office is excerpted for your information:

"A report received from the Chicago Air Carrier District Office indicates that on July 8, 1968, a CAL flight overflew runway 22 at Glenview Naval Air Station at an altitude estimated to be about 500 feet altitude. This occurred at 2114 GMT and did not result in any traffic conflict. Weather at the time was estimated 10,000 broken and 10 miles visibility.

The crew was interviewed by an inspector of the Chicago ACDO and were found very cooperative. The Captain stated that they did start for runway 22 at Glenview, but that they did not get down anywhere near 500'. He stated that flight visibility was about 5 miles and that O'Hare was not in sight when the First Officer mistakenly called "runway in sight". At this point, the Captain said he came off instruments and started down before recognizing Glenview. At the time of the incident the flight was in contact with O'Hare approach control, with an IFR flight plan still in effect.

In discussing the incident with the reporting inspector, we have learned that many airline flights mistake runway 22 at Glenview for runway 22 at O'Hare because the two are aligned with the final approach course and the airports are only a few minutes apart.

We call this incident to your attention with a suggestion that steps be taken to call the attention of your flight crews to the deceptive approach. It should be noted also that runway 22 will be used increasingly at ORD during the next month because of runway work to be performed."



## AIRCRAFT LOG NOTATIONS

The following is an excerpt from a letter recently received from the FAA Air Carrier District Office and is quoted for your information:

"During a recent inspection of Continental Airlines' aircraft maintenance functions it was noted that on numerous occasions the flight crews have reported maintenance malfunctions verbally rather than making a notation in the aircraft log.

The requirements of FAR 121.563 specify that 'The pilot in command shall enter or have entered in the maintenance log of the airplane each mechanical irregularity that comes to his attention during flight. We feel the need for strict compliance with this section to be well founded. The importance of written notations in performance analyses is apparent."

# "WHEELBARROWING"

"Wheelbarrowing" may be described as an attitude or condition in a tricycle gear equipped aircraft that is encountered after initial ground contact during landing rollout, wherein the main wheels are lightly loaded or clear of the runway. However, the nose wheel is firmly in contact with the runway thus causing the nose gear to support a greater than normal percentage of aircraft weight while providing the only means of steering. In a crosswind, the airplane in this situation tends to pivot rapidly about the nosewheel, in a maneuver very similar to a ground loop in a tailwheel type airplane. Other indications of "wheelbarrowing" are wheel skipping and/or extreme loss of braking effect when the brakes are applied.

Normally, "wheelbarrowing" may be encountered if the pilot is utilizing excess approach speed in a full flap configuration that results in the aircraft touching down with little or no rotation. After this touchdown, the pilot may then try to hold the aircraft on the ground with forward pressure on the control wheel. Under these conditions, braking and steering capability is severely diminished and "wheelbarrowing" is likely to result.

Information received reveals that a number of "wheelbarrowing" accidents have occurred during crosswind landings made by pilots flying aircraft equipped with stabilizer type elevators and nose wheel/rudder steering, and utilizing the "slip" technique for crosswind correction. On most general aviation aircraft, the nose wheel steers when rudder is applied and, for this reason, such landings require careful rudder operation just prior to and during touchdown. The "slip" method of drift correction is favored by the majority of pilots as it accomplishes the desired results without presenting the need for a last minute directional correction prior to touchdown.

It is recommended that pilots heed, and instructors emphasize, the need for proper attitude and airspeed control during approach and landing, particularly in crosswind conditions.

Corrective action must be based on a number of factors, i. e., degree of development of the wheelbarrowing, pilot proficiency, remaining runway length and aircraft performance versus aircraft configuration. Only after considering at least these factors, the pilot should initiate one of the following corrective measures:

a. Close the throttle, relax forward elevator pressure to aft of the neutral position to lighten the load on the nosegear and return steering and braking to normal. If the flaps can be retracted safely during rollout, additional braking will be obtained on dry runways.

b. If the aircraft is not pivoting, adequate aircraft performance is available, adequate runway is available and obstructions are not a factor -- execute a "go around".

During takeoff, the "wheelbarrowing" effect can occur at lower speeds than during landing, due to the propwash increasing the lifting power of the horizontal stabilizer. The use of excessive forward stick pressure during takeoff to hold the airplane on the ground to speeds above normal takeoff speed is not recommended.

From "FAA Advisory Circular 90-34"

# FAREWELL FLIGHT OF "NUMBER ONE"

Flight No. 3 arriving from Chicago on September 11, 1968, was just a little ahead of schedule that Wednesday night. For the 75 to 100 flight crew personnel gathered outside the jetway, it was, however, another "better-than-average" performance by Capt. A. P. "Al" Shelly, No. 1 man on the Seniority List.

So you ask -- what are 75 to 100 Captains, First Officers, Second Officers and flight supervisors doing standing around the ramp at night waiting for an arriving airplane? Well, how else would you appropriately say a fond farewell to a man who's flown Continental's airways since 1939 and has just reached the 60th birthday limitation of FAR 121.383(c)?

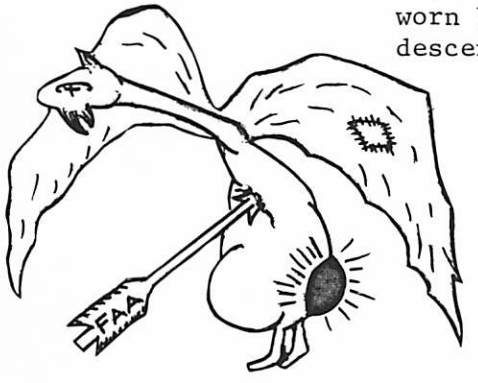
As Capt. Shelly came out the jet-way door, he sported a Rip Van Winkle-type beard and an entirely unorthodox lapel patch (reproduced below). At the foot of the stairs, two long lines of CAL pilots waited to shake hands with him and to offer congratulations.

It wasn't a very long ceremony, in terms of time. But it spoke eloquently of the man who joined Continental Airlines on June 19, 1939. Al had previously been flying with National Air Transport (the predecessor company of United Air Lines). Later, when O. R. "Ted" Haueter became Vice-President of Operations, Capt. Shelly became Continental's second operations manager and chief pilot.

As to the future, you'll still be seeing Capt. Shelly. Effective September 12, 1968, he assumed the duties of Director - Operations Standards with his office in Room 270, LAXGO.

From left to right: Mrs. A. P. Shelly, Capt. A. P. "Al" Shelly (in disguise) and Mrs. J. W. P. Fox (Capt. Shelly's sister) in Chicago, prior to departure on Flt. 3, look at one of the cakes presented to Capt. Shelly.


A cake presented to Capt. Shelly in flight by Flt. 3 hostesses. Congratulations card, in background, was signed by all passengers aboard and in-flight personnel.




Reproduction of lapel patch worn by Capt. Shelly as he descended jetway stairs at LAX.

# RUNWAY GROOVING - A REPORT

Runway grooving refers to small slots or grooves cut across a runway to improve tire traction and to facilitate water drainage. It's still in the experimental stage, but the preliminary tests promise great results.

Our current braking systems, tire tread designs and runway surfaces aren't always able to cope with wet runways. Under hydroplaning conditions, hazardous situations can develop. Erecting barriers or lengthening runways, even where possible, is not the answer because most hydroplaning incidents occur off the side of the runway. Currently NASA, the FAA, the Air Force and some foreign governments are participating in both separate and joint runway grooving experiments aimed at finding both the good and bad effects of runway grooving on aircraft, aircraft tires and runways. This article, adapted in part from a NASA report on these programs, will discuss the findings so far.

A number of different tests are being conducted under varying conditions. One of these tests, the freeze-thaw cycle, has been completed by NASA. The procedure was to flood the test section of a runway, allow it to freeze overnight, and then run braking tests under ice-covered and water-flooded conditions. They used an aircraft tire run over grooves 1/8 inch wide by 1/8 inch deep, and also over grooves 1/4 by 1/4 inch. After 22 freeze-thaw cycles, there was no decrease in friction from the initial values, nor was there any deterioration in the grooved portion of the runway.

One of the problems is to determine the best size, shape and angle for the grooves. Some 18 different groove patterns were tried and tested under damp and flooded conditions, over a speed range 4 to 100 knots. Three groove spacings were tried: one inch, one and a half inches, and two inches. Groove widths were 1/8, 1/4, and 3/8 inch. Two depths were studied; 1/8 and 1/4 inch. Three different size aircraft tires were used in both yawed rolling and braking runs. The greatest traction resulted using grooves 1/4 inch wide and 1/4 inch deep on a one-inch pitch. (All the groove arrangements increased the traction.) Preliminary results indicate the following:

1. There was no increase in tire rolling resistance on a grooved runway versus an ungrooved one.

2. There was no increase in tire damage under yawed rolling conditions.

3. There was no damage to tires during braking (even while skidding.) However, if the wheel is locked, chevron-type cuts can occur. This type of cutting is not likely with anti-skid equipped aircraft, since the friction coefficients on grooved runways are so high. For example, using a smooth tire, the skidding coefficient ranged from 0.5 to 0.4 on the flooded grooved runway. The same tire developed only a 0.04 skidding coefficient on a flooded ungrooved concrete runway at the same speed.

A program is under development to study the effect of grooving on tire wear. The tests, scheduled for next summer, will include running a new aircraft tire through a series of free roll, yawed rolling and braking maneuvers on a grooved runway. The tests will then be repeated with an identical tire on an ungrooved pavement and the results compared.

Other tests are being designed with various objectives. One of these will study takeoff and landing performance on grooved runways. This program will determine the effectiveness of grooving in increasing performance on dry, wet, water-flooded and slush-covered runways having different surface textures. It should also discover whether undesirable aircraft vibrations are caused by the grooving, and if so, to find out how much and why. The tests will be conducted with various aircraft loads under varying weather conditions on both asphalt and concrete surfaces. The tests should also determine the fastest, easiest and most economical method of grooving runways, as well as the most efficient groove pattern.

### Grooved Runways – Today

There are several operational grooved runways in use around the country. Washington National Airport's main runway has been completely grooved. It took 35 days, working between 11 PM and 7 AM, seven days a week, using diamond saw machines. Each machine cut 13 grooves at 10 to 20 feet per minute, at a cost of approximately $0.09 per square foot. The pattern used was 1/8 inch wide, 1/8 inch deep on a one-inch pitch. Since completion, over 80,000 landings and takeoffs have been made with no deterioration of the grooves. Pilots report improved handling during landings since the runway was grooved.

Taxiways at several civilian fields throughout the country are also yielding information. The groove patterns on one asphalt taxiway have already started to fail through the plastic flow of the asphalt on very hot days. Where wide grooves have been cut (1/4 to 3/8 inch) airport operators report a housekeeping problem because the wide grooves trap stones and small debris.

At Kansas City Municipal Airport the instrument runway was grooved over half its length. There has been no deterioration after 80,000 landings and takeoffs, and pilots are discovering great improvement in wet weather traction. When approaching this runway from the air, pilots report they can tell the areas that are grooved when it's wet. The ungrooved portion is reflective because of the water pooling, while the grooved portion appears dull because of the increased water drainage. From the ground this is also evident by the amount of water spray the aircraft throw while on the ungrooved portion of the runway versus the grooved.

At Kennedy Airport, where the main instrument runway is also grooved, tower operators report that since grooving most jet aircraft now use the high-speed taxiway to clear the runway rather than going

to the end. Pilots verified stopping distances have been reduced by about 1,000 feet when the pavement is wet. Prior to grooving, the wet landing performance was not that good. The grooves at JFK are clear of rubber deposits after more than 13 months, although the lands between the grooves have been coated with molten rubber from dry touchdowns. They have also withstood the full range of weather conditions offered by the east coast with no ill effects.

Two highly used Air Force runways, Don Muang, Ubon, and Udorn, Thailand, have also been grooved. Results so far indicate improved wet weather performance with skidding incidents greatly reduced. The only incident to date occurred during a rainstorm when an aircraft touched down to the right of the center line and missed the grooved portion of the runway (a 37-foot wide section.) The pilot reported no braking action and slid off the right side of the runway some 2,000 feet after touchdown. This mishap indicates the entire width of a given runway should be grooved. What would have happened if the pilot had one of his aircraft's wheels on the grooved surface and applied brakes? That would be like having only one good brake, and the resultant swerve would probably be unnerving, to say the least.

**Conclusion**

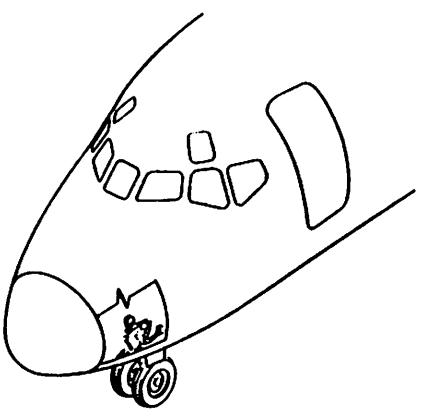
Everyone concerned has been generally pleased with the results of runway grooving, and they agree it will be another aid to safer operations. Airport and aircraft operators, as well as maintenance personnel, have no major complaints so far. There was some concern among the airline operators about possible tire cutting caused by the grooves. A major aircraft tire recapping company reports that only one per cent of their current business is due to the chevron-type cuts. They further say these chevron cuts have occurred on aircraft tires for years (before grooved runways) and were attributed to brake chatter.

There have been complaints by pilots about dust clouds thrown up by tire passage over grooves while the runways were in the process of being grooved. This appears to be a problem associated with finishing the job, and shouldn't occur if the dust is water flushed from the grooves at the time of grooving.

In summary, test results are expected to provide a means for evaluating the effects, both good and bad, of runway grooving. When all the figures are in, THE MAC FLYER thinks we may see the grooving of all Air Force runways – a good deal for all of us.

[*Our thanks to "The MAC Flyer" for this excellent report – ED.*]

Reprinted from Flight Safety Foundation, Inc., Pilot's Safety Exchange Bulletin 68-104.



NOSE LANDING GEAR STEERING SYSTEM - DC-9

Reports from three DC-9 operators indicate that at least eight (8) revenue flights have been delayed due to a lack of information and understanding of the DC-9 steering system characteristics by both flight and maintenance personnel.

In each of the reported incidents, the airplane was parked at a passenger terminal and the nose wheels were turned to full travel before forward motion of the airplane was initiated. In each case, after initial forward movement of the airplane had occurred, it was found to be impossible to recover from the resultant turn condition by operation of the cockpit steering wheel. In each of the above incidents, delays occurred and in some cases, extensive maintenance man-hours were expended in attempting to determine a non-existent cause for the reported condition.

Under certain ramp conditions, the above described steering lock can occur without any airplane discrepancy existing and corrective action can be accomplished by opening of the nose steering by-pass valve and moving the nose wheels back toward a centered position by use of a tow bar or by manual forces. If this action is accomplished, it will be found that operation of the nose wheel steering system is again normal.

The above described condition is a result of nose landing gear design, controlled steering limitations and positioning of the maximum turn structural stops.

The DC-9 utilizes two push-pull hydraulic cylinders to provide nose wheel steering control, one powered by the left hydraulic system and the other by the right hydraulic system. The controlled steering limits are established at 82 degrees plus or minus 2 degrees of nose wheel turn. The paint stripe indication on the nose gear doors applicable to towing operations shows a limit of approximately 90 degrees and the positive mechanical stops engage at or near 102 degrees of nose wheel turn.

The geometry of the hydraulic steering cylinders relative to the steering lever on the top of the nose landing gear shock strut is such that the hydraulic steering cylinders produce no effective turning moment at the 90 degree turning angle and one of the cylinders translates to an overcenter condition whenever the 90 degree turning angle is exceeded. Under this condition, application of hydraulic pressure to oppose the turn as initiated by the cockpit control is ineffective and does in effect tend to hold the nose wheels in the abnormal turning angles.

The condition discussed above normally will never occur in routine operations since the cockpit steering wheel cannot command a turning angle greater than 82 plus or minus 2 degrees. In some cases, however, when the nose wheels have been turned to the maximum turning angle while the airplane is stationary, the initial forward motion of the airplane can result in a skidding of the one nose gear tire which is in contact with the ground. This is undesirable from the tire wear standpoint alone but while in this condition, should the tire strike an obstruction on the ramp, such as the edge of an expansion joint, a rock or ice ridges which are common during winter operation, at an angle which tends to rotate the nose wheels further into the turn than the 82 degree commanded position, a hydraulic lock condition can occur as the wheels pass the 90 degree angle. This can also happen if, during a towing operation, the tow bar is removed from the nose gear with the wheels at the maximum towing angle.

To preclude further unnecessary delays as a result of the above situation, McDonnell Douglas recommends the following information and procedural changes to be implemented as soon as possible:

1. When parking the airplane at the ramp, the nose wheels should be turned to an approximately centered position before forward motion is stopped.

2. When the airplane is departing from the ramp, care should be taken to assure that the airplane is moving forward before a high angle of turn is established.

3. If a condition is noted wherein an apparent nose wheel steering lock exists with the cockpit steering wheel at or near the maximum turning angle, prior to any interruption of operational scheduling, the nose wheel steering by-pass valve should be actuated and the nose wheels returned toward a centered position (lower than 82 degrees) by use of the tow bar or by manual force. The by-pass valve should then be returned to the closed position and an operational check be made to assure that the nose wheel steering system is functioning normally. If normal operation is noted, the flight can be dispatched without further work being required.

From Delta Air Lines "Up Front"

## ON MILITARY LEAVE

The following Continental Airlines flight crew personnel have been recalled to active military duty:


| | |
|---|---|
| J. K. Fletcher | DEN |
| F. J. Gardner | DEN |
| J. E. O'Neill | DEN |
| J. C. Rich | DEN |
| J. L. Barrow | DEN |
| K. K. Kantola | DEN |
| J. R. Houser | DEN |
| T. H. Shaw | DEN |
| M. G. Mathias | DEN |
| G. A. Kowal | DEN |
| H. E. G. Blakely | LAX |
| R. S. McCall | LAX |
| R. E. Finley | LAX |
| R. L. Cranmer | LAX |
| D. L. Bigelow | LAX |
| F. Oster | LAX |
| W. N. Brand, III | LAX |
| C. Seiler | LAX |
| D. E. Tuttle | LAX |
| P. L. Shelton | LAX |
| L. B. King | LAX |
| P. L. Sisney | LAX |
| A. L. Rennick | LAX |

## UP-TO-DATE?

Current Manual Revision Status

The following are the revisions issued for a specific manual for the period ending September 30, 1968:

| MANUAL | LATEST REVISION |
|---|---|
| Operations | 68-19 |
| Boeing 727 Flight | 28 |
| DC-9 Flight | 37 |
| Boeing B320C/B720B Flight | 16/15 |
| Planning & Performance (International) | 51 |
| Planning & Performance (Domestic) | 53 |
| Flight Crew Training | 13 |
| Doppler | 5 |

If you have not received the latest revision according to the above list, send a note to: Supervisor, Manuals - Training Center, Room T-235, LAX.

The following pilots have been upgraded to Captain:

DENVER

| | |
|---|---|
| K. H. Johnson | (DC-9) |
| G. A. Fox | (DC-9) |
| W. R. Fischer | (DC-9) |
| D. E. Gentry | (DC-9) |
| H. E. Overton | (DC-9) |
| C. E. Hemingway | (DC-9) |
| D. E. Saas | (DC-9) |

DALLAS

| | |
|---|---|
| L. L. Rich | (DC-9) |
| R. F. Lemon | (DC-9) |
| K. D. Thompson | (DC-9) |
| W. R. Bynum | (DC-9) |
| T. A. Saunders | (DC-9) |

LOS ANGELES

| | |
|---|---|
| R. W. Reichardt | (720B, 727) |
| J. W. Johnson | (720B, 727) |
| L. Hamovitz | (B707) |
| A. J. Camarata | (B727) |
| C. R. Rogers | (B727) |
| E. Islava | (B727) |
| T. W. Rowan | (B727) |
| M. L. Reinig | (B727) |
| M. K. Lichenfeld | (B727) |
| J. A. Richman | (B727) |
| T. L. Herbert | (B727) |
| N. P. Stark | (720B) |
| E. R. Melone | (720B) |
| R. C. Pekrul | (720B) |
| A. B. Whittlesey | (720B) |
| W. G. Jennings | (720B) |
| J. F. Anderson | (720B) |
| G. M. Hemminger | (B727) |
| W. G. Stromblad | (B727) |

CONGRATULATIONS TO ALL OF YOU!?!

## GOOD OPERATING PRACTICES

A recent letter from the FAA Air Carrier District Office regarding operating procedures is excerpted below:

"a. Contact the tower at about 15 miles instead of waiting until you are close in.

b. Be particularly alert when near an airport -- zig and zag a little when changing altitudes.

c. Use radio, radar, and control personnel without worrying about 'exactness'.

d. Tell other occupants in the cockpit to 'ride shotgun' and point out traffic.

e. Eliminate any question of marginal visibility or cloud clearance by alternative actions.

f. Use navigation lights and rotating beacons -- they enhance navigation.

g. Review, understand, and follow the 'good operating practices' as described in the Airmen's Information Manual."

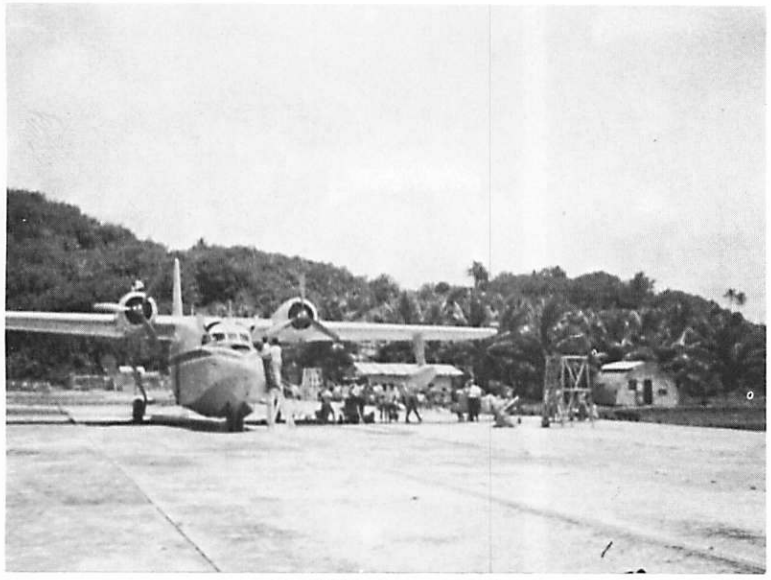
# THE "PROUD BIRD" IN MICRONESIA

Ever hear of a place called Koror? How about Moen? Or Langar? Would you believe Rota? No, we're not playing "Scrabble" or giving you answers to a cross-word puzzle. They're the names of airports and islands served by Air Micronesia, Continental's new associate in the Central Pacific.

Imagine an area composed of 2,141 tiny atolls and islands scattered over three million square miles. That's an area larger than the continental United States! Above-water real estate, however, covers only 687 square miles with a population of about 92,000. It's known as the Trust Territory of the Pacific, covering the Marshall, Mariana and Caroline island groups, and is administered by the U. S.

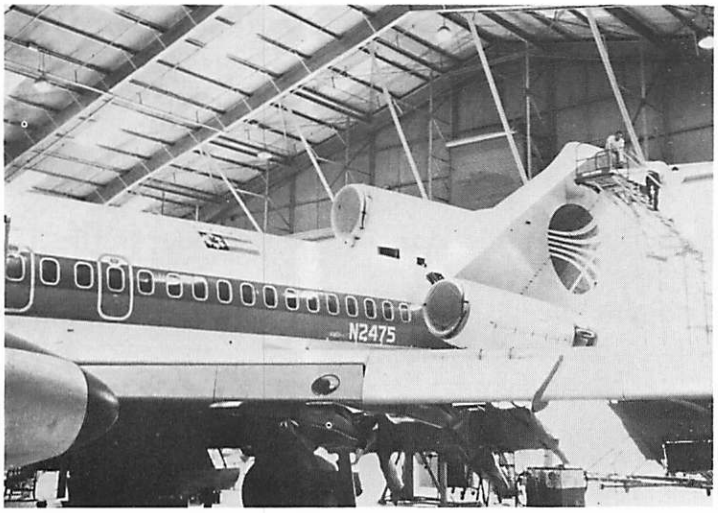
To Continental flight crew members and other company personnel assigned to the Air Micronesia operation, it's more than just a matter of statistics. Instead, it's a continuation of Continental pride and esprit de corps in being part of a pioneer effort -- creating and operating a new airline.

Travel writers have extolled the beauties of the islands as a new "paradise", a veritable Pacific "Eden", and conveyed images of far-away adventure and romance. Imitation of their efforts would certainly be additional flattery, but repetitive, so instead we've chosen to show you our Air Micronesia operation via photos. You'll find them on the following pages.....



Air Micronesia SA-16 Albatross sits on seaplane ramp at Ponape.

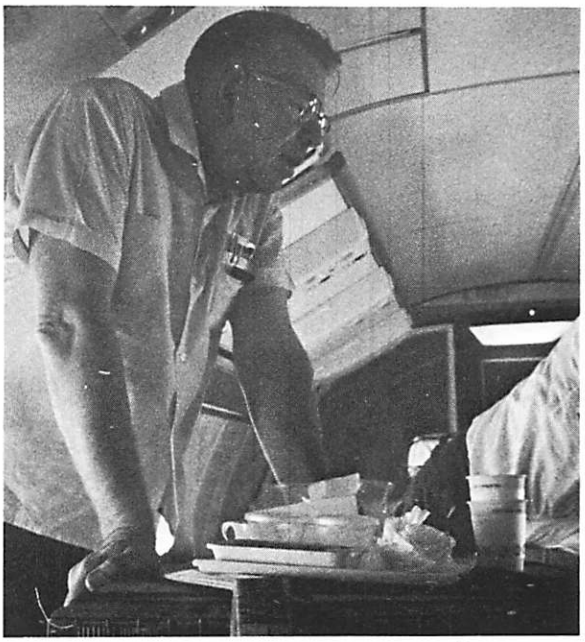
Ground crew at Yap moves passenger stairs up to Air Micronesia DC-6. Note native dress of man in middle.




Putting finishing touches on B727 (N2475) at Pacific Airmotive in Burbank, Calif. prior to being placed into service for Air Micronesia.

photo courtesy of Jac. D. Meacham

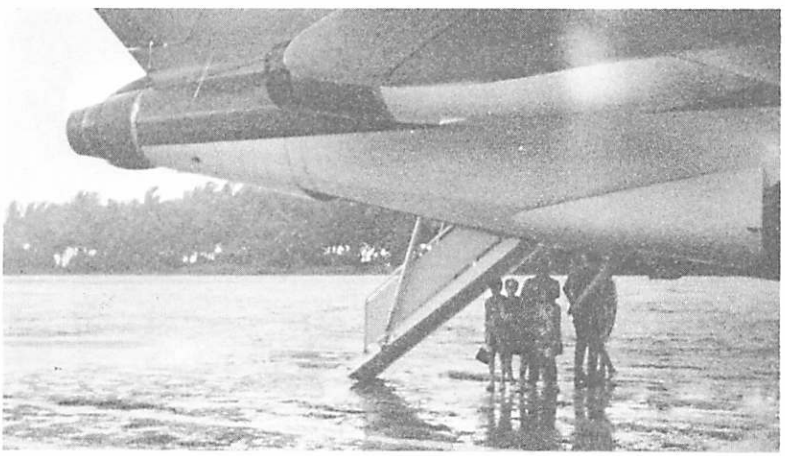
Two brothers drive one of the last remaining signs of Micronesian life as it was in the near past. Like our horse and buggy, this scene is rapidly being replaced by cars, trucks and asphalt roads.



K. A. "Ken" Moore, Manager of Electronics and Electrical Engineering, in upper cargo compartment of Air Micronesia B727.


Terminal facilities on Saipan - "Gateway to Micronesian Beauty".

AIR MICRONESIA



Passengers deplaning from aft stairway of Air Micronesia B727 during rainstorm on Majuro.

Richard M. Adams, Senior Vice-President of Operating and Technical Services, stands atop a demolished Japanese Zero on the island of Yap.

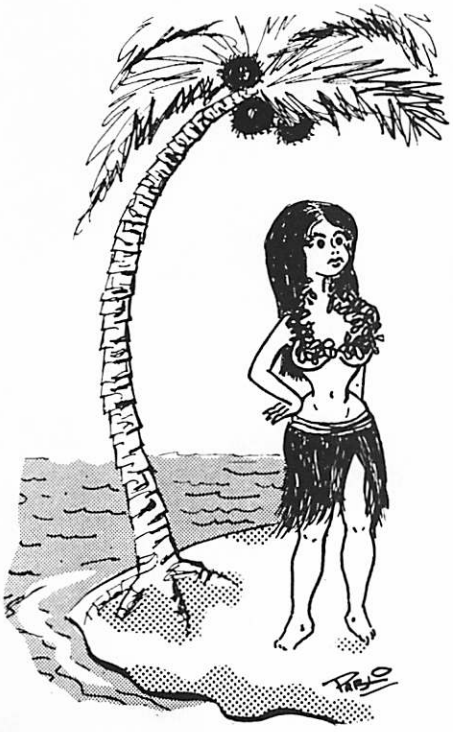


photo by Continental Airlines Publicity Dept.

Earth and sky blend to silhouette Air Micronesia DC-6 on the island of Yap.

R. P. "Dick" Kelly of Flight Control, with Air Micronesia DC-6 in background, on Yap.

photo courtesy of Jac. D. Meacham

A tourist visits a shrine on Saipan dedicated to the 9144 Americans killed during the battle for the island during June and July, 1944.

First Officer John Jensen scans skies ahead while maintaining radio watch in flight on Air Micronesia B727.

photo courtesy of Jac. D. Meacham

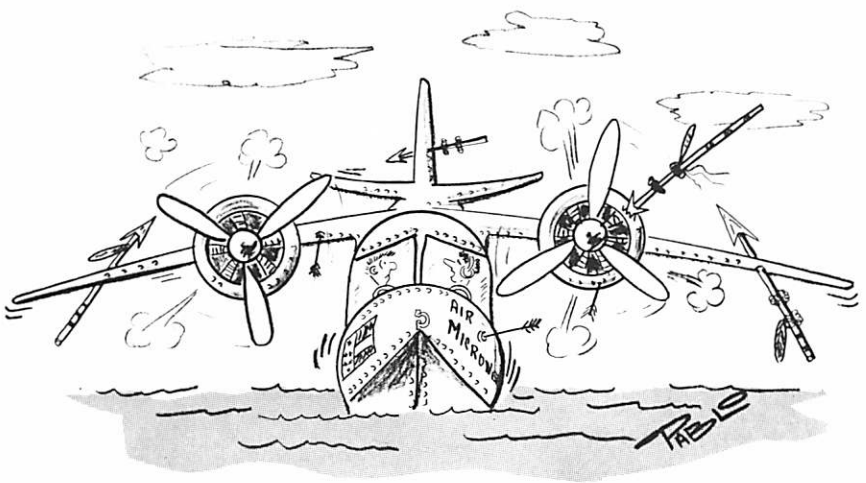
A Palauan craftsman is telling a Micronesian story in a way they've done for centuries --- via the story board. In the background, his son begins his long and arduous apprenticeship.

Capt. R. C. Ragan checks flight instruments of Air Micronesia SA-16 Albatross prior to take-off. Capt. Ragan is a former pilot of Continental Air Services in Southeast Asia.

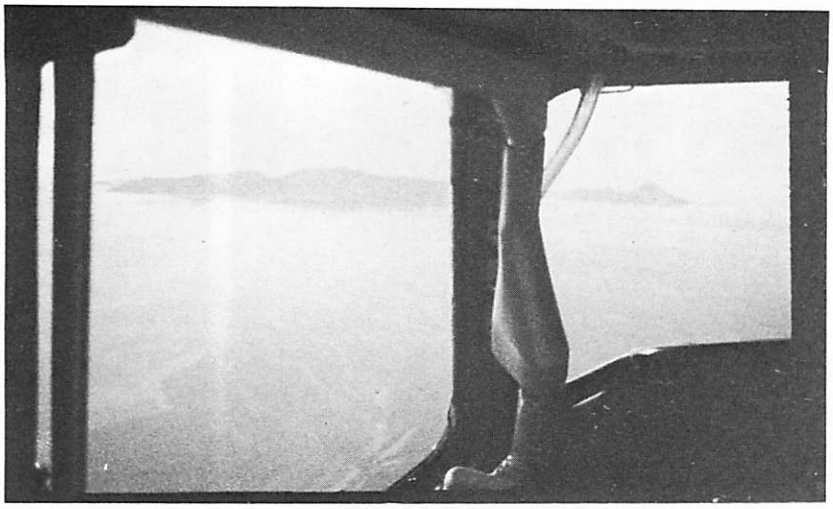
photo courtesy of Jac. D. Meacham

Many stories and authors, including many long hours, contributed to this collection of story boards. They range in size, shape and content --- just as do our bestselling novels.

W. T. "Bill" Roberson, Jr., Director of Line Station Maintenance, and T. L. "Ted" Tansy, Maintenance Supervisor at PGUM, in earnest discussion aboard Air Micronesia B727.




"They tell me the natives on some of these islands have never seen an airplane."



Air Micronesia B727 approaching the island of Truk. Photo taken from observer's seat in cockpit.


R. A. Stolp, Maintenance Supervisor at PGUM, stands near Air Micronesia SA-16 Albatross on Ponape.

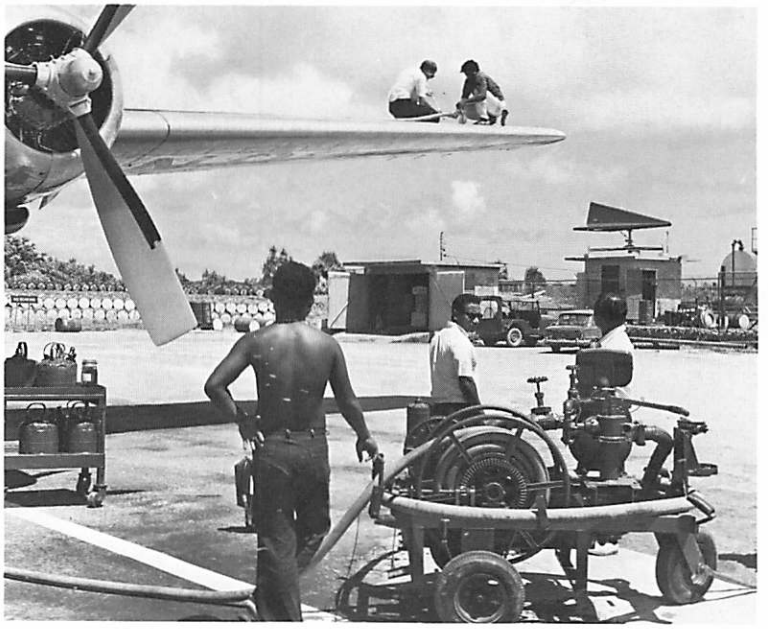
Terminal facilities on the island of Yap, in the Caroline Islands. Note the comfortable air conditioning.

Passengers board Air Micronesia DC-6 on the island of Yap.

Capt. W. I. "Bill" Knowles, Flight Manager - International, at controls of Air Micronesia B727.

Air Micronesia DC-6 flight crew members and ground personnel gather for a conversation prior to take-off. Wayne Parrish, editor of "American Aviation" magazine, has his back to camera.

photo by Continental Airlines Publicity Dept.



An Air Micronesia flight crew member checks fuel load on the DC-6 aircraft at Yap, while ground personnel watch the operation.

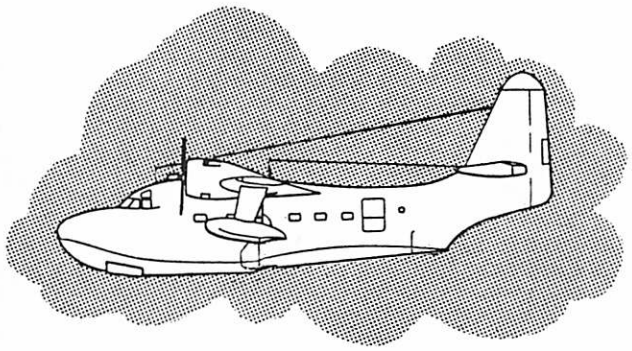
photo by Continental Airlines Publicity Dept.

Air Micronesia B727 and SA-16 Albatross on the ramp at Truk. Note the terminal area across ramp and the ocean in left background.

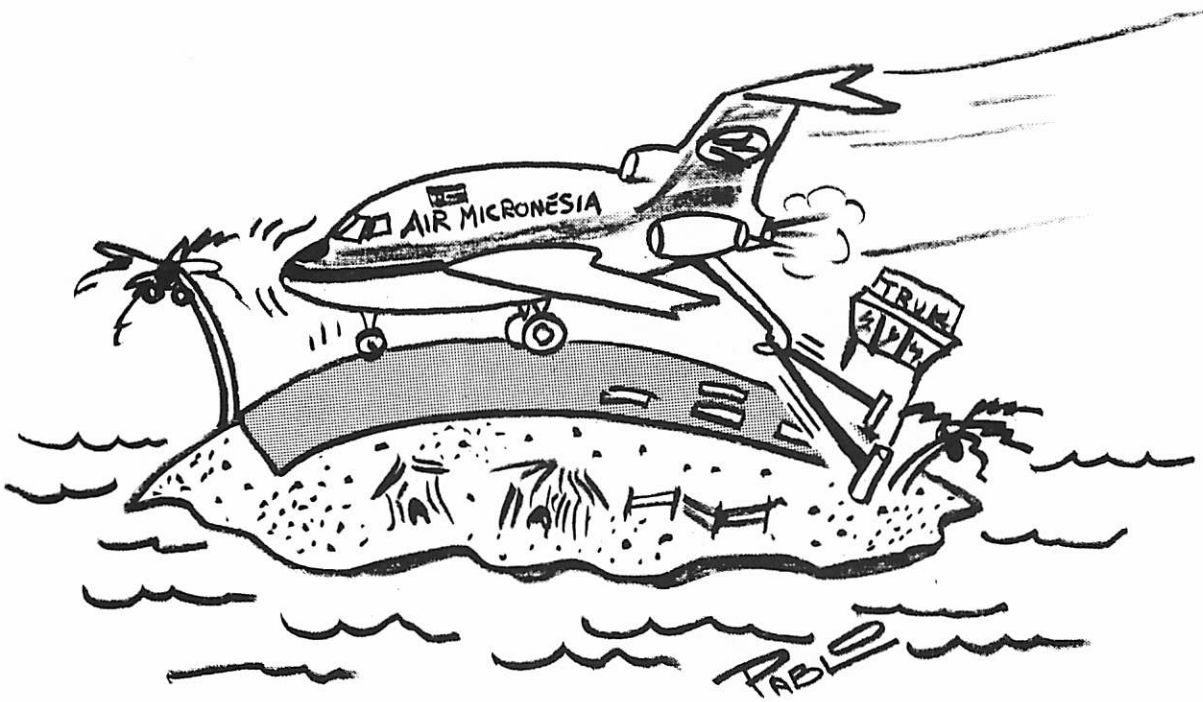
photo by Continental Airlines Publicity Dept.

photo by Continental Airlines Publicity Dept.

View from above of the runway at Truk. Note how approach and departure patterns extend over the ocean.



AIR MICRONESIA




"Who said we couldn't do it?"

All flight crew members might utilize the following as a reminder that cockpit procedures during approach -- in fact, at all times -- require continuous observance. Incidentally, the incident did not occur at Continental Airlines.

"The aircraft, a DC-8, approaching the land terminal from over water. Thirty miles from destination, the weather.....clear with thin scattered layer at 1700 feet.

The flight had been routine from the point of departure. The First Officer was flying.....while the Captain handled communications. The flight was descending from FL 330 to 6,000 feet, as cleared.

As the aircraft neared an apparent altitude of 10,000 feet, the Captain suggested reducing to approach speed of 250 knots. As the First Officer eased the nose up to reduce speed, he, the Second Officer and the Captain simultaneously realized that the altitude they were approaching was sea level.

A smooth recovery and climb out was executed and a normal landing made at the destination. Neither the cabin attendants nor passengers were aware of the occurence.

The subsequent interview with the crew and study of the Flight Recorder Tape revealed:

a. The Captain had been engaged in communication with ATC and had also been attempting to locate traffic.....using the weather radar. He had announced passing through FL 300 and 200.....but not through 10,000 feet.

b. The First Officer was unable to maintain a "lock-on" with desired VOR and was trying other stations.

c. The Second Officer was engaged at the engineer's panel. He noted that he had no pressurization and was thus alerted to the situation by the position of the manual pressurization control.

d. The Navigator was in the process of clearing his desk. His responsibilities for navigation cease when radio landfall is made.

e. Standard Operating Procedures require the Captain and First Officer to set their radio altimeters to 1500 feet when beginning a descent. After passing 1500 feet, the pilots then set the altitude of their choice for a warning. In this case, the Captain selected 100 feet initially while the First Officer selected no altitude at all. The Second Officer failed to challenge this breach of procedures.

f. A study of the Flight Recorder Tape indicated:

   1. A normal enroute rate of descent (2000 fpm) from FL 330.

   2. A stable airspeed.

   3. A roundout at 160' MSL and smooth climb to cleared altitude."

## BLOOD SUGAR LEVELS

At several recent ATA Flying Incidents Review Meetings, the importance of pilots having something to eat or drink before a flight, particularly on early morning schedules, was discussed. The ATA Medical Committee concurs in recognizing this importance and recommends that information on this subject be brought to the attention of all airlines for dissemination to their flight personnel as appropriate.

Early morning takeoffs, short overnights, broken rest periods, as well as metabolic doldrums resulting from time zone differences between home base and turn around base, are recognized as a part of the airline pilots' working conditions and much conversation has been made on a pilot's efficiency or proficiency under these conditions. In order to maintain this efficiency, it is recognized that an adequate level of blood sugar in the body must be maintained. A normal blood sugar concentration is necessary for proper body function. It is known that blood sugar in the body rises after a meal reaching its peak in 30 to 60 minutes and then begins to drop back down after that. Ingestion of simple sugar, such as candy and table sugar causes a very rapid rise in the blood sugar content in the body within about 30 minutes followed, however, by a rapid fall which in some cases, may drop below normal levels in about 3 to 4 hours afterward. Ingestion of protein generally causes a more gradual rise and fall with less variation in the height and depth of the blood sugar levels. It is suggested that a high protein meal or snack with a beverage could maintain blood sugar better than anything else.

Advice to pilots should be that they always eat upon arising and continue to have small frequent meals or snacks (at least every 4 hours) until the termination of their flight or work day. These meals or snacks should always contain an adequate amount of protein with modest amounts of carbohydrates and fat. It is suggested for a snack that something like a cheese or peanut butter sandwich with a beverage something like cocoa be used. The use of candy and sugar for "quick energy" although helpful in emergencies should generally be discouraged. In this context, a beverage like cocoa is preferred over coffee. The reason is that while coffee with sugar will raise the blood sugar level for a very short time, it takes a beverage like cocoa to maintain it.

In summary, the ATA Medical Committee recommends that, particularly on early morning schedules, a meal should not be foregone for the sake of an extra 30 minutes of sleep. Blood sugar in the body at the proper level is most important to the flight crew member's health, efficiency, and safety.

From "ATA Medical Committee Bulletin 67-B-67"

○○○

## "RIDING SHOTGUN" - NEW STYLE

A new Federal Aviation Administration regulation allows U. S. Secret Service agents to ride on the flight deck of an airliner carrying persons they are protecting. The regulation became effective July 26, 1968, and is quoted verbatim:

"Contrary provisions of the Federal Aviation Regulations notwithstanding, whenever an Agent of the Secret Service who is assigned the duty of protecting a person aboard an aircraft operated by an air carrier or commercial operator, considers it necessary in the performance of his duty to ride on the flight deck of that aircraft, he shall upon request and presentation of his Secret Service credentials to the pilot in command of the aircraft, be admitted to the flight deck and permitted to occupy an observer seat thereon."

# DELAY IS A DIRTY WORD

The passengers have settled comfortably into their seats, the flight crew has completed the check list, the spectators wait to wave good-bye, an air of businesslike expectancy prevails, and then--nothing happens. You are having a delay. There you sit--until somebody, somewhere, decides that it's all right to go.

It's very embarrassing. You start to think--what kind of an operation is this? This is a scheduled airline? Why can't they ever get things organized? The passengers are thinking the same thing. How many connections will be missed? How many business appointments delayed?

Behind the scenes, other people are feeling the same way. To Continental management, delay is a dirty word. You may feel perturbed that there should be a delay, but management is outraged. The very purpose of an airline is to operate on time. Profits depend upon reliability and delays are taken very seriously. Of course you know this, but you wonder--why don't they do something about it?

What you may not know is that Continental makes one of the most extensive, concentrated efforts in the industry to control and eliminate the causes of delays. We'd like to tell you something about it and about what you can do to help.

First of all, to begin solving a problem, we have to know all that we can about the nature of the problem. Therefore we have a delay reporting system that records every delay, even if it's only one minute, and assigns responsibility for it. Note that we say responsibility, not blame. More of this later.

This reporting system is set in motion by the flight crew when they report the "out time" from the station from which they have departed. In common with most major airlines, Continental assigns time reporting to the pilot. In general, this has worked well. However, it works well only if the cockpit clocks are checked frequently for accuracy and if the time report is made promptly. If, as infrequently happens, you forget to report the time out or in, the system suffers.

Once the out time is reported and if the flight is late, the system goes into high gear. The ground personnel make a quick decision as to what was the main cause of the delay and assign a code number to it. There are 36 different basic causes of delays, each with a code number. The delay code, along with the amount of the delay, becomes part of the station dispatch report which is transmitted on the teletype within a few minute of departure.

What happens then? Let us say, for instance, that your flight is delayed at the gate at ORD for 26 minute awaiting taxi clearance. This happens to be a code 22 delay. The delay is transmitted in the dispatch report and is immediately known to other stations and to Flight Control. Flight Control not only publishes a flight advisory stating that your flight is 26 minutes late, but also goes to work to try to keep your delay from affecting a subsequent flight.

Perhaps your aircraft is scheduled for a fast turnaround on arrival at LAX. Your delay will delay the subsequent flight. Flight Control and Aircraft Routing search for another aircraft to replace yours. Sometimes this is not possible, and a choice has to be made as to which of two or three outbound flights will absorb the delay. This involves passenger loads, connections, subsequent routing of aircraft, crew availability, and numerous other factors, including the possibility of third and fourth generation delays arising from the original taxi delay at ORD.

But to get back to the delay reporting system, let's see what happens next. Your delay has gone into the computer. The next morning, the computer issues a summary of all flight operations, including the code numbers and amounts of all delays. All departments have access to this summary.

At the same time, the stations transmit to Headquarters a delay report for each chargeable delay. Armed with these delay reports and the computer summary, each division (Operations, Maintenance, Sales and Service, Corporate Planning) analyzes what happened the previous day. Following the digestive process, there is an inter-division meeting called quite simply, the "delay meeting", where these delays are discussed.

At the delay meeting, the emphasis is on two things: (1) What really caused the delay, and (2), what can be done to keep it from happening again? The probing can be agonizing, but is constructive. Blame is not assigned, but responsibility is. The responsible division goes to work to try to cure the problem. If the problem continues, it becomes a major subject of discussion in future delay meetings.

As time goes on and information accumulates, long-range planning enters the picture. Maybe time has proven that a particular flight has too short a schedule, or that a particular turnaround time is not realistic. Or perhaps a station simply needs more personnel at a certain time. These things are analyzed continuously and adjustments made as the need is seen.

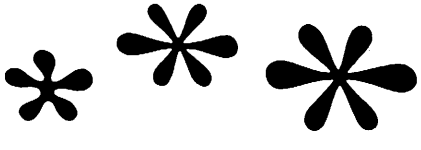
There is lots more to the system, but let's return to the individual pilot, dispatcher, or station agent. What can he do to help?

First, realize that every shred of information about delays is taken seriously. One of our biggest problems is getting people to realize this. OK, you report something about a delay, or make a suggestion on your flight envelope. Chances are you never hear anything about it and may feel that nobody cares. But this is absolutely untrue; it's just that it's almost impossible to acknowledge the hundreds of useful contributions that people make. Each item is reviewed carefully and many are acted upon. However, you may never know this unless there is a question or a problem that has to be discussed with you.

Second, try to think of better ways of doing things. Don't be afraid of being laughed at--that happens to all of us. After all, the individual doing something is usually best qualified to suggest improvements. If you have a legitimate complaint about a delay, fine, state it. But always try to put something constructive in your statement. That's what really helps.

We know that the dirty word--delay--will be part of our vocabulary for a long time. We'd like not to have to use it very frequently. We want you to know a little of what we are doing about it and to ask for your continuing help.

H. D. "Dave" Gatch--Flight Control



# FROM THE CONTROLLER TO THE PILOT

by Harry McIntyre (Chicago O'Hare Tower)

At an Airline Pilot-Controller Forum held in Chicago last winter, there were a variety of subjects discussed concerning the day-to-day techniques of Air Traffic Control. The theme of the Forum, "Cooperation from Pilot and Controller," was indicative of the great need for close pilot-controller harmony to enhance the overall ATC operation. The tack taken in developing the theme was that, while there is an excellent overall working relationship between pilots and controllers, we (pilots and controllers) should strive to continually build upon a sound basis of mutual respect and consideration. A genuine regard for that "other" voice on the mike can be gained only through an atmosphere of mutual respect and consideration. This in itself surely makes both our jobs a bit easier and far more enjoyable. Just as the "smile" helps us over difficult hurdles, so does the "friendly voice" in the speaker.

Some of the items brought forth during the round table discussion could generally apply nationwide. No doubt most are well-known and practiced, but since none of us are infallible, perhaps a review of a few techniques discussed at the forum may serve as a check on our style. Many times it is those "little things," sometimes overlooked, which make any operation run smoothly.

When an aircraft has to go-around (after a long hold or vector) through no fault of the pilot, efforts should be made to get him back in the sequence with as little delay as possible. Going to the top of the stack or end of the line seems a little penalizing.

All of us are creatures of convenience, so maybe that is why the long roll-out to capitalize on a shorter taxi route to the terminal gets to be so popular. At any busy airport with landings and take-offs lined up in endless succession, this little "convenience" works a "hardship" on the successive landings and takeoffs.

Controllers should not ask pilots to change to departure control until the aircraft is well past the rotate stage and the gear doors are closing. The pilot is quite a busy fellow for those first few seconds after lift-off! (common complaint)

Pilots should not automatically change to departure control frequency (even with previously assigned frequency-except military) because the local controller may have last-second revised control instructions.

This one helps the ground controller: pilots, when multiple landing runways are in use, the little "extra" of identifying your runway and exit point really helps!

In the interest of reducing frequency congestion, pilots in jet aircraft lined up for takeoff should not call "ready for takeoff" until they are number one. Since it is obvious that every other jet in line ahead is also ready, a quip to the tower saying that "we're ready" forces the controller to reply: "Roger, a number umpteen to go." Accomplishment? Added frequency congestion.

When the approach controller advises to "report the outer marker to the tower" - ever think it does any good to call prior to the marker? Usually it does not - only results in a repeat by the tower controller advising to "report the marker."

Speed control? This one was hashed over at great length, arriving at a general consensus that speed control is the most effective technique in maintaining an even interval between arrivals. However, many pilots felt that speed control was sometimes used excessively. How about it?

Like the visit to the ATC facility and the ride in the "jump seat," the pilot-controller forum contributes toward a better understanding of each other's problems, duties and viewpoints. Usually, understanding the reasons behind the "why's" results in greater cooperation. And maybe you will find that the "other" voice on the mike can be a very understanding fellow!

This leads me to conclude that, given the best facilities, equipment, airports and procedures in the world, it is the men on the "mike", pilots and controllers, through cooperative efforts, that make the operation run smoothly.

Let's keep each other "tuned in."

Reprinted from "Journal of ATC, July 1967", Air Traffic Control Assn.

NEWARK EVENING NEWS,
FRIDAY, FEBRUARY 5, 1937

## *Air Lanes*

* * *

O. R. Haueter, the only man who ever "spun" the Eagle Rock Bullet and lived to tell about it, will return to Kansas City tomorrow. He has been acting as night flight dispatcher at TWA here for a month.

Haueter, who is 37, made his solo flight in 1920 and learned to fly with the barnstormers around Arkansas City, Kan. He flew mail for Colorado Airways out of Denver in 1925 and then was test pilot for Alexander Aircraft until 1929.

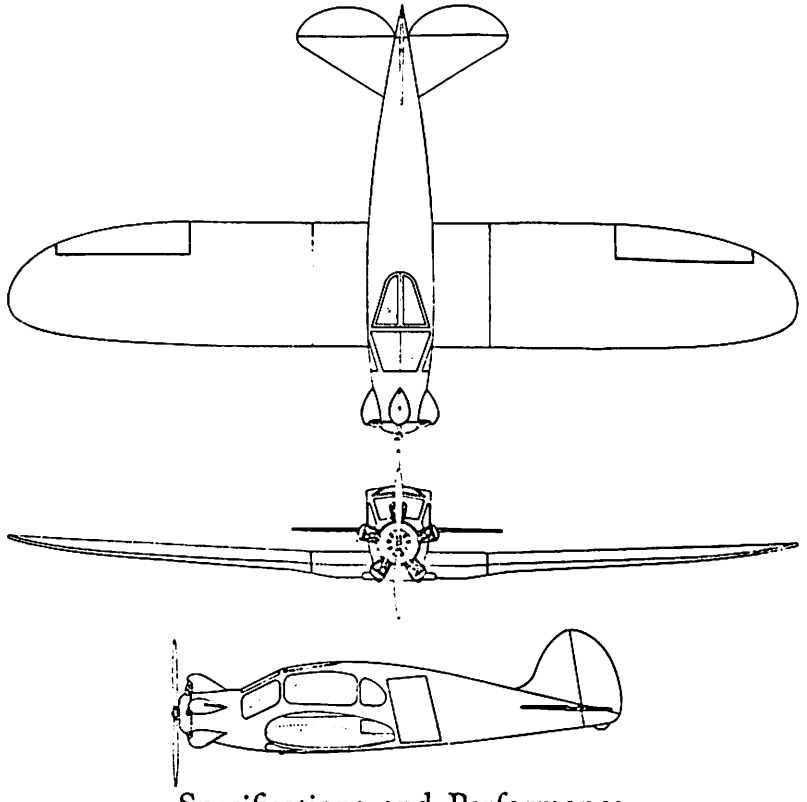
**WEIGHT SAVED HIM**

There he tested the Bullet, threw it into a spin and couldn't get it out. He was just about to bail out by kicking through the roof of the cockpit when his weight straightened the ship and he landed okay. Three men had been killed trying the same thing.

Haueter was associated with the Von Hoffman Air College in St. Louis and flew for NAT (later UAL) until the air mail cancellations. He joined TWA in 1934.

* * *

## EAGLEROCK BULLET



### Specifications and Performance

*(Exhaustive flight tests show the following performance figures to be guaranteed plus or minus 5 per cent.)*

| | | | |
|---|---|---|---|
| Wing Span | 38 ft. 7 in. | Payload | 670 lbs. |
| Wing Area | 202 sq. ft. | Disposable Load | 1,100 lbs. |
| Height Over-all | 8 ft. 3 in. | Fuel Capacity | 40 gals. |

**With Kinner, 100 H. P. Motor**

| | | | |
|---|---|---|---|
| Length Over-all | 21 ft. 7 in. | Landing Speed | 42 m. p. h. |
| Weight Empty | 1,150 lbs. | Climb, Sea Level | 640 ft. per min. |
| Normal Gross Weight | 2,250 lbs. | Service Ceiling | 11,000 ft. |
| High Speed | 130 m. p. h. | Normal Range | 683 mi. |
| Cruising Speed | 111 m. p. h. | Fuel Consumption | 6.5 gal. p. h. |

**With Wright, 150 H. P. Motor**

| | | | |
|---|---|---|---|
| Length Over-all | 21 ft. 1 in. | Landing Speed | 45 m. p. h. |
| Weight Empty | 1,300 lbs. | Climb, Sea Level | 838 ft. per min. |
| Normal Gross Weight | 2,400 lbs. | Service Ceiling | 15,000 ft. |
| High Speed | 150 m. p. h. | Normal Range | 612 mi. |
| Cruising Speed | 127 m. p. h. | Fuel Consumption | 8.3 gal. p. h. |

CONTINENTAL

# Class of AUGUST 28, 1967

R. V. BOCH

ON MILITARY LEAVE

W. N. BRAND, III

E. T. BROWN

L. J. COLOMBO

D. R .DUFFER

H. E. GULLAKSEN

PHOTO NOT AVAILABLE

F. J. HALL

H. H. HARVEY

R. J. HILLMAN

T. E. MARTIN

F. D. McCREADY, JR.

PHOTO NOT AVAILABLE

G. R. NEFF

ON MILITARY LEAVE

F. OSTER

PHOTO NOT AVAILABLE

D. A. OROZCO

P. H. OWENS

J. C. RAMSDALE

T. R. REED

J. B. RILEY

F. N. SANCHEZ

*Welcome Aboard !*

CONTINENTAL

# Class of APRIL 29, 1968

E. A. AYLWARD

J. H. BEERER

J. L. BEYNON

R. W. BLEADON

PHOTO NOT AVAILABLE

L. W. COTTINGHAM

W. K. DARROW

L. V. EDMONDS

D. K. JOHNSON

J. E. LINNEMAN

G. G. LYCAN

J. C. MANOLAKIS

J. M. McGIVAREN, JR.

W. W. OLSEN

V. B. OWENS

R. C. PECHULS

R.W. RALSTON, JR.

M. B. ROCHE

M. J. SHADWICK

D. C. TERRY, JR.

L. J. WEHNER

K. B. WINTENBURG

*Welcome Aboard!*

# Class of APRIL 8, 1968

PHOTO NOT AVAILABLE

G. A. CORDINGLY

K. M. GAMBLE

J. R. HARTMAN

PHOTO NOT AVAILABLE

L. L. HARTMAN

W. D. HICKS

J. D. HILL

R. L. HUTTEN

P. A. JOHNSON

W. W. KENNEDY

J. M. KILPATRICK

R. N. WALTON

R. G. WENZEL

A. B. ZAMBRANO

## Welcome Aboard!

# Class of MAY 20, 1968

R. F. BEAGLE

D. M. BURROWS

M. M. CONLIN

PHOTO NOT AVAILABLE

R. A. FOLEY

G. G. GREENAMYER

D. D. GRIFFIN

J. R. GRUMBLES, III

PHOTO NOT AVAILABLE

J. S. HENDERSON

M. A. HIETT

E. R. MOERMAN

E. B. O'QUINN

D. J. PISTOLL

R. G. TABOR

# Welcome Aboard!

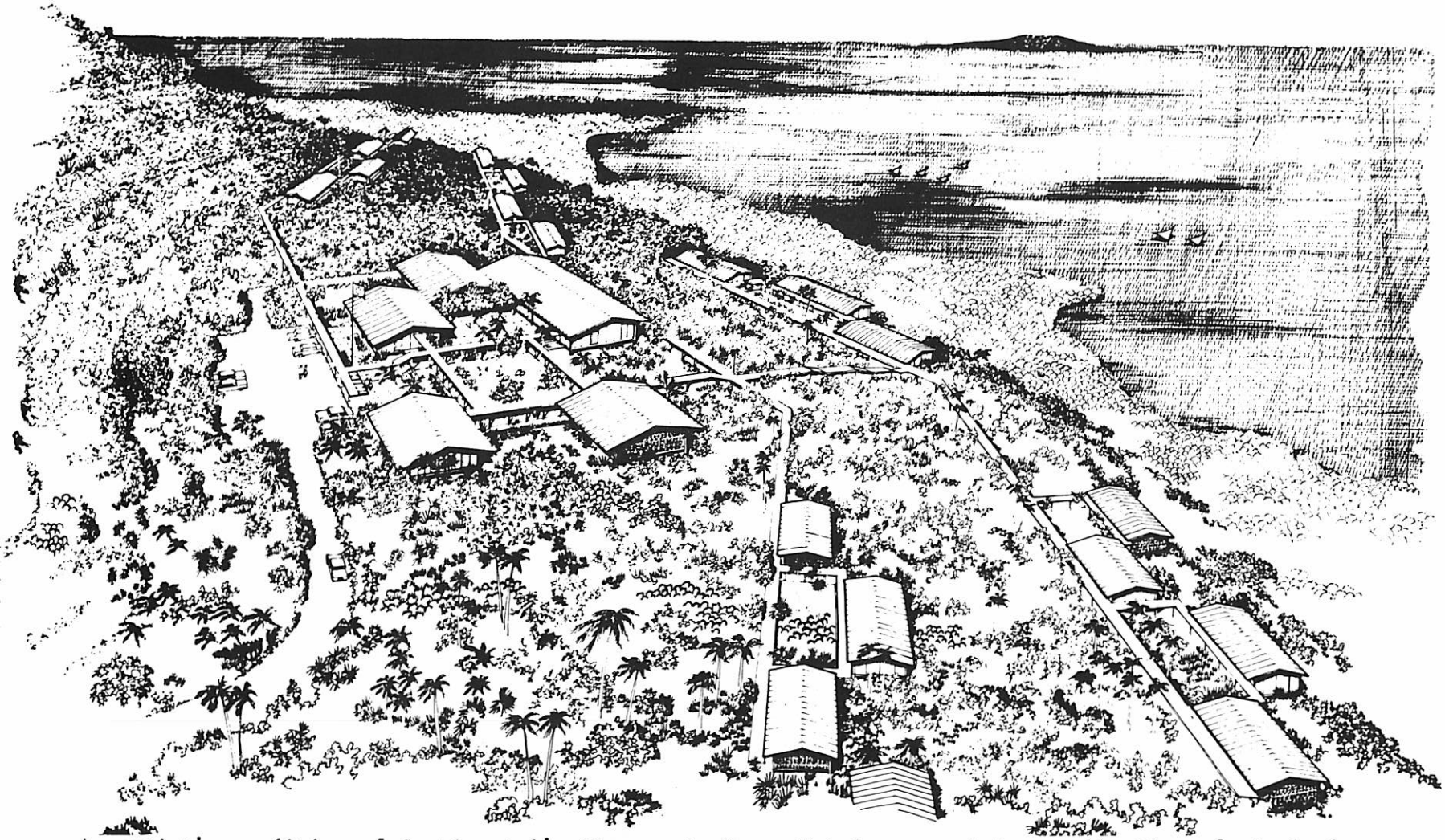
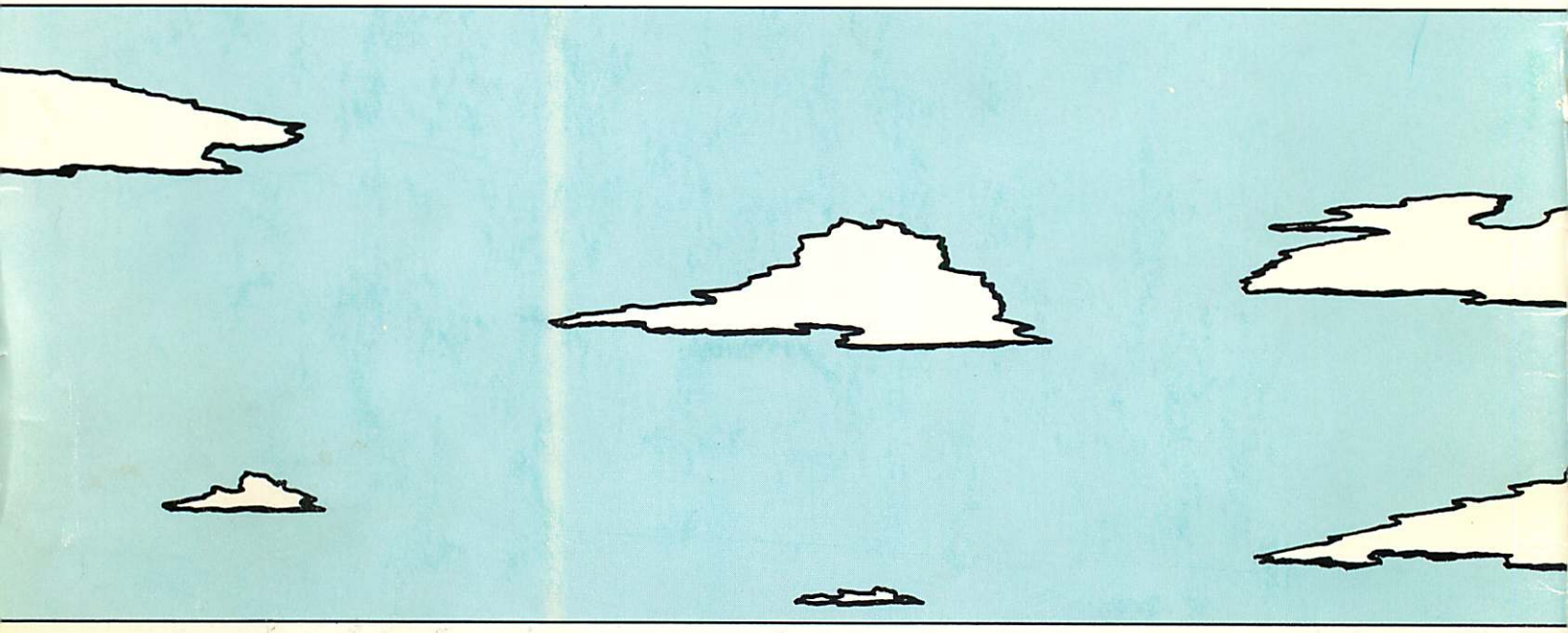


photo by Continental Airlines Publicity Dept.

An artist's rendition of Continental's Micronesia House Hotel proposal is a collection of simple low-lying structures blending with the island landscape. Informally grouped around a palm-shaded patio, the central facilities include a dining room, bar, shops and administrative offices. The guest rooms are scattered along footpaths that lead from the main buildings. The four bedroom units are oriented to the trade winds and are widely spaced for maximum privacy and enjoyment of the lush scenery.

CONTINENTAL AIRLINES

fall-1968



CONTINENTAL