

The THUNDERBIRD



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 Paul G. Sturges, Director
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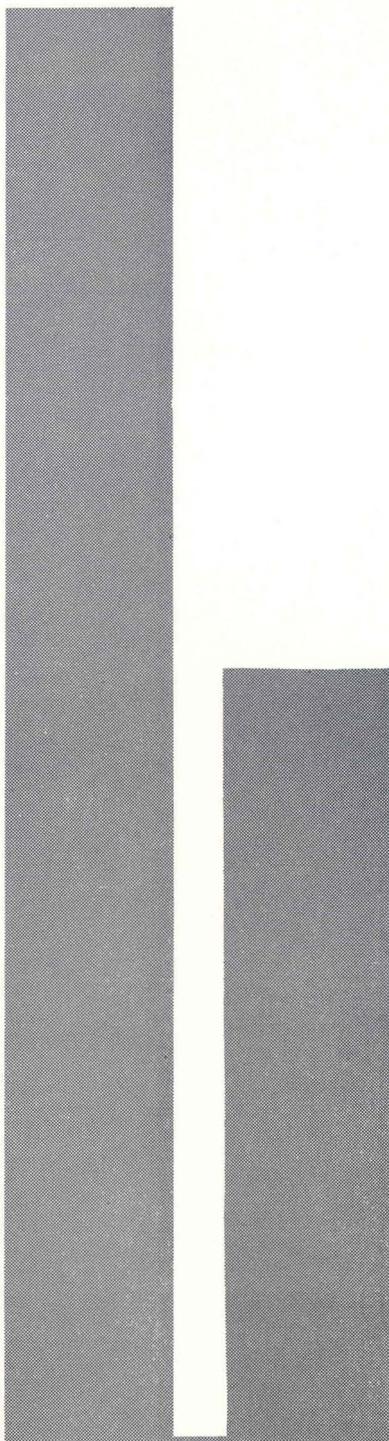
THE COVER

Every minute counts when you're learning to fly for Uncle Sam's Air Forces. Cadets are required to spend 65 hours aloft in their primary training phase and individual students keep religious check on every airborne second. On this month's cover, John Swope has crystalized in an unusual photograph the somber intent of a pilot marking new entries into Form I, which is the official record of his flight time.

BACK COVER

Pictures and story of the new wing rack constructed recently in Southwest's Overhaul Depot. The rack, a time-saver in effort and storage space, is the forerunner of a series of time and labor-saving aids soon to be added to the Overhaul Division.

% Engine Production



Feb., 1944

Feb., 1943

SOUTHWEST STATISTICS

February, 1944, statistics show substantial gains in number of hours flown, cadets trained, planes operated and people employed at Thunderbird and Thunderbird II, over the same month last year.

At Thunderbird II there was an increase of 73.66 per cent in the number of hours flown. Also at that field there was an increase of 34.87 per cent in the number of cadets trained, 49.55 per cent in the number of planes operated, and 24.43 per cent in the number of employees.

At Thunderbird field the increase in the number of hours flown was 45 per cent, in the number of cadets trained 26.54 per cent, 26.17 per cent in the planes operated, and 20.62 per cent in the number of employees.

Aircraft of the Air Transport Command area airline operated by our Cargo Division flew the third largest number of miles in 16 month's history of the operation during February, and also carried more than 100,000 pounds of high priority military freight and mail, which was a 31.93 per cent gain over the same month last year. February's mileage total was 190 per cent more than was flown in February, 1943. Despite the fact it was the shortest month of the year, February was only the fourth time that a single month's cargo total climbed above the 100,000-pound mark. Number of shipments carried also was the third highest in the operation's history.

At the Overhaul depot, engine production was up 83.33 per cent and aircraft production increased 20 per cent over last year. (See graph.)

In February, 1943, when Southwest officials looked over the gains made during the year there was an increase of 98.54 per cent in the number of hours flown, 361.05 per cent in the number of cadets trained and 155.04 per cent in the number of employees. At the end of February, 1944, Southwest was still growing with an increase of 157.62 per cent in the number of hours flown, 469.12 per cent in the number of cadets trained and 213.95 per cent in the number of employees over the February, 1943 figures.

This Month In Brief

COMPANY

Vice-President Jim Ray, representing Southwest Airways in hearings before the Arizona Corporation Commission on intra-state air service recommends deferment of franchise until present material shortage is over . . . Hearings before the Civil Aeronautics Board on Southwest's application for area airline routes on Pacific Coast expected to be scheduled early this summer . . . Fields commended as Fred Waring's Pennsylvanians give nationwide radio salute to Army Air Forces Flying Training civilian contract schools.

CARGO DIVISION

CONTRACTORS TO AIR TRANSPORT COMMAND

Aircraft fly third largest number of miles in the 16 month's history of the operation . . . also carry more than 100,000 pounds of high priority Army Air Forces freight and mail.

FALCON FIELD

CONTRACTORS TO ROYAL AIR FORCE

Royal Air Force officers exchange posts . . . New fire fighting equipment added . . . First aid kits now essential part of all civilian and R. A. F. parachutes.

OVERHAUL DEPOT

CONTRACTORS TO AIR SERVICE COMMAND

First ship received by Depot comes back for its second teardown . . . New wing rack simplifies and speeds up production flow . . . High speed grinding table boosts production of cylinder rings.

SKY HARBOR

CAA-APPROVED PRIMARY AND ADVANCED FLIGHT SCHOOL

Conversion from Army to civilian operation nearly completed . . . Ground school classes enlarged and additional training equipment added.

THUNDERBIRD FIELD

CONTRACTORS TO AAF FLYING TRAINING COMMAND

Field celebrates third year of operation . . . Official confirmation received of more than 500 decorations awarded ex-Thunderbirds . . . Cadet chalks up highest ground school grade of any cadet so far trained—99 per cent . . . Squadron Five wins safety contest with fewest accidents per number of cadets graduated. . . . Twenty-four more employees receive tenure of service pins . . . Ground school chief builds training aid to simplify class instruction.

THUNDERBIRD II

CONTRACTORS TO AAF FLYING TRAINING COMMAND

Squadron Five wins safety contest, graduating highest number of cadets with lowest number of accidents. . . . Post guards have interesting jewelry hobby . . . Maintenance man devises brush guard to protect ailerons on airplanes being towed from auxiliary landing fields.

Well—Do We?

Do we need any more reasons for working hard and buying bonds?

The over 150,000 dead, wounded, missing and prisoners of war, are they not enough cause for our contributions?

What of the 22,200 American and Filipino war prisoners who died of Japanese mistreatment in one Philippine prison camp during the first few months of their detention; have we forgotten them?

No—the bestiality visited upon the fallen heroes of Bataan and Corregidor merely add eighteen more counts against the enemy, eighteen more motives for supporting war loan drives.

The report to Tokyo, transmitted through neutral Switzerland, charged the Japanese with eighteen specific counts that:

1—Swiss representatives handling American interests in Japan have not been allowed to go every place where war prisoners and civilian internees are held and have not been permitted to interview them without witnesses.

2—Representatives of the International Red Cross Committee have not been allowed to visit most places where the Japanese hold Americans.

3—Americans have not been permitted to send complaints to Japanese authorities or Swiss representatives.

4—The Japanese have punished or threatened to punish anyone complaining of ill treatment.

5—Japan has failed to furnish needed clothing.

6—Japan has confiscated personal effects both from civilians and war prisoners.

7—Both types of prisoners have been subjected to insults and public curiosity.

8—They are suffering from malnutrition and disease caused by Japan's refusal to provide proper food or permit the United States to send it in.

9—The Japanese have devoted to improper and forbidden use profits made from the sale of goods at camp canteens which, under law, should go to welfare services there.

10—American civilians have been compelled to perform labor not connected with the operation of their camps. American officers have been forced to work and noncommissioned officers to do work they are not legally obliged to do.

11—Prisoners of war have been required to work on behalf of Japanese war operations.

12—Medical care has often been denied both classes of prisoners and when given has been so poor as to cause "unnecessary suffering and unnecessary deaths."

13—Japan has reported the names of only a part of the prisoners held and of American combatants found dead.

14—It has not permitted prisoners and internees freely to exercise their religion.

15—It has failed to post the Geneva convention in English translation in camps, thus depriving the internees and prisoners of knowledge of their rights.

16—Japan has failed to provide adequate equipment and accommodations in camps and on transports but instead has forced prisoners to live in inhumane conditions.

17—It has imposed "cruel and inhuman punishments without trial."

18—Japanese authorities have inflicted corporal punishment and torture upon American nationals.

THE "M. P." OF THE AIR FORCES

Second in a Series of Articles
By the Public Relations Dept.

AAF Western Flying Training Command
Santa Ana, California

"M. P.? . . . why everybody knows what IT stands for in the army!" That's what your ex-Thunderbird thinks until he gets his nose into Advanced Pilot School! Then he realizes that in the Air Forces "M.P." means Maximum Performance, and every pilot a MAXIMUM PERFORMER.

The purpose of Advanced Training is to get the student in the habit of using his own and his plane's topmost capabilities as a matter of course. "Almost on the nose" isn't good enough. The war is fought at full throttle. In order to have a head free to think that fast the physical business of flying must be so letter perfect, so well grooved as to be second nature.

Says Major John Mitchell who helped turn back the Japanese when they had broken through everything but the air in 1942, "you don't have time to think about which gadget to push and which to pull. If you can't do it automatically, you are apt to get in trouble." In Advanced School students begin to realize that only 10% of victorious flying is hand and foot work—90% is headwork.

This proportion holds good for pilots of multi-engine and single engine planes alike. But what puts one man in a P-47 and his brother in a B-17?

Before they leave Basic, students are carefully selected for bombardment or pursuit training. A boy's aptitudes, desires and general mental make up are important factors in determining whether he goes to a twin-engine Advanced School turning out future bomber and transport pilots, or whether he heads for single or twin-engine pursuit.

Though they may look alike, under the skin bomber and fighter pilots are very different. Bomber boys are team captains. They love the feel of big power in their hands, welcome the responsibility and close comradeship of their crews. Steady is the word for them—steady as gyro-compasses.

Pursuit pilots are apt to be higher strung and they are always speed hungry. What's more they are lone hands—old fashioned Indian Fighters. Yes, they fight in teams, too—only half their job is to attack the enemy, the other half to protect each other. But each one is a complete striking force unto himself—no crews to worry about, no "sitting up there like ducks", just speed and dive and guns.



ADVANCED PILOT instructors who fail to get a point across one way will try some other method. Major Nobby Nowell, right, explains to a student pilot the method he used to teach a big pilot in a big way. (Army Air Forces photo.)

Let's see what these pursuit pilots among your ex-Thunderbirds run into as they get ready to handle fighter planes which are simply gun platforms with wings.

When they arrive at single-engine Advanced they trade their Vultee BT's for North American AT-6 Texans, and their power goes up another 200 horses. This is only the first of what's new. Retractable landing gear gives them higher top speed and greater maneuverability. Hydraulically operated flaps cool down landing speed and steepen the angle of glide for better landing visibility. A constant speed, controllable pitch propeller maintains desired rpm by automatically changing its blade angle to compensate for varying amounts of power. You even can go into a dive and maintain the rpm you want; on the way down your engine won't wind itself up. A great gadget this controllable pitch prop, but why automatic? To cut hand and foot work, save more time for headwork.

As soon as a student absorbs these and other new characteristics of his advanced trainer, he really goes to work on his M. P. Degree. Maximum Performance in combat is literally the difference between shooting down and being shot down.

First in his air work your ex-Thunderbird develops the "Messerschmitt twitch". His neck becomes a swivel. His head turns from side to side and up and down as he looks all around all the time. If he doesn't, he'll soon find some instructor or student "attacker" bearing down on him. Thereafter his head will droop and he'll earn many a "bronx" as he wears a big red "casualty" button or white arm band to show he was caught napping. Air alertness is life itself and pursuit pilots have to learn it—but fast!

More than ever now a student has to watch his G.U.M.P.—gas, undercarriage, mixture and propeller speed in landing, especially on short fields, over obstacles, in crosswinds. And these are the kinds of landings he is going to have the most of.

Suppose he flies support for infantry in Italy. He'll get so used to putting his plane into a steep, straight glide over hills or trees and sitting down quick with full flaps that he'll forget there is any other way to bring her in.

Any day he's apt to find his field, already short, has been shortened some more by a few well placed bomb craters. So how does he get off? With Maximum Performance he learned in Advanced Training. He uses every inch

of runway he has. He puts down about 10 degrees of flaps . . . holds his plane with the brakes and advances the throttle . . . lets go the brakes, opens her wide and—wham! The churned up dirt or other obstacle down the runway comes rushing toward him in a blur of speed. It flashes under him, but his wheels aren't there anymore. They are off the ground and he's up in the air in nothing flat. When you read that he and his pals have flown 2,000 sorties over Anzio or the Liri Valley, you can bet a lot of them took off just this way.

It makes ex-Thunderbirds rumble sometimes the way instructors seem to take special delight in seeing them shoot crosswind landings. But did you know that vicious crosswinds are nearly always blowing over Henderson Field on Guadalcanal, for instance? So the pilot who is going out to get that "Zeke" for you had better know how to dip his windward wing and "crab" into the breeze. Since the Japs are kind enough to build airfields for us we can't kick about the direction of the runways, can we?

Before a flier can land, however, he has to get there. And that means navigation again. Maybe he thought he was running Magellan a close race in Basic. But wait until he tries to find his way cross country at night! Familiar things can fool him. They say there is a pilot in Alaska who has been blushing for over a year now. He breathlessly reported the bombing of Nome when he hit a break in the fog and got his first good look at the Aurora Borealis.

Of course, Advanced student pilots don't have the northern lights to contend with, and if they can't identify the lights on water towers along their routes, they can always fall back on dead reckoning. This way they determine course and position by figuring ground speed and elapsed time from take off or last known check point.

As another big help in getting where they're going cadets learn to fly on radio beams. This takes up the major portion of their instrument time. There are no beams in battle, it's true. However, in this war pilots have to fly so far and over such rugged terrain to get to the points that beam transmitters have been set up from the Indian jungles to the Arctic Circle.

If your favorite Thunderbird is like one cadet, he may have to have a beam especially fitted to him. In Advanced School the local beam pattern is printed on a small card. To fly it you must imagine that your plane is travelling right on this little piece of pasteboard. Try as he would, this particular student couldn't do it. Finally his instructor,

Major Nobby Nowell, got the answer. He dug up a big piece of wrapping paper and drew a beam pattern on it—then called his future ace.

"Mack," he said, "you're a big guy and you just don't fit a dinky card. Let's go up and try this big beam." They did—and success. Mack could fly any beam that was his size!

But sometimes it isn't quite enough just to get there. In interception problems, particularly, an M. P. must hit the right spot "on the nose". His Advanced instructor sits out somewhere at five or ten thousand feet with eye on watch. The aspiring Maximum Performer must figure speed and course and intercept at a certain time over a certain geographical position.

Development of a fighter's air accuracy is vital. If he is in combat and arrives early he'll have to circle the interception position and let the enemy know something is up. (Incidentally, he

Not only do fighter pilots have to be "M. P.s" in the Air Force. Our bomber pilots who are dumping as much as 2,000 tons of hell on Berlin in a single night very certainly must have this quality, too. A story concerning the important part the pilots of our multi-engine bombers are playing in this war will be featured in the next issue of THE THUNDERBIRD.

may acquire a few hot pockets full of flak in the process.) If he is late, a bomber formation will have had to go on without the needed protection of his guns. Almost on time may be a lifetime too late.

The best way to get there and back again in battle is to fly in formation. A well armed, well flown formation can stand up against almost impossible odds.

Fighter pilots are taught to fly in two-plane elements. Usually three elements travel together in a staggered line. In actual attack this formation flying is a roaring game of follow the leader. It is Maximum Performance with a capital M. P. But even at wide open throttle pilots' heads have to work faster than their screaming propellers. They have to outthink the enemy, and they are doing it—getting four, eight, ten of him in their sights for every time he nails one of them.

Fighter pilots are cannon pilots. In the Western Flying Training Command they learn their guns at Luke Field, single-engine pursuit school, and at Williams Field, where twin-engine Lightnings strike. Students of these big Advanced Schools have set many of the top fighter gunnery records of the country. Their shooting saves planes and men as they add their guns to the blasting power of the bombers' turrets, and run interference for the crews that carry the freight.



PURSUIT PLANES are flying gun platforms. Advanced single-engine students have heard that one before, but here the point is illustrated a little more graphically when they get an inside look at some of the heavy artillery that pursuit ships carry. This group of students is examining a 22 mm. cannon. (Luke Field photo.)

THUNDERBIRD IS THREE YEARS OLD

Three years ago this month Thunderbird became an Army Air Forces primary training school.

It's hard to remember back to the day when there wasn't any green grass and shrubbery, just cactus, sand and sagebrush . . . when classes contained only 57 cadets . . . when there were only 12 flight instructors . . . and just 20 training planes based on its mile-square tarmac.

An oasis in the Arizona desert, today there are 444 trees shading the long, low ranch-type buildings at Thunderbird, 1,050 perennial flowering plants, climbing vines and shrubs.

Destined to be great, it was built from the ground up in ninety days, a remarkable feat that could only have been accomplished with the complete cooperation of civilian, government and military utilities.

Thunderbird now is one of the very largest, if not the largest, primary schools in the United States. Its graduates total into the "many" thousands. The exact number, of course, must remain a secret for reasons of military security, but some idea of its capacities can be gleaned from the fact that its instructors and cadets have spent well over 400,000 hours in the air.

It is the only field in the nation which gives primary instruction to cadets of the Chinese Air Force. Eight classes have been sent across the Pacific to receive this training, and already some of these have returned to China and are seeing action with the 14th Air Force.

Madame Chiang Kai-shek, much impressed during a recent visit to the front by the results being achieved by American-trained Chinese airmen, recently remarked that it would mean much for the post-war world if relations between China and the United States were as close as those that existed between Chinese and American airmen.

"I returned two days ago from bases from which both Chinese and American fliers are pounding enemy objectives with increasing effectiveness," she said. "I am happy to say our Chinese boys who received their training in the United States now are making fine use of their skill."

Among its many other accomplishments, Thunderbird also can be exceedingly proud of its outstanding air safety record. The mortality rate among its trainees is less than three-tenths of one per cent, compared to the normal civilian mortality rate among young men of the same age group—18 to 26—of eight-tenths of one per cent.



THREE YEARS AGO the order and scenic beauty that now is Thunderbird field looked like this. Pipe, parts, material and the gaunt skeletons of buildings that were-to-be covered the landscape. Out of this babel of construction in 90 days rose Thunderbird—often acclaimed the most beautiful primary school in the world.

Latest figures from the Aeronautical Training Society indicate one fatal accident for every 43,478 hours flown in the nation's 63 primary flight training schools. Thunderbird's record stands one for every 223,696 hours flown.

On an average day its training planes spend 850 hours in the air—comparable to a man driving an automobile every minute of the day and night for more than a month.

A recent survey of 356 Southwest instructors revealed that the average instructor has been flying 6¼ years, and has logged a total of 1,356 air hours—nearly six times that required cadets during their entire training period.

More than just a training school, two of Thunderbird's big hangars also house Southwest's capable Overhaul Division, only civilian Air Service Command activity of its kind between Texas and the Pacific Coast. Initial production schedules of one aircraft and five engines to be completed every week have been greatly exceeded.

Recently, the Engine Division turned out its 1,000th motor, and the first ship to be received for overhaul by the Aircraft Division came back for its second visit, after having flown 1,791.14 hours in capable fashion.

Civilians Fly

Conversion from war to civilian production has been a topic of much conversation since it was announced, a few weeks ago, that all Army War Training Service schools in the United States were to be eliminated from the flying training program.

At Sky Harbor, Southwest's initial operation, one such conversion already has been made, and the field now is operating on a "postwar" basis.

So great has been the demand for civilian flight instruction that additional training planes have been purchased, classes in ground school have been enlarged and a new 8:00 a. m. to 6:00 p. m. schedule instituted.

The new seven-day-week program will make it possible for Army as well as civilian personnel to obtain or renew their private or commercial licenses, and also will afford them an opportunity to earn their instrument and instructor ratings.

At present three types of instrument ships are available to students: Cub Cruiser, Travelaire, and Fairchild.

WANT TO MAKE A TEST FLIGHT?

You're going to make a test hop—an hour of slow time, and forty-five minutes of aerobatics.

Your ship, a shiny, silver PT-17, only a few hours ago came off the Overhaul assembly line, a completely rebuilt plane ready to be test flown. The 1:45 minute stint is established procedure for every unit—just one more way in which the Southwest - Air Service Command team makes absolutely certain Uncle Sam's young cadets and the men who teach them to fly are given only the best and the safest equipment possible.

Bulkily attired in borrowed leather flying suit, helmet and goggles, you leave the pilot's room and arrive, breathless, at the flight line. There, waiting for you, with parachute, gloves, and silk scarf, is Test Pilot Chet Locker.

"You may need these, too," he says.

And as you buckle on your chute, somehow you hope it won't be necessary to prove your implicate faith in the guy who packed it.

You climb into the front cockpit, while your pilot makes a careful visual inspection of the ship. He checks the cowl-ing, the controls, the instruments. Chet doesn't spend much time outside the cockpit, because the Army and Southwest inspectors already have gone over the ship and he has learned to have faith in them.

As you fasten your safety belt, preparatory to taxiing onto the runway, it suddenly occurs to you how much trust you place in the ground crew's ability to turn out a perfect ship.

In position for takeoff, the engine roars mightily. Having successfully passed its test-stand run of at least six hours at varying speeds for 15-20 minutes at each speed, it quickly tunes up to the 1600 rpm's necessary for flight.

Your first test is to be a routine slow-time flight. You'll synchronize instruments in the rear cockpit with those in the front, and check the plane for accurate balance.

Chet again looks at the magnitos, clock, tachometer and other instruments. He tries the surface controls—aileron, elevator, rudder—to make sure their movement is free.

There's a signal from the Thunderbird control tower, and suddenly your Stearman comes to life beneath you. You're moving down the runway now, the wheels fairly skimming the ground. Or are they touching at all? Settling back in your seat, you aren't quite sure when you left the earth. Then you're looking down on buildings and parked planes and

you know you're off.

You glance into the mirror. Chet seems very busy. He's checking the instrument panel again to see that the oil pressure and oil temperature are in line. He motions for you to lean to one side so he can check the instruments in the rear cockpit with those in the front.

By this time you have climbed to 4,000 feet, and are cruising along at 95 miles an hour. But you keep veering to the right. You look back, and Chet's hands are resting on the windshield. Apparently nobody is flying the ship! He grins, waves, and corrects for straight and level flying. Again and again he removes his hands and feet from the controls, carefully charting the reaction of the ship.

Landing at an auxiliary field, Chet takes out his tools, walks over to the wing strut and proceeds to make minor adjustment.

Aloft again, the checking process continues. And before you know it, the hour is up and you're circling the home field.

"Don't rush off," Chet says, after you've landed. As if you could with all the equipment you're packing. "We'll be going up again in a few hours—as soon as the ground crew can correct for that right wing heaviness."

The time passes quickly, and you're on the flight line waiting for him when your test pilot strolls up.



YE EDITOR AND TEST PILOT

"Sure you want to do the last half of this test?" he queries. "This ship has got to be wrung out this trip—everything in the book. And no landing until we've done 'em all."

You nod vigorously.

You climb into the back cockpit this time, fasten your safety belt, connect your interphones, and prepare for take-off.

That same swift, smooth, rush of air and ground, and you're aloft again. You're climbing steadily now. Almost before you know it, the altimeter reads 7,500 feet. It's cold up there and you snuggle down into your flying suit.

"We're going to do a steep dive and pull out quickly," Chet calls to you over the intercom. "Are you ready?"

You nod your head that you are. It's too late to change your mind now.

Suddenly you're plummeting downward, 180 miles an hour.

In less time than it takes to recount it, you've reached 6,000 feet. You catch your breath. Your ship has started climbing again.

What's next, you wonder?

The first snap roll scares the hell out of you; the second isn't so bad. A couple more, and you're a veteran passenger.

But there's more to come—slow rolls, loops, stalls, left and right spins, and more steep dives and pull ups. During each movement, Chet constantly is checking the instruments, listening to the motor, taking stock of its smoothness.

"Better hang on for this one," he shouts. "We're going to fly upside down for a minute."

The nose of the ship creeps up and up. The engine cuts out. Suddenly it's so quiet you can hear your heart beat. At that exact moment the ship flips over on its back, and there you are.

Then it's all over, and you're off for some more straight and level flying. This time when Chet takes his hands and feet off the controls, the ship flies true. He repeats several times just to be sure. Yes, the ground crew has done its work well.

And then you discover you're on your way back to Thunderbird.

Almost before you realize it, the Stearman is dropping beneath you. The buildings are again level with your wings, and your wheels touch, easily, so you hardly know it.

Tomorrow, your ship will be in the air again, piloted by a civilian instructor or a cadet. He'll find No. 278 a very sweet airplane. You know. You rode her.

SOUTHWEST IN HEARING

A strong recommendation that the Arizona Corporation Commission defer granting any franchises for intra-state air service until present material shortages no longer exist was delivered to members of the Commission by company spokesmen at a recent three-day series of hearings in Phoenix.

It was pointed out by company officials that while Southwest plainly was the most "fit, willing and able" of the six applicants, we did not feel it was possible for anyone to render Arizonans a completely satisfactory service at this time.

In support of this contention, the lack of suitable aircraft was cited, as well as the difficulty in obtaining replacement parts for these aircraft and the existing shortage of aviation gas. Vice President Jim Ray gave a complete set of operating costs applicable to Stinsons, Wacos, Cessnas and Beechcrafts—types currently available.

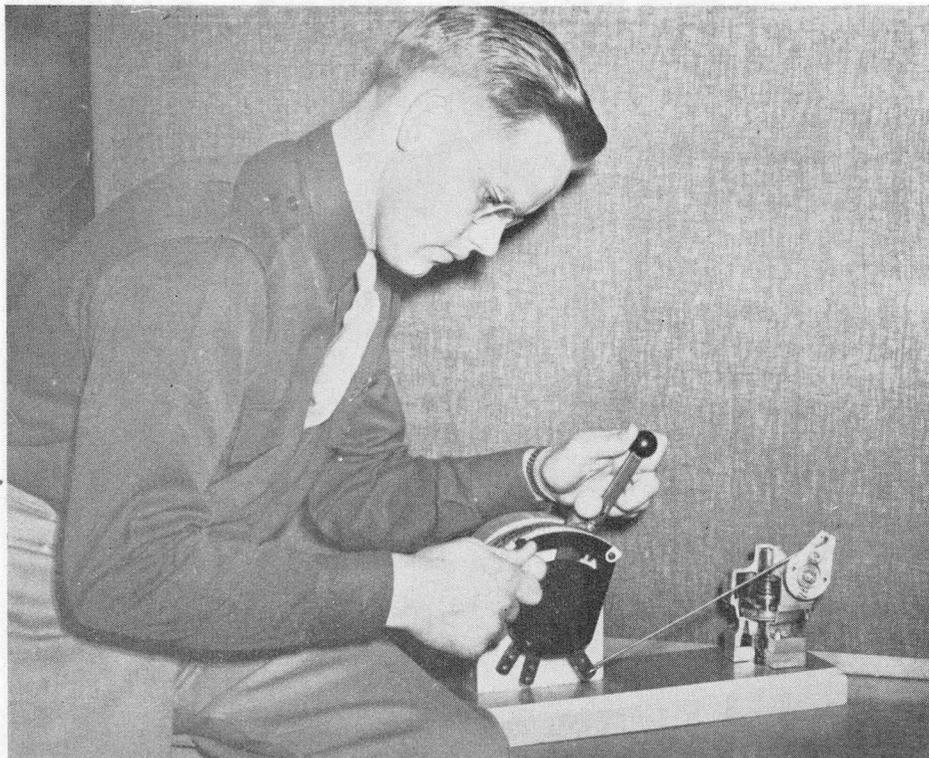
He said that a conservative estimate of the cost-per-mile, including necessary administration and ground expenses, would be 30 cents. Since none of these models could carry in excess of four passengers, past history conclusively shows rates must be close to 5 or 6 cents per mile to sustain traffic, and as no federal mail contracts have been granted, Ray asserted the lines would have to be operated at a loss from the outset.

On the other hand, he pointed out, Southwest after the war would use twin-engine aircraft capable of carrying 10 to 12 passengers and from 800 to 1,000 pounds of mail and express. These could be operated for approximately 35 cents per mile, and, with their higher passenger capacity, would make a profitable operation possible.

The other five applicants had not gone into the matter of operating costs.

Latest advises from Walter Roche, Southwest's legal counsel at the hearings, indicated a belief that the Commission will concur in the company's belief that no one could render satisfactory service at this time and defer granting of franchises. An announcement to this effect is expected from the Commission shortly.

Routes proposed by Southwest were: Phoenix to Douglas, via Florence, Tucson, Nogales and Bisbee; Phoenix to Douglas, via Globe, Safford, Clifton, Wilcox and Bisbee; Phoenix to Holbrook, via Jerome, Williams, Flagstaff and Winslow; Phoenix to Yuma, direct, and Phoenix to Kingman, via Wickenburg.



THUNDERBIRD ground school instructor Richard Lincoln demonstrates the propeller quadrant mock-up which he designed and built in collaboration with Chief Instructor John Neace. The device gives visual demonstration of the workings and operation of the constant speed governor.

Requests High

More than 125 requests for copies of Southwest's booklet on "Area Airlines and the Air Age" already have poured in by telephone, telegram and mail from aviation groups, universities and individuals in all parts of the country, it is reported. An average of five requests is being received daily.

In addition, dozens of Chambers of Commerce on the Pacific Coast and in the Southwest have requested bulk quantities of the booklet for distribution in their respective cities and towns.

In three instances, the company has granted permission for organizations to reprint material from the booklet in similar publications of their own, thus further widening the scope of distribution.

Most of the requests to date have been the result of favorable news items appearing in American Aviation Daily, Aviation News and Western Flying.

SOMETHING NEW ADDED

First aid kits are standard equipment for all parachutes used at Falcon Field, No. 4 British Flying Training School. The kit, fastened to the chest strap or harness, contains bandage, tourniquet and morphine.

A new visual training aid which demonstrates by actual operation workings of the propeller constant-speed governor has been installed at Thunderbird's ground school.

As explained by Chief Instructor John Neace, who designed and manufactured the mock-up in collaboration with Instructor Richard Lincoln, the instructors, in the past, had to demonstrate to students operation of the constant speed governor by saying "you move this control knob in the cockpit and the speeded spring will do this in the governor."

However students sometimes were slow to visualize just how the actual operation controlled the Hamilton Constant Speed Propeller.

Now with the mock-up, consisting of a quadrant hooked up to a cut-away section of a governor, the student can move the lever and actually see what effect this operation has on the speeded spring since the assembly duplicates actual flight operation.

NEW FIRE TRUCK

Army and civilian personnel at Falcon field are mighty proud of their new fire truck. Complete with 300 gallons of water, foam, fog and C. O. T., it stands ready for day or nite duty. Although it takes only a four-man crew to operate the vehicle, sixteen employees have been trained to run it in emergency.

CAB HEARING TO BE SOON

Hearings before the Civil Aeronautics Board on Southwest's application for area (feeder) airline routes on the Pacific Coast undoubtedly will be held this summer, perhaps in July, Vice-President Jim Ray advised San Franciscans in two important addresses early this month.

Ray declared that the Board probably would schedule actual area airline hearings as quickly as it could study the recommendations of the examiners who conducted its series of informative sessions last October. He predicted that applications for the West Coast would receive first consideration from the Board.

The company official spoke before the aviation committee of the San Francisco Junior Chamber of Commerce and also to the members of "CANCACS" (Central and Northern California Association of Commercial Secretaries).

Urging the support of these groups for all plans to improve the West Coast's air transportation system, he foresaw the time "relatively soon, perhaps in five years after establishment of service," when Southwest's planes would be both out-bound and in-bound to the Golden Gate every hour, from early morning to midnight.

At the outset, Ray declared, Southwest expects to operate three to four round trips daily over each of the routes originating at San Francisco. Effect of this frequent, high-speed service between the metropolis and communities in its normal trading area, on business and industry of all types "would be enormous", he asserted.

Value of area airline systems throughout the nation to our national defense, in the event of future emergencies, also was pointed out by the Southwest official.

Reaction of members of the two organizations, and also of San Francisco newspapers, to Southwest's plans was described as "highly satisfactory". A majority of the latter carried extensive news articles quoting Ray's remarks.

NEW OFFICERS

Several changes are taking place in Royal Air Force personnel at Falcon Field. Flt. Lt. C. L. Turner, senior navigation officer, is being replaced by Flt. Lt. Ronald C. Finlayson; Flt. Lt. N. C. K. Dibble, administration officer, will be succeeded by Flt. Lt. H. D. Carter; and Squadron Leader L. R. Edwards, chief ground school supervisor, by Squadron Leader A. S. Johnson.



A/C LEONARD BULLOCK explains Link trainer tactics to his father, Aaron L. Bullock, specialist A/C, USCG, a recent visitor at Thunderbird II.

Books Bought

A Social Security booklet has been purchased by the management for all Southwest employees. The booklet, which explains in detail the benefits an employee is entitled to, how to calculate them, and how they are collected, will be distributed soon.

When you receive compensation for your work, one per cent is deducted for Social Security. The management also contributes an amount equal to one per cent of your pay for the same purpose.

Because it has been shown in recent surveys that few people realize exactly what benefits are accruing to them under the provisions of Social Security, the management urges that you read this booklet if you wish a more complete understanding of the financial protection which you and they together are building for your family under Social Security.

FREE CLASSES

Classes are being held daily at the Vocational School, 519 North Seventh Street in Phoenix, for those who wish supplemental training in any type of aircraft work, according to word received from our down-town personnel office.

The classes, which run from 8:00 a. m. to 9:00 p. m., include sheet metal work, welding, woodworking, instruments, hydraulics, and other divisions of aircraft work.

Ship Returned

The first ship received by the Overhaul Division came back for its second visit recently, thus marking another milestone in the lusty growth of the aggressive depot.

First received from Falcon field, on July 15, 1942, the ship had logged 1,438.25 hours at the time of its first overhaul. Delivered back to Falcon completely rebuilt, it then flew an additional 1,791.14 hours, before returning for its second anniversary.

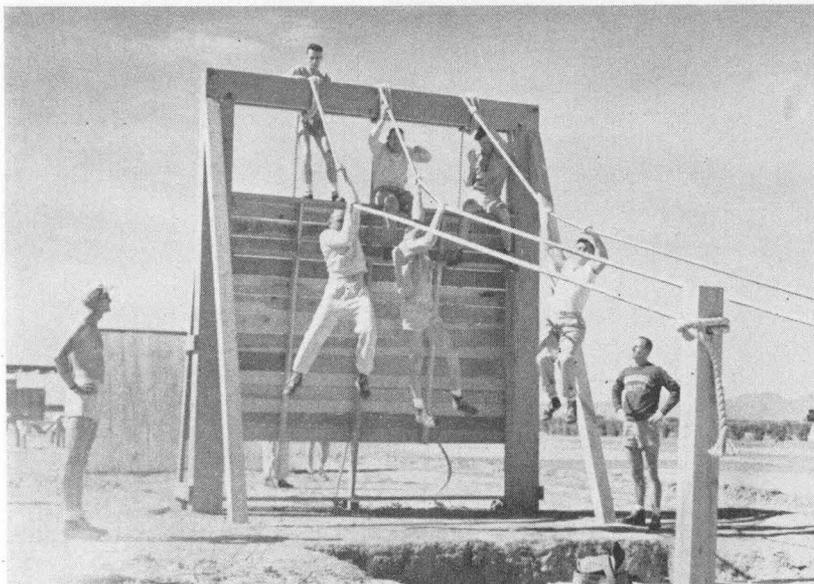
Southwest and Air Service Command employees noted with pride that hours flown after going through overhaul exceeded hours flown after delivery from the factory.

First to be received in 1942, the Falcon ship was 317th on the ledgers when it started through the second time.

WARING SALUTES FIELDS

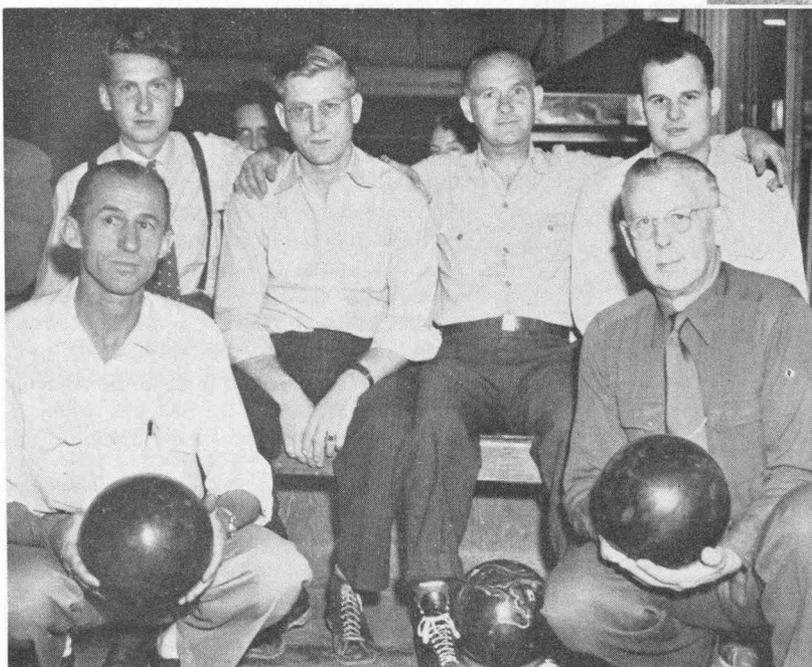
Further recognition of the highly important part which the civilian contract schools, such as Thunderbird, Thunderbird II, and Falcon are playing in building our Army and United Nations Air Forces, was paid by Fred Waring's Pennsylvanians recently in a nationwide radio salute. Some 60 privately operated schools, such as our own Southwest operations, established in a precedent-breaking action by the AAF to speed the building of a mass air force, were represented in the salute.

ATHLETICS AT THUNDERBIRD FIELDS



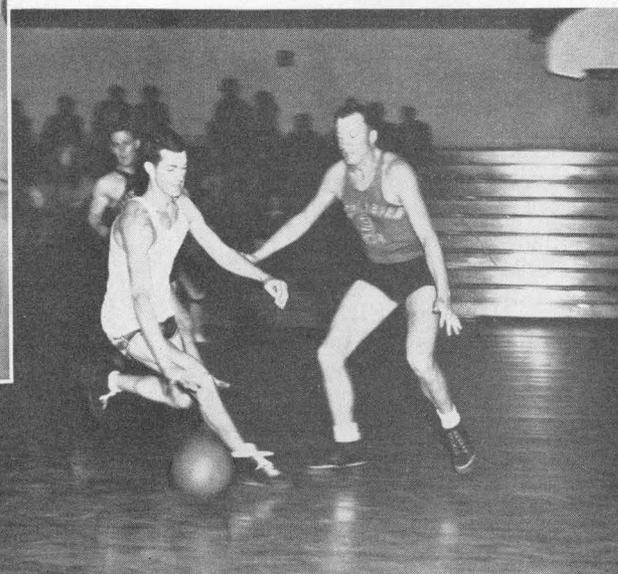
RUGGED BARRIERS make the going tough on Thunderbird's new obstacle course. Here army officers are tackling one of the most-difficult—a hand-over-hand descent on ropes stretched over a dip-pit moat.

RECREATION MINDED women of Thunderbird field's office personnel are taking non-time exercise under supervision of army athletic officers. Badminton is one of the most popular pastimes.



MAPLE MAULERS on Overhaul's bowling team have set a hot pace in their league. Members, left to right, are: back row: Eugene Hirner, Harry Anderson, Ted Watters and Malcolm Moss. In front are Orville Graham and Paul Stoll.

TORRID ACTION featured the basketball game between Thunderbird and Thunderbird II. Here Capt. Clinton H. Deardorff, Thunderbird, dribbles past Louis Johnson. Thunderbird II won the game 48 to 44.



THUNDERBIRDS CITED IN COMBAT

Citation confirmations from the historical division of the Army Air Forces are modest to the point of being drab reading.

Yet the stark, grim accounts of heroism and daring displayed by Thunderbird graduates make it unnecessary to "read between the lines" in order to get a vivid picture of the tremendous role our graduates are playing in the war.

That they are giving a good account of themselves is amplified in the reports from the office of Major Stacy M. Reed, executive of the AAF Historical Division, which confirms recent awards to Thunderbird graduates of two Silver Stars, 11 Distinguished Flying Crosses, 23 Air Medals and 31 Oak Leaf Clusters to the Air Medal.

Of this total a large share was won by members of 43-A who are reaping a wide swath through the enemy on a battlefield that stretches from the Western Aleutians, through the South Pacific, Burma, India, through the Mediterranean theater, the French "Invasion Coast" and into the heart of Germany itself.

Out of the total confirmed citations, this class alone accounted for one of the DFC's, nine Air Medals and eight Oak Leaf Clusters.

Typical of the work done by members of 43-A is the extraordinary achievement account of 2d Lt. John T. Larson who was awarded the Distinguished Flying Cross. Larson's record reads:

"During the period between May and August, 1943, Lieutenant Larson, as pilot of a fighter plane, participated in many attacks against Japanese installations in the Western Aleutians. On many of these missions gun positions were bombed and strafed from a low altitude with a marked degree of success. All the flights were made from advanced bases and often under unfavorable weather conditions."

Other awards of the D.F.C. were made to Emerson Armstrong, 42-C; Jerome German, 41-I, D.F.C. with Air Medal; Thomas L. Hackward, 42-D, D.F.C. with Air Medal; Julian Harvey, 42-C, D.F.C. Air Medal with three clusters; George Heinz, 42-J, D.F.C. Air Medal with three clusters; Wayne Hendricks, 42-A, D.F.C. Air Medal with three clusters; James C. Ince, 42-A, D.F.C. Air Medal with two clusters; and Leon Rockwell, 42-A, D.F.C. Air Medal with three clusters.

Captain Julian Harvey's citations were in recognition of the responsible role he played as a member of the Eighth Air Force in successful sweeps over enemy occupied territory as pilot of a B-24. His D.F.C. was reward for 25 bombardment missions over Continental Europe while his Air Medal was for achievement

THE BOX SCORE

Thunderbird Field's Roll of Honor reached a total of 509 decorations won by former cadets this month. The complete list now shows:

- 1 Distinguished Service Medal
- 22 Silver Stars
- 90 Distinguished Flying Crosses
- 10 Oak Leaf Clusters to D.F.C.'s
- 171 Air Medals
- 201 Oak Leaf Clusters to A.M.'s
- 10 Purple Hearts
- 4 Soldiers Medals

Official confirmation from the Historical Division of the War Department is the basis upon which additions to the list are made.

while serving on a B-24 airplane on extreme low range reconnaissance and photographic missions.

"Great courage and skill was displayed over a very hazardous air route involving long over-water flights in extreme northern latitudes. The flights were of great military importance and the successful completion thereof reflects highest credit on the officers and enlisted men and the Armed Forces of the United States."

Of Lt. James Ince, the army records state his D. F. C. was in recognition of:



LT. L. THOMPSON, WAC, flight control officer with the First Fighter Wing stationed at Philadelphia, Pa., visited his son, A/C Charles L. Warne, at Thunderbird II. It was their first visit in a year and a half and presented that oft-posed problem of whether to salute or kiss when one member of the family "ranks" another.

"Extraordinary achievement while participating in 50 operational flight missions in the Southwest Pacific Area, during which hostile contact was probable and expected. These operations included escorting bombers and transport aircraft, interception and attack missions and patrol and reconnaissance flights."

Gallantry—and the final supreme sacrifice — in action over Guadalcanal brought the award of the Silver Star to 1st. Lt. Robert E. Chilson, 41-H, one of the valiant eagles who swept the sky clean of haughty Japs.

"As a fighter pilot Chilson's formation was attacked and outnumbered by 15 enemy airplanes. Despite the odds of over two-to-one, coupled with the disadvantage of higher altitude of the attackers, Lieutenant Chilson aggressively engaged the enemy and assisted in destroying four certain and four probable hostile airplanes before the remainder broke contact. He was last seen engaging the enemy and failed to return from the action. His personal courage contributed indispensably to the defense of a newly acquired air base on Guadalcanal."

Another winner of the Silver Star this month was 2d Lt. Cyril Holmer, 42-J, who was awarded the Star for gallantry in action over Wewak, New Guinea, and the Air Medal for operational missions in the Southwest Pacific.

Of those who won the Air Medal the story of 2d Lt. Thomas C. Hanzel, 42-G is probably the most graphic.

According to the accounts from the war department:

"Lt. Hanzel's crew was engaged in an armed reconnaissance mission when it sighted an enemy convoy, consisting of three cargo vessels and two destroyers. In the face of anti-aircraft fire from the destroyers this B-24D type aircraft made a bombing run from an altitude of 20,000 feet on an 8,000 ton vessel. Six 500 pound instantaneous action demolition bombs were dropped, scoring one direct hit amidships and one near miss. The smoke, coming from the stricken vessel, rose to a height of 3,000 feet. As the bomber left the target area, the boat was seen to be in a sinking condition."

Other winners of Air Medals include:

Harry S. General, 43-A; Charles B. Gore 42-F (one cluster); Claude H. Gragg, 42-F (one cluster); William Gunby 42-J (two clusters); John P. Hampshire, 42-D (three clusters); Toy Husband, 42-H (three clusters); Robert G. Miller, 43-A; Ben McCullough 43-A (two clusters); Mark Rifkin, 43-A (one cluster); Edward N. Roderick, 43-A (one cluster); Richard Rowland, 43-A (three clusters); Bruce Russell, 43-A; Robert Skoog, 43-A; and Earl Swartzfager, 43-A (one cluster).



Old hands at Thunderbird are Ted and Art Anderson, veterans of the maintenance department. Art, left, is repair department foreman, while Ted is a maintenance inspector. Each has been at Thunderbird since its first month.

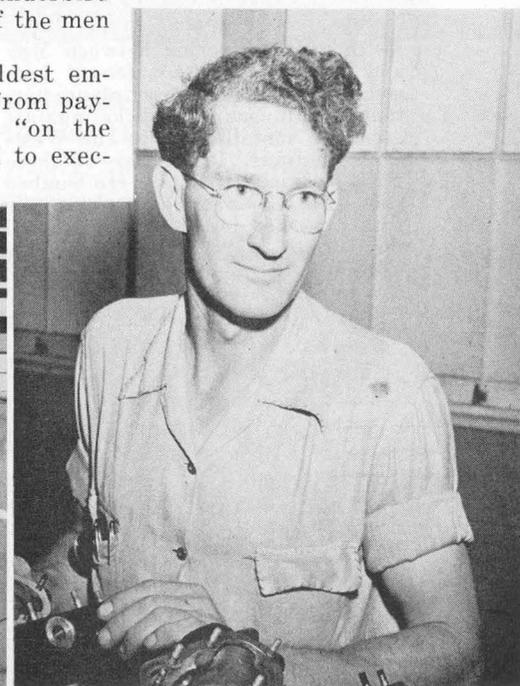
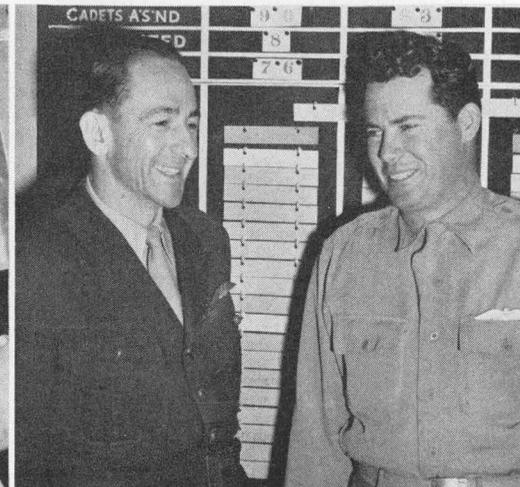
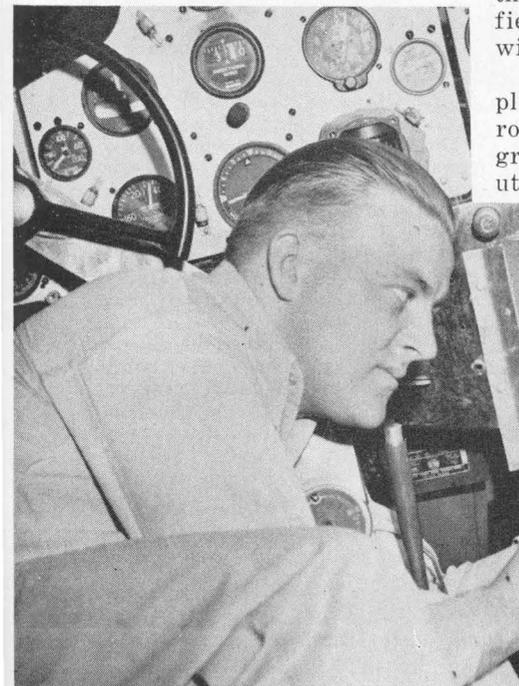
Competent teachers and skilled fliers are Art Bethancourt (left) and Cliff Davis, pillars of Southwest's Sky Harbor operations. Hired in the company's first days, they've been turning out polished pilots ever since.

Photographer, movie director and capable pilot John Swope has crammed many experiences into his 35-year career. Once an instructor he is now field manager at Thunderbird II and a corporate officer of Southwest.

WAR WORKERS

This month Southwest Airways celebrates the third anniversary of the activating of Thunderbird field and on these pages are pictured some of the men with the company in its earliest days.

Tenure proof which stamp them the oldest employees in point of service has been taken from payroll records. A majority of them started "on the ground floor" and have since been elevated to executive roles.



A vital man in a vital role is Jocko Kevari's position with Southwest's Cargo line. A skilled maintenance man, Kevari is highly trained in the field of radio repair and keeps Cargo's communications clicking.

Old timers at Thunderbird field are Ralph Jordan, director of training, (left) and Elgin Newell, one of his flight commanders. Jordan was one of the original pilots who comprised the flight staff in Southwest's embryonic days.

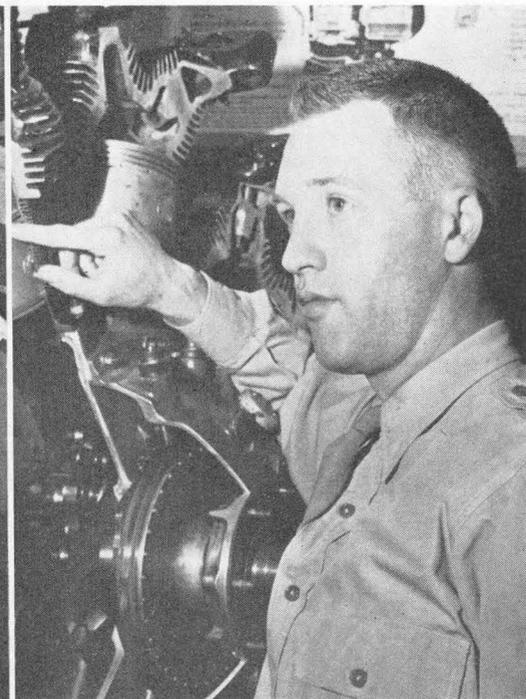
One of the oldest mechanics in point of service, Harry Barnes is superintendent of Overhaul's engine department. His fertile brain has fostered many time and labor saving devices to speed up production and increase efficiency.



Frank Simpson, chief clerk in charge of maintenance records, (left) and Frank Chestnut, chief of Thunderbird line crews check the records. Their jobs are to keep planes flying and have them spotted on the line at proper times.



Three maintenance Musketees of Falcon field are, left to right, Max Newlan, Superintendent Joe Wishler and John Fiori. They're the men who keep ships in repair and make "Keep 'em Flyin'" a factual slogan.



Thunderbird Field is credited with having one of the best primary ground schools in the nation and much of the credit for its effective dispensation of flight theory goes to 24-year-old Chief Instructor John Neace.



Al Storrs, director of Training at Falcon field, is one of the original Southwest pilots. Recently returned from an inspection tour of England, Storrs is highly trained and skilled in British flight tactics.



Czars of Thunderbird's food dispensary are Chief Steward Harry Mauler (left) and his assistant Jim Bryant. Together they are master cogs in machinery that smoothly handles cadet housing and thousands of meals each day.



Training planes at Thunderbird and Falcon fields gulp great quantities of gas and it's Charles King's chore to keep the thirsty charges quenched. For A-coupon conscious motorists, let it be said King orders in million gallon lots.

POST WAR PLANS MORE SECURE

A series of 11 sweeping recommendations which greatly strengthen Southwest's plans for post-war operations, are continued in the report of the two Civil Aeronautics Board examiners who conducted the recent series of area (feeder) airline hearings at Washington.

It will be remembered that company officials delivered a considerable amount of testimony at these hearings.

First and perhaps most important of their recommendations was that which stated "air transportation should be expanded to small cities", and urged that this be accomplished chiefly by franchising new, independent aviation companies in a classification to be known as "feeder air carriers".

In these and other recommendations, company officials noted with pride, the examiners' findings clearly indicated that Southwest's thinking on the phases of area airline operation never has been "off base".

Another major recommendation urged that the Board "rigidly confine" operation of aircraft by surface carriers of any type, to services which are only supplemental to their surface carrying activities. Further protection would be afforded the new group of area airline operators to be established, under a statement that "limitations should be imposed upon the expansion of air services by presently operating carriers to allow a field of operation for feeder services." Cities of less than 25,000 population were placed in the small operator's domain for the most part.

Also of more than usual interest to Southwest employees was the recommendation that 25 cents per mile should be fixed as the maximum rate of compensation for carrying of air mail. Company officials believe that with the twin-engine, 10-to-12-passenger planes Southwest expects to use, mail can be carried for a considerably lower figure than 25 cents "within a relatively short period of time after operations are underway".

It is expected that as quickly as members of the C. A. B. have had an opportunity to study their examiners' report, they will schedule hearings on actual area airline applications.

The complete list of recommendations by the examiners, reproduced in full, follows:

(1) Air transportation should be expanded to small cities in part by the addition of points to existing routes and in part by the authorization of services to be rendered by new carriers committed and delegated to effecting substantial economies of operation.

(2) A classification of such carriers should be established and designated as feeder air carriers.

(3) Authorization of service by feeder air carriers should be based upon a showing that economies of operation will be incorporated into the services.

(4) To further assure the operation of routes by feeder air carriers on an economical basis, a maximum rate of compensation for the transportation of mail should be fixed and determined in the amount of 25 cents per mile.

(5) Appropriate limitations relating to non-stop and skip-stop schedules, designed to maintain a proper balance between operations by feeder carriers and other air carriers, should be prescribed in the authorization of each feeder service.

(6) Limitations should be imposed upon the expansion of air services by presently operating carriers in order to allow a field of operation for feeder services. As a criterion in the accomplishment of such limitations, extensions by presently operating air carriers should be limited to cities having metropolitan populations of 25,000 or greater except upon a showing that such extensions will not adversely affect the operation of feeder services in the same general area.

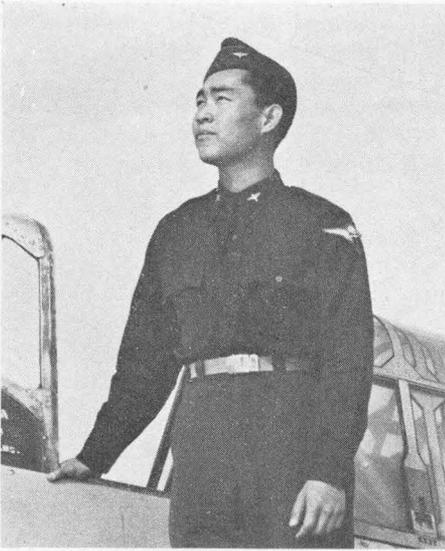
(7) Authorization of air services by surface carriers should be rigidly confined to the operation of aircraft in services which are only auxiliary, supplemental or incidental to the surface transportation facilities.

(8) No general expansion of air services incorporating only pick-up operations should be authorized except in unusual cases where the needs of the Postal Service may require such an operation. Expansion of pick-up operations should generally be authorized only where a combination pick-up and passenger service will be operated and developed.

(9) Safety regulations for feeder service should permit the carrying of passengers on planes which also render pick-up service; the provision of service with single engine aircraft; and the operation of aircraft with a single pilot.

(10) Applications for certificates authorizing feeder services should be heard together with applications for other services within the same general geographic area in a consolidated proceeding.

(11) Hearings upon applications for authorization of air transportation service, which are based essentially on the use of helicopters, should be deferred until such time as commercial helicopters are available.



TWENTY-TWO-year-old S. Y. Yaw used to hunt tigers as a hobby in his native China, but now he is preparing to hunt even more treacherous prey—the Japanese invaders who have occupied his home territory.

Cadet Honored

A 22-year-old Chinese cadet from Thunderbird Field literally flew off with top honors in BT-13 competition at Marana Air Field basic flying school for pilots, recently, when he outmaneuvered American cadets of graduating Aviation Cadet Class 44-D. The winner, Cadet S. Y. Yaw, was a member of the Chinese detachment which received its primary training along with the American class at Thunderbird.

Cadet Yaw, under the judging eyes of veteran flying officers, performed the spot and hurdle landings, formation flying, and intricate acrobatics in excellent style to win his honors. He was presented with a plaque for his achievement by Colonel Charles Backes, Commanding Officer of the field, at the formal review which graduated the class into advanced flying training.

Winning the flying competition is an important honor, but it is only one of many interesting experiences that Cadet Yaw's background reveals. His home is in territory which is now occupied by Japanese troops. His pre-war hobby was hunting tigers and wild boars. For two years he studied at the National Sun Yat Sen University in China, named for the founder of the Chinese Republic.

Now in advanced training as a fighter pilot, Cadet Yaw will soon receive his wings and take up the fight against the Japanese oppressors who have overrun his home province.

SPECIALISTS IN JEWELRY

Guards by vocation, specialists in fine Indian jewelry by avocation . . . N. H. Oliver and E. F. Donaldson, silversmithing sentries at Thunderbird II have staked their future on the vanity of women.

Both former professional jewelers they plan to set up shop when the war is over and as Donaldson aptly puts it "so long as women will starve to wear jewelry—we won't starve!"

Careers of Donaldson and Oliver parallel almost identical courses. Both are ex Marines — Donaldson served nine years of active duty and an additional four in the reserve while Oliver put in six years with Uncle Sam's scrappy "Leathernecks".

Before coming to work as a Thunderbird II guard Donaldson had his own shop at South Mountain while Oliver worked for the Maricopa Trading Post where he turned out enough piece work to sink a battleship.

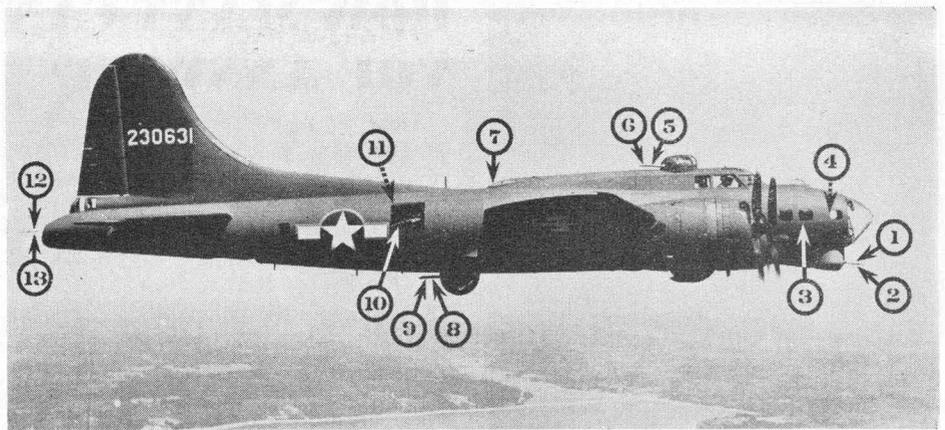
And they'd still be turning out vast quantities of rings, bracelets, pendants and ear rings had not war conditions caused a freeze of the fine silver which they use. As it is now, they have huge quantities of semi-precious stone, but due to diminishing stock of silver turn out only "custom built" work.

Their stock of stones includes specimens from nearly every continent in the world. Among their collection they include Jasper, petrified wood from the Black Forest, Chrysocolla from Africa, Turquoise from South America; agates from Brazil, Montana and Oregon; Opals from Australia; Zircons from Siam and huge quantities of native stone from all sections of the Southwest.

Chief pride is their fine collection of Bloody Basin stone, a type discovered by Oliver at Bloody Basin, old Indian battleground located about 90 miles north of Phoenix.

Varied hues make the Bloody Basin stone one of the most interesting for Indian jewelry work. Colors range through red, purple, blue, lavender, brown and yellow. The stone is admirably suited to cutting for its extreme hardness and lack of flaws permit a high polish and lasting sheen.

By an odd coincident, though both are master silver craftsmen, neither Oliver nor Donaldson ever took any special training in the craft. Both attribute their ability to "just being nosy, watching someone build a particular piece of work and then going home and duplicating it."



FLYING ARSENAL—Thirteen good reasons why the Boeing Flying Fortress is regarded as possessor of the most devastating firepower of any airplane in the skies are shown in this artist's rendition of the position of the 50-caliber guns which bristle from the new B-17G model. Nos. 1 and 2 project from the Fortress' new chin turret, a distinguishing feature of the Boeing B-17G; 3 and 4 are manually operated and supplement the frontal fire of the chin turret; 5 and 6, mounted in the top turret, sweep the skies above the Boeing bomber; 7, manually operated, is located in the radio compartment midships; 8 and 9 are ball turret guns which cover the under-side approaches to the Boeing; 10 and 11, operated from the waist windows, command lateral approaches to the plane; bringing up the rear are 12 and 13, comprising the deadly tail or "stinger" turret of the Fortress.

Our Poets' Contributions

Cargo Pilot Bill Brown, who called a mechanic when his plane failed to take off, learned he had forgotten the tail of the ship was tied to a ring in the ramp. To Bill is dedicated the following poem:

"TAIL WHEEL" BROWN

A handsome young pilot named Tail
Wheel Brown
For years and years will try to live
down
The fact, and it's true, the good looking
scamp—
His plane was tied by a rope to a ring
in the ramp.

WHO OWNS A GARDEN

He who owns a garden,
However small it be,
Whose hands have planted in it
Flower or bush or tree;
He who watches patiently
The growth from nurtured sod,
Who thrills at newly-opened bloom—
Is very close to God.
—Katherine Edelman.

THE QUEEN BEE

The Queen Bee is a hardy soul—
She thumbs her nose at birth-control;
Which is the reason, beyond a doubt,
There's so many sons of bees about.
—Air Force Review.

I TOOK HER . . .

"I took her auto riding—she was a little angel and walked back.
I took her boat riding—she was a little angel and swam back.
I took her airplane riding—the little devil."
—Clipped

TUNE OF GEORGIA TECH

Oh, these darn cadets that wine you and
dine you and love you till break of
day.
They put you in the back seat and per-
suade the night away.
They'll tell you that they love you and
for you they'll always pine.
But you're a fool if you let them drool
For you'll find its the same old line.
Oh these darn cadets that wine you and
dine you and love you till break of
day,
You'll think that this one's different
It's the same old game they play.
They tell you that they miss you and
you must be sure to write
But you realize by the light in his eye,
you're his target for tonight.
Oh these darn cadets that wine you and
dine you and love you till break of
day.
They always have a home girl safely
tucked away.
So girls just remember take their words
with a grain of salt
And when they sigh "well why not try?"
It's time to call a halt.
Oh these darn cadets that wine you and
dine you and love you till break of
day.
Don't think they won't expect compensa-
tion for their pay.
So have your defenses ready when they
take you to the door,
For why in the hell do you think they
yell,
**NOTHING CAN STOP THE ARMY
AIR CORPS!**



VIRGINIA CARTWRIGHT

Full-fledged member of the hypodermis is petite Virginia Cartwright, photographic laboratory technician whose job at Falcon Field ranks as one of the most interesting in the entire Southwest Airways organization.

A tiny gal who has to tip-toe in order to hoist aloft the enlarger whenever large projection prints are called for, Virginia is highly skilled in photo-lab work.

Her present occupation is a far cry from her first work—teaching kindergarten in Boston. It was during that time she first took up photography as a hobby and later turned it into a career.

Her first full-time photographic work was at Boston, Mass., where she spent two years with Eastman Kodak Co., becoming thoroughly schooled for the type of lab work she has been doing at Falcon field since early December.

At Falcon her duties entail all phases of photo-darkroom technique and she is skilled in all departments from mixing exacting formulas to the detailed work of processing gun-camera film—one of the prime chores of the Falcon photographic setup.

As lab technician Virginia assists and takes orders (but only during working hours) from her husband Corporal Cy Cartwright, army staff photographer for Falcon field. Cy takes the pictures and keeps the gun camera mechanism in repair while Virginia does a great portion of the process work.

HOW MANY CAN YOU ANSWER?

Score ten points for each correct try—50, flat spin; 70, ground loop; 90, three-point landing; 100, hot pilot. Answers are on page 20.

1. Which of the following airplanes has folding wings? (a) B-25; (b) F-6-F; (c) P-47.
2. What is the diameter of the tail wheel on a PT-17? (a) 10 inches; (b) 12 inches; (c) 8 inches.
3. The new Northrop night fighter, the "Black Widow" is known as the (a) P-44; (b) P-56; (c) P-61.
4. Which is fastest at 15,000 feet? (a) P-51-A; (b) P-39-Q; (c) P-26-G.
5. The propeller of the PT-17 is of what diameter? (a) 9 feet 4 inches; (b) 8 feet 6 inches; (c) 7 feet 11 inches.
6. Most of the noise of the average airplane is caused by (a) wind resistance on the wings and body; (b) engine; (c) propeller.
7. How many full length red stripes on the U. S. flag? (a) seven; (b) three; (c) four.
8. How many full length white stripes on the U. S. flag? (a) seven; (b) three; (c) four.
9. The length of the average lead pencil is (a) 6½ inches (b) 6¼ inches; (c) 7¾ inches.
10. The Japanese pilots refer to the B-17 "Fortress" as the (a) "Dragon"; (b) "Shark"; (c) "Hornet."



NEW OFFICERS of the Falcon Field Officers' club are Doice Shults, vice president (left) and Jerry Bacon president.



GLADYS PIGGOTT

Mrs. Gladys Piggott knows all the answers to those "people who live in glass houses" quips such as:

"Should never throw stones."

"Should never throw parties."

"Should dress in the basement."

As control tower operator at Thunderbird II, Mrs. Piggott is one of those "hothouse dwellers," only woman member of Southwest Airways' "glass-house gang."

A licensed radio operator, Mrs. Piggott has been working in the Thunderbird II control tower for two months dispatching ships, watching for accidents, checking wind T settings, and noting traffic violations.

An action-filled background of flying makes her an ideal choice for tower control work. She and her husband, Verne Piggott, squadron commander of Thunderbird II BT's, own two airplanes—a Lycombe and a Culver Cadet—and before coming to work at Thunderbird II she spent several months flying with the Civil Air Patrol.

She participated in a number of "lost bomber" hunts. All of which makes for a full flying career considering Mrs. Piggott has been in aviation only two years. In that time she has logged over 200 hours.

Did you know that—a parachute is visually inspected on the outside every 10 days; it is unpacked, aired, dried, inspected and repacked every 60 days?



Gossip and Hearsay

Plans for Thunderbird's softball team with aspirations for competing in the Phoenix "A" league are well under way. Scarlet suits already have been ordered. Anyone interested in joining this team call extension 52.

Susie-Q, Thunderbird II post's mascot, whose recent absence from the field was due to a broken leg, is glad to be back. The little donkey, still limping, can be found near the office of **George M. Ward**, receiving clerk, whom she has more or less adopted . . . Speaking of mascots, over in hangar 2, Squeaky the cat is a proud and purring mother.

The handsome sailor seen squiring **Betty Day** of Overhaul around the Thunderbird post recently is her new husband, **W. W. Davis** . . . **Sue McDonald**, T'Bird administrative department, is now the wife of **Sergeant Cohen** . . . T-2 ground school department has a new groom, **Bob Eckert**. Incidentally, can anybody shed light on the sewing bee held recently at the Eckerts?

The Link department at Falcon boasts that all of its instructors have logged flying time; some own their own planes . . . **Berniece Hathaway**, same department, commutes to work on a bicycle . . . That undernourished look you see on O'haul **Benny Doyle's** face is caused by the fact his wife is taking a vacation and Benny is doing his own cooking.

Clarence Cozby, former company photographer, is a specialist, second class, in the Navy. He's just through boot camp and now Pensacola bound for training as an aerial photog.

Falcon maintenance girls have proof that their last-minute sales efforts in the recent war loan drive were heeded. **Marvin Meier** and the **Smith** brothers up and bought \$200 worth of bonds in addition to the ones they buy every payday.

Frieda Cantrell, of the personnel office, doesn't easily lose her temper, but she confesses it was about to the breaking point recently. And all because a Thunderbird ground school instructor had given her four different license numbers for his car. . . . **Don Prosser**, advanced Falcon flight commander, has been taking a lot of ribbing lately. It

seems that his girl is ferrying twin engine ships.

George Frock rightfully claims that he has seen Thunderbird field grow from desert waste to the present oasis as it is often referred to. George, as superintendent of the construction company drove the first stake that was to be Thunderbird. Later he joined Southwest as superintendent of ground maintenance . . . **Johnny Winn** and **Burt Hollis** were musicians before they joined the Link department at Falcon. Hollis was a band leader.

Pig hunting was almost an all-company enterprise, judging from the number of participants. Successful searchers in O'haul were **Felix Kallis**, **Harry Barnes**, **John Gregory**, **E. E. Sutphen**, and **Ivan Bullock**. T'Bird flight instructors out for their share of the kill were **Elgin Newell**, **Art Robart**, **P. D. Carpenter**, **Andy Anderson**, **Loren Pilling**, **Frank Carson**, **Don Garrett**, **Walter Bensley** and **Charlie Culver**. **Mel Lyster** and **Warren Scott**, Falcon Link instructors, claim that together they walked over 200 miles (counting the distance they went up and down) and didn't even see a pig.

Bev. Wilder, T-2 ground school instructor, is back on the job again after a siege with the measles. Those little red spots just won't rub off, will they? . . . **Delilah Romine**, Falcon switchboard operator, has taken up her new duties as secretary to the Wing Commander . . . **Rachel Furman**, purchasing secretary to **Jim Yerkes**, Cargo, is in the Loma Linda hospital where she will undergo an operation.

Anytime you can't find **S. H. Kirby**, of the Falcon radio department, he's probably on his way either to or from the flight tower. According to rules and regulations of the Federal Communications Commission the frequency of the tower transmitter must be checked every thirty minutes . . . **Mildred Spann**, formerly of metal parts, O'haul, visited the post the other day. She is now a storekeeper, 3-class in the WAVES, en route to her new assignment at the Naval Air Station in San Diego.

Fellow flight instructors at T'Bird

are convinced that **Frank De Vry** owns an expensive dog. They saw him chew and swallow a ten dollar bill the other night . . . An ordinary parachute will withstand a shock load of 8,800 pounds. If you don't believe it, check with **Julie Gold**, T-2 parachute department for particulars . . .

Mud baths may make for beauty, but **Cliff Gill**, T-2 ground school instructor, isn't convinced since the recent rainstorm when he slipped, spraddled, and splashed into a quag mire . . . Cargo employees were brought up-to-date on happenings at Thunderbird recently when **Marguerite Lebert's** uncle visited former purchasing agent **Jim Yerkes**.

Food Czar **Harry Mauler** has the perfect story to answer those who complain about present food prices. According to Harry, he once ordered a dollar dinner and the waitress said, "Yes, sir. On white or rye, sir?" . . . **Herb White** ex-T'Bird ground school instructor, writes that he is a flying engineer officer on the B-29.

Major **Hadley B. Eliker**, former Commanding Officer of the 15th AAFDT at Falcon, was seen greeting friends recently.

T'Bird squadron commander, **Charlie Fletcher**, is taking bows as a model plane builder. His miniature Lockheed Hudson recently was displayed in a downtown store window . . . A stork with a one-track mind paid two visits to Falcon last month, leaving baby girls with **Dink Robart** and **Dick Tuttle**, flight instructors. It was the third daughter for the Tuttle's.

Among famous and not-to-be forgotten sayings no doubt should be included one by **Earl Baskin**, of O'haul. When a four-bit piece dropped out of his pocoket the other noon, he quipped, "M'gosh, I must have put on my wife's pants this morning." . . . Taking a cue from the hangar 4 "cuss jug" at Thunderbird, **Elizabeth Olson**, T-2 maintenance secretary, has installed a similar system in an attempt to clear the air of fire and brimstone. Only snag in her plan to levy a "penny a cuss" fine is that **Red Johnson** demands a flat rate.

(Continued on Page 18)



PISTON RING production has soared in overhaul's engine department because of ring-grinding tables devised by Harry Barnes. Here Edith Wade operates one of the tables which has tripled daily output.

New Equipment

An important, new piece of equipment has been added to the ground school at Thunderbird—a Rolls Royce Merlin engine from a Curtis P-40 "Warhawk."

Addition of the engine, according to John Neace, chief ground school instructor, boosts the value of that department's Army-provided demonstration equipment to over \$135,000.

Other heavy parts include propellers from a P-38, AT-6 and A-17; landing gear from a B-24 "Liberator"; self-sealing gasoline tank from a P-38; Wright Cyclone engine from a Douglas A-20; and Allison motors from a P-39 and an FM-1.

PROMOTED

Steve Hathaway, Falcon primary flight instructor, has been given the post of flight commander, and Neal Kilgore has been promoted to chief pilot. From primary to advanced have gone Leo Kyle, Sid Wood, Earl Gertje, W. H. Erbig, Don Prosser, primary flight commander, is now an advanced flight commander.

CHANGE POSITIONS

Two Thunderbird flight instructors recently were advanced to the rank of flight commanders. They were Paul Lindstrom and Dr. J. Gordon Shackelford.

EX-CADETS SET RECORDS

Outstanding records are being made by Thunderbird-trained cadets stationed at advanced bases in the vast Pacific theater, and in the flak-filled European area.

"Ace" Captain Matt Gordon, Jr., a veteran combat pilot of 86 missions in the Burma-China-India theatre, wears the Air Medal, Distinguished Flying Cross, pre-Pearl Harbor, Asiatic theatre and defense of America theatre of war ribbons on his blouse below his pilot's wings. The insignia of the Flying Tigers is on his right sleeve.

Captain Gordon, Class 41-I, piloted the famous fighter plane "Nipponese Nemesis", which was still flying after it had accumulated a total of 119 bullet holes.

"I never have had to turn back during a combat flight," Gordon told hometown reporters recently. "The ground crews in China are the best in the world and a pilot leaves the field with a feeling of 100 per cent security, even though the maintenance is accomplished without elaborate equipment. We couldn't go five feet without those men in back of us.

Modestly concealing the number of Jap planes to his credit and other countless adventures he has shared with members of his squadron, Gordon conceded, "The squadron I have been flying with has one of the highest confirmed scores of any squadron in that quarter."

Fighter pilot, Captain James Ince, Class 42-A, destroyed six Nip airplanes to earn his title of "ace." Assigned to a P-38 "Lightning" unit stationed in New Guinea, Captain Ince has been awarded the Distinguished Flying Cross and two Oak Leaf clusters to a previously awarded Air Medal. He is a member of the noted "Head Hunter" squadron which received the special commendation of Gen. Douglas MacArthur for exploits over New Guinea last summer.

Probably the most bombed pin-point target in the world today is the Pontecorvo Bridge, which lies north of Cassino and south of Rome. The A-36's, P-40's, A-20's and the B-25's all have had a crack at it.

Major Ed Bland, Class 41-I, A-36 bomber squadron commander, led the first bomb mission that went on the bridge.

"You hit it," he says, "and the bombs bounce off like rubber balls. A direct hit only chips a small crater which the Jerries can fill with sand, put some paving blocks on top and it's as good as new.



REINHART SCHNELL

Big, burly Reinhart Schnell set his Stearman down for the last time at Thunderbird Field the other day, took a final long look at the place that had been "home" for the past nine months and headed east for Dixon, Ill., once more to take up the reins of that town's municipal airport.

Nine months ago when Southwest Airways was expanding with each new class, Schnell answered an SOS for pilots and joined the Thunderbird staff. Now, however, the press of business at Dixon makes it imperative he return to supervise his own enterprise.

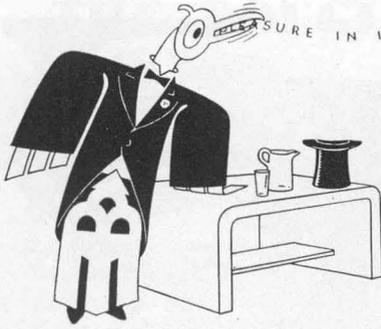
Schnell runs a training school at Dixon in addition to supervising the airport. His career as a pilot dates back to 1928 when he learned the art of flying in a Velie Monocoupe. Since then he's piled up a flying log that is just short of 5,000 hours.

At first, failure to knock out the bridge was a sore subject, but now it's become a joke. With everybody except the Liberators and Fords taking a chance at Pontecorvo, the A-36 boys have plenty of company in their misery.

Another medal-bedecked hero is Lt. David S. Benson, Class 43-A. A full-fledged Flying Fortress pilot, Lt. Benson describes German fighter opposition as being "plenty tough", but adds that American fighter pilots are doing a wonderful escort job for the heavy bombers.

Lt. Carl A. Danforth, Class 43-E, a recent Southwest Pacific Air Medal winner, is missing in action in New Guinea, according to a war department telegram to his parents. A P-38 "Lightning" pilot, Lt. Danforth was credited with shooting down two Japanese Zero planes.

SURE IN INTRODUCING ONE WHO NEEDS NO INTRODUCTION



Biographically Speaking

Convincing American chefs how to cook to please British tastes is the toughest task of Vyron Rossiter's responsibilities as chief steward at Falcon Field.

"The British diet is vastly different from the American," he declared. "British boys don't like corn, stews, spicy foods, spinach, squash, sweet potatoes, wieners or kraut. But they do like lamb chops, steaks and roast beef, a dish called Shepherd's pie.

Rossiter has been with Southwest Airways since March, 1941. He started at Thunderbird as Harry Mauler's assistant and claims he's learned more under Mauler's guidance than in all the years he's been in the business.

Rossiter started his catering career 20 years ago this June at Proctor, Minn. His first job was as a busboy. Later he managed tea rooms in Detroit, Minneapolis, St. Paul, Duluth and owned his own establishment at International Falls.

His job as Falcon steward goes farther than mere supervision of the kitchen. Rossiter is also in charge of the barracks and supply office.

He is single, owns his own desert home on the Apache Trail and claims he has no hobbies or pastimes other than cooking.

Wielder of a deft needle is Molly Soza, assistant office manager of Southwest's Sky Harbor operations and her thimble-theories have earned her the distinction "one of the best dressed women" in the organization.

For dress designing and making are Molly's hobbies and her wardrobe is well-stocked with "custom built" tog-gery. She turns out everything from play clothes to formal dresses.

Sewing is not the least of Molly's homey virtues. She is also an accomplished cook and there are few palatable dishes she can't turn out as proof of her culinary ability.

A native of Tucson, Molly attended Phoenix Junior College and upon graduation worked first in a doctor's office.

In point of service Molly is one of the oldest Southwest employees. She was the first office worker hired at Sky Harbor when the embryo Southwest organization was in the toddling stage. She started as secretary of operations in the Civilian Pilot Training service and later was promoted to assistant office manager.

Her job, as assistant to Manager Cliff Davis, is checking the pulse of Sky Harbor's activity.

Twenty-seven year old Glenn Ball is one of those odd-job-Joes who can step in and lend his weight to any maintenance task at Thunderbird field—and for good reason since he's worked every shift and almost every job.

He started with Southwest Airways in February of 1941 and for the past two years has been assistance maintenance superintendent working directly under Guy Polston. But at one time or another as he clambered the success ladder, Ball toiled on the morning and afternoon maintenance crews, the line crew and the night check crew.

He claims he can't remember just when he first started tinkering with machinery since it seems he's always been taking things apart to see what makes them tick. His first session of actual maintenance work came while serving a four-year hitch in the navy. As a blue-jacket he helped keep battlewagons percolating in the Carribean, South American and South Pacific waters.

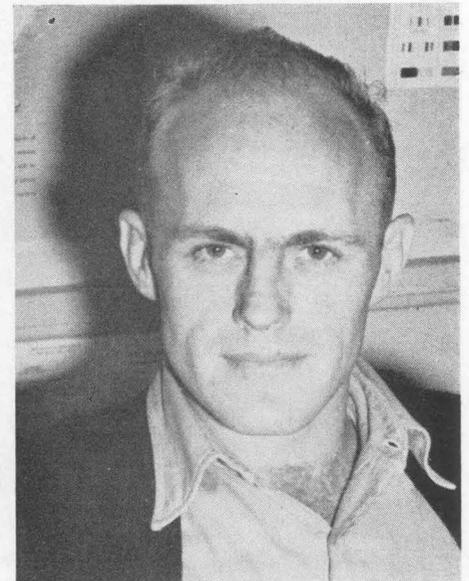
Upon completion of his naval service, Ball worked for the Ryan Aircraft Co. before coming to Southwest Airways. In all he's been in aviation for nearly eight years.



VYRON ROSSITER



MOLLIE SOZA



GLENN BALL

GOSSIP (Cont'd)



LARRY ANDERSON

If and when the Douglas Aircraft Company builds new models of its now famous "DC" series, Larry Anderson is one guy who would like to be around when they make their first flights.

It's purely a sentimental reason, for the veteran Cargo Division pilot happened to be "there" when the first DC-2 and DC-3 experimental models made their initial hops. At that time, Larry was a foreman in Douglas' wing assembly department.

Witnessing these two record flights was just about the most exciting thing in the brief life history of the 34-year-old, Missouri-born pilot, who has spent five of his most recent years teaching others to fly.

Larry began buying flight time in 1930 shortly after he arrived in Southern California from the Middle West. By 1937, he was ready to leave Douglas and become the sole instructor at the embryo Bishop (Calif.) Flying Service.

His first fling at making a living with his aerial abilities ended abruptly after 14 months, when a student "froze" on the controls and the plane crashed. It took Larry the better part of a year to recover from a serious leg injury and regain his C. A. A. licenses.

Another 12 months of instructing at various Southern California schools, and Larry joined Southwest's staff at Sky Harbor in early 1941. The following year he was transferred to Thunderbird, and, in one more year, to the Cargo Division.

There are two children in the Lawrence Harvey Anderson family, both boys, two years, and 13 months old, respectively.

Trips were in vogue at Falcon last month. Clarence Chadwick, Ted Hanna and Dick Schults, of flight, spent a week at the British Flight Training School at Terrell, Tex., looking over the place, inspecting offices and operations and trading ideas . . . Another trek saw Al Storrs, Bill Sims and Hanna drive to Los Angeles to inspect the Airways Communications system. En route home it took the combined spiling of all three to bum a dinner from Rudy Couk and the Cargo Division boys.

The cowboy boots, rodeo shirt and beeg sombrero aren't just acquired atmosphere with Charlie Matheson, T'Bird cashier, who has raised horses for 40 years. His current pride is a five-gaited black filly worth thousands of dollars. . . . Speaking of horses, Flight Lieutenant McClellan of Falcon has become a wild-west addict. At the recent Chandler rodeo he was coaxed aboard a bucking bronc. Though he lit on his chair-knuckle he enjoyed the thrill ride.

That five-week old fox terrier whom Thunderbird cadets have adopted and dubbed "Gigs" is the gift of Sidney Nabors and Billy Bryant, administrative office . . . Engine O'haul's Red Cross drive went over practically 100 per cent, thanks to Pearl Daly and John Gregory. . . . Don't ever offer to board the Great Dane owned by Stan Cox, Falcon flight instructor. The pooch gobbles 70 pounds of horse meat per week.

Thunderbird's war planes were being used for a new kind of battle recently when Army craft were sent out to search for 19 head of cattle and a truck . . . C. E. Montgomery, Sr., knows now how it feels to forget his identification button. After being a guard for eighteen months, the tables were turned recently when Montgomery, now a tug driver, forgot his badge . . . Ex-Thunderbird Marian J. Wooters helped the marine corps women's reserve celebrate its first anniversary. She wore the forest-green uniform of a private.

Don't think SH ground school chief, Morris Wilson, is making eyes at you. He's probably just doing those exercises the eye doctor gave him . . . Mr. and Mrs. Alton Gammell, T'Bird maintenance, have received word that their Navy son has received the Purple Heart for wounds in action.

T-2 Group Commander Paul Rayburn and his two squadron commanders, Roy Knupp and George Miller, professors of piscatology, report the taking of 26 beautiful specimens from Roosevelt Dam . . . There are two Maxine Meeker's at Thunderbird Field. One of the girls is secretary to Field Manager Benny Moeur, and the other works in Army Supply.



ROBERT JAMES

For a guy who started with a donkey, got into the horse business by swapping the donk and three squirrels for a Shetland pony, Robert E. James is doing O.K.,

For James, Falcon field flight commander, now specializes in palomino and Arabian horses and currently is "bustin" his buttons with pride over an Arabian stallion which he recently acquired.

"That stallion is the result of 35 years breeding", James said. "He's worth \$5,000 on the open market. But he means much more than that to me and I wouldn't part with him for \$10,000."

James owns and operates a small ranch outside Mesa and while his stable is limited to three at the present it has housed as high as 28 head. With an eye to the post-war future, James plans to stay with flying, but won't neglect his breeding farm since he's interested in continuing the strain of his highly-prized stallion.

James is only 26 years old, but his career has been as action-jammed as a radio "soap serial".

As a boy he was one of the nation's top-ranking Boy Scouts. An Eagle Scout, he held 84 of the 91 available merit badges available at that time.

An ardent athlete he once claimed the world record for the 50-yard dash and entered USC on a track and football scholarship. He played quarter and full-back in football and in track romped the century :09.7 and the 220-yard dash in :20.8.

At college he majored in mechanical engineering and sandwiched a flying course into his spare time.

Like everything else he's tried, James went right to the top in flying and since 1937 he's piled up a total of some 2,200 hours.

THE DOUGLAS DAUNTLESS DIVE BOMBER

From December 7, 1941, until November 11, 1943, the Douglas Dauntless was the only dive bomber flown from the decks of American carriers in battle. As such, it was our outstanding instrument of vengeance against the Japanese. During the period beginning February 1, 1942, and ending in November, 1943, SBD's had completed an ocean-wide circle of slashing attacks starting and ending with the Marshall and Gilbert Islands and bagging a total of Japanese war vessels far in excess of our own losses at Pearl Harbor.

A pre-war combat plane, the Dauntless was thought to be obsolete by high naval officials in the spring of 1941; but at the end of our first year of war, it was credited by Vice Admiral J. S. McCain, Deputy Chief of Naval Operations, with having "sunk more enemy combatant tonnage than all other arms of the service," and to date more than 4,000 have been delivered to the Navy.

Given the job of pinch-hitting for that part of our fleet which had been sunk or disabled at Pearl Harbor, it carried the brunt of our naval-air war in the Pacific through the battle of Midway, where it was largely instrumental in beating the Japanese so conclusively that they were forced to turn from offensive to defensive warfare.

On March 10, 1942, SBD's accompanied by TBD's, from two of our carriers flew over the Owen Stanley Mts. of New Guinea and sank or knocked out of commission every one of 12 Japanese naval vessels anchored in the harbors of Salamaua and Lae, the SBD score given by OWI being: One heavy cruiser sunk, another cruiser beached and set on fire, three light cruisers damaged, one destroyer damaged, two troop transports sunk and another damaged and two auxiliary ships forced ashore. This was accomplished with the loss of but one plane; and on April 4, without any air loss, the same combination annihilated a fleet of 14 Jap vessels in Tulagi Harbor.

In the battle of Eastern Solomons, in August, 1942, OWI says, SBD Dauntlesses sank one Jap carrier and one Jap battleship; and in the battle of Guadalcanal, in November, 1942, SBD's probably sank one battleship, sank four heavy cruisers, probably sank two other heavy cruisers, probably sank one light cruiser, badly damaged another light cruiser, sank nine troop transports, and badly damaged twenty-one others.

Dauntlesses, assigned to Marine forces at Henderson Field, after participating

in the "softening" of Jap bases on and about Guadalcanal, are credited with two Japanese destroyers sunk, five possibly sunk, twenty damaged; one heavy cruiser sunk, one possibly sunk, three damaged; one Congo class battleship possibly sunk by four hits; two troop-carrying destroyers sunk; eight cargo ships sunk, one possibly sunk and six transports sunk and three left burning and possibly sunk—all by Marine Corps pilots between August 25, 1942, and January 1, 1943.

While SBD's have been supplied to the army under the designation of A-24's, their primary function is the bombing of moving targets.

The Dauntless is a low wing monoplane, powered by Wright Cyclone engines. Power and range have been increased on successive models from 950 h.p. and 750 miles on the SBD-1 to 1200 h.p. and 1,200 miles on the SBD-5, while the service ceiling has risen from 25,000 to 26,000 feet. After the first few months of war, all planes of all series, excepting a few SBD-1s, were armed with two 50-caliber machine guns forward and two 30-caliber flexible machine guns aft. Crews and vital parts are protected by armor plating and oil and fuel are carried in bullet-proof con-

tainers. The bomb load is 1,600 pounds.

The Dauntless was designed in 1938. All control surfaces were redesigned in 1939 to meet new stability and control specifications established by the Navy as a result of operating experience. An exhaustive flight program, during which 21 different sets of tail surfaces and more than a dozen sets of lateral control surfaces were tested, caused the SBD to be considered by the Navy Department as a criterion for stability and control for this class of airplane.

These factors, combined with rugged construction, cause Navy pilots to call it one of the "toughest" planes in the war, and are responsible for reports such as that made by Lt. Commander Turner Caldwell, who formerly commanded Scouting V and has 800 combat hours in SBD's to his credit. Commander Caldwell took eleven Dauntlesses into Guadalcanal on August 24, 1942. Five weeks later he still had all his pilots, but not a single plane.

"Every plane had been shot up beyond repair," he stated. "But each had brought its pilot safely back to Henderson Field before taking 'the long count'. They are stout-bodied and stout-hearted planes!"



"DOUGLAS DAUNTLESS" dive bombers, known to the Navy as SBD's and to the Army as A-24's, carry a comb load of 1,600 pounds. An SBD-6, with further improvements and power, is now in full production, but details are still restricted.

SQUADRONS WIN CONTESTS

Squadrons Five at both Thunderbird field and Thunderbird II are winners in this month's safety contest for chalking up the best average in number of cadets graduated with the least number of accidents. These winning squadrons will be banqueted by Southwest Airways.

At Thunderbird II winners of the contest included Squadron Commander Frank LeFriece; Flight Commander Arthur Rodbro; and Instructors Burgess Colmere, George Cox, Orlando Dahl, William Hyde, George Jones, Forrest Lundy, Ray Newton, Edward Sharp and James Vick.

Other Squadrons and their commanders participating were Squadron Six, Jack Seversen; Squadron Seven, Marshall Christensen; and Squadron Eight, George Maloney.

Thunderbird field winners were William Kelly, squadron commander; Philip Carpenter, flight commander; Hans Johnston, flight commander; John Glynn, Catorce Hight, Ray Howes, James Laudardale, Walt Palmer, Edmond Snyder, Lawrence Sterns, Earl Warren, Ray Wood, Frank Carson, Donald Churchell, William Doane, John Jones and James Yardley, instructors.

Charlie Fletcher's Squadron Six was in second place, Harold Frost's Squadron One placed third, and Warren Park's Squadron Two was in fourth place.

Sets New Record

Student Officer, Lt. G. M. Kadet, Thunderbird Class 44-G, recently chalked up the highest ground school record yet to be attained on that field—the nearly perfect score of 99 per cent!

Statistically, Lt. Kadet made 97 per cent in engines; 99 in airplanes; 100 in navigation; 97 in weather; and 100 in airplane recognition.

His ground school instructors were Richard Lincoln, engines; Duane Maley, airplanes and navigation; and Louis Hoyle, weather and recognition.

Previous high record was held by A/C V. O. Woodward, with a mark of 98.25.

THE THUNDERBIRD STAFF

Editor . . . Bernadine Wurzbacher
 Photographer . . . Frank Gianelli
 STAFF ASSOCIATES
 Helen Lear Genevieve Buckles
 Jim Yerkes Elizabeth Olson



Upon completion of two years of service with Southwest Airways, Flight Instructor Carl Holmes (right) collected his gold Thunderbird service pin from Fred Kuhl, paymaster at Thunderbird II.

Thirty-seven more Southwest employees have been awarded silver pins the management's acknowledgment of a year's service. Gold Thunderbirds were presented to twenty-four workers who had qualified for two-year pins.

Two-year employees follows:

THUNDERBIRD

Administrative—Curtis Jones.
Airplane Maintenance—J. J. Armstrong, Angel Hualde, Murrel J. Penuel.
Flight Instructors—D. L. Ballard, E. E. Johnson, William R. Kelly, George J. Lahiff, Elgin R. Newell, Robert L. Pringle, Glen E. Reinbolt, Thomas G. Smith.
Flight Clerical—Regina Dalton.

FALCON

Flight Instructors—W. W. Hemphill, Ernest Piercy, N. M. Poteet, J. R. Taylor.
Airplane Maintenance—Euford Grisom, Russell Burch, Arthur Kiker, Gordon Parker.

THUNDERBIRD II

Gasoline Department—Roy C. Davidson.

OVERHAUL

Aircraft Division—Carl Kerns, James I. Morley.
 Those receiving one-year pins were:

THUNDERBIRD

Administrative—Irma Dixon, Irma Gladden.
Airplane Maintenance—Jesse E. Baird, Nellie G. Lively.
Gasoline Department—Asa A. Myers.
Building Maintenance—Fred L. Gyger, Ben H. Scott.
Guards—Ray C. Griswold, E. N. Jackson.
Flight Instructors—Edmund P. Pillsbury.
Ground School—Bateson Birkett.

FALCON

Administrative—Wesley Palmer.
Flight Instructors—J. W. Barnard, Alto Furlong, Vincent Gonsalves, Jr., W. H. Mitchell.

Airplane Maintenance—Howard Hunter.

Gasoline Department—H. A. Fleming.
Steward's Department—Elizabeth Rose, Emil Ryberg.

THUNDERBIRD II

Flight Instructors—John L. Chronister, Russell Gledhill.

Ground Maintenance—James A. Cope, Robert C. Reed.

Guard—Isaac R. Upshaw.
Airplane Maintenance—Jose Morales.

OVERHAUL

Engine Division—John Lazenby, Walter A. Ragan, Pablo Sifuentes.

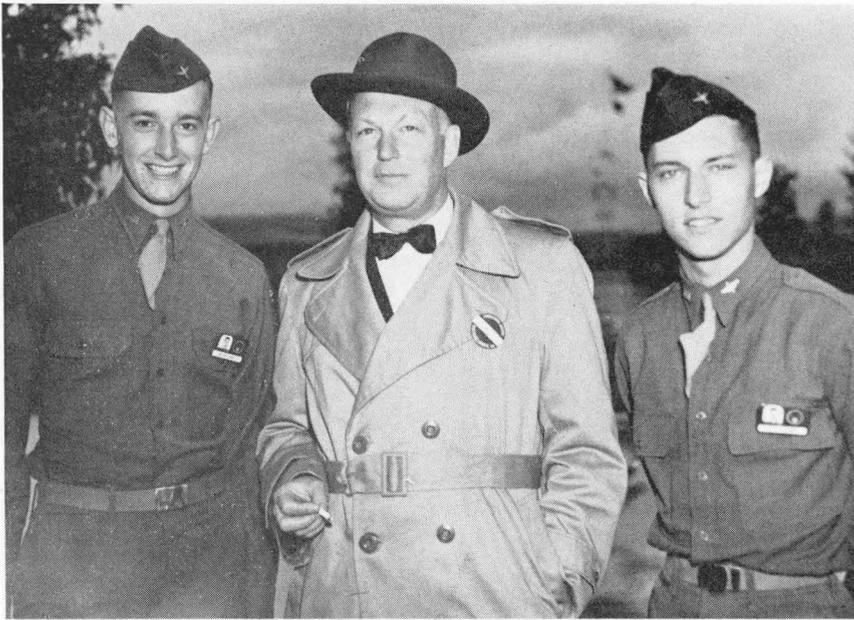
Aircraft Division—Andrew W. Butler, Mabel L. Clark, Noah H. Dihel, Charles A. Donna, Ollie A. Dosh, Thelma L. Dust, Ruby T. Sherman, Luisa Sifuentes.

Guess 'Em?

Here are the answers to the questions on page—.

- (b) F-6-F.
- (a) ten inches.
- (c) P-61.
- (b) P-39-Q.
- (b) 8 feet 6 inches.
- (c) propeller.
- (b) three.
- (b) three.
- (c) 7 $\frac{3}{8}$ inches.
- (a) "Dragon."

★★ VISITORS OF THE MONTH ★★



INTERESTED VISITOR John J. Louis, eastern advertising magnate, stopped in at Thunderbird II and was greeted by Cadets Thurston Hatcher (left) and Reginald Haynie whom he had entertained at his palatial Camelback district home.



FAMED NOVELIST Faith Baldwin and party paid a call at Thunderbird II. She is pictured above (left) with Phoebe Mizen, social directress at Camelback Inn.

THEY ALSO STOPPED BY

FALCON: Major D. M. O'Connell, and Major Wesley H. Vernon, who made a technical inspection of the post.

OVERHAUL: Majors George L. McCollum and Harry S. Myhres, Captain Robert R. Crouse and Lt. Howard Z. Dawson, of the San Bernardino Air Service Command, on a routine inspection.

CARGO: Major Arron R. Anthony, contracting officer of the Materiel Command; Major William Capp, Command Officer 5th Sector Domestic Transportation ATC, Captain Frederick W. Hess and Lt. Carlisle.



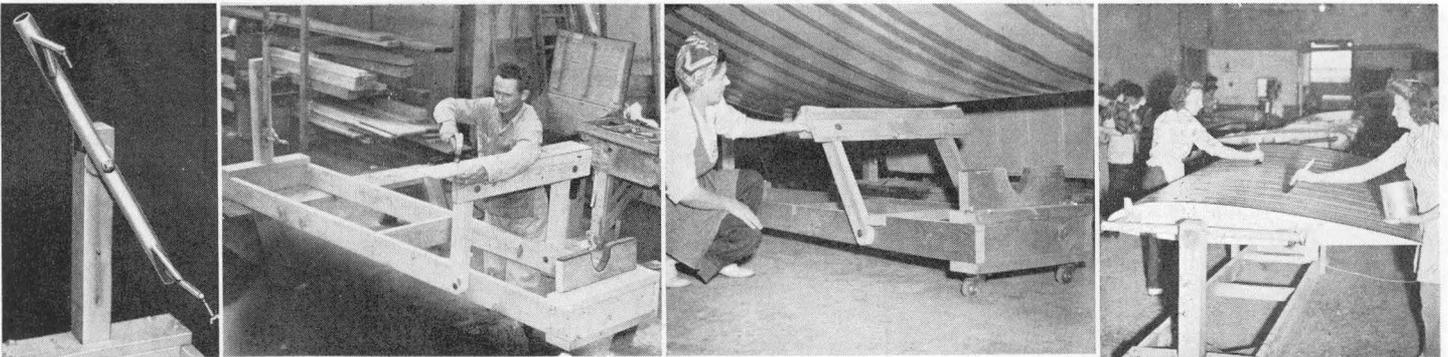
C. A. A. INSPECTORS Oliver F. Peasnell (left) and C. Warren Cole, airport engineers from Santa Monica, devoted a day to a tour of Thunderbird and discussion with field executives.



INFORMATION DIRECTOR Wayne Weishaar of the Aeronautical Training Society, Washington, D. C., signs in at the Thunderbird gate prior to inspecting flight and Overhaul operations. Well-pleased with what he saw, Weishaar tabbed the field one of the nation's best.



NAVY PT BOAT Lt. (jg) Thomas Wardell (left), former chief ground school instructor at Thunderbird II, swaps news with adjutant Lt. J. L. Blyholder. Wardell is now stationed on the east coast.



Wing-Rack Speeds Production

A new wing-rack is saving time, effort and storage space at Southwest's Overhaul Depot, enabling a tremendous step-up in the rate of wing production.

Constructed almost entirely of wood, mounted on casters and featuring a revolving arm which enables complete turning of wings without removal from the rack, the device has many advantages over the old saw-horse type support which it supersedes.

Using the new rack one worker merely rolls the wing into position whereas two formerly had to carry units from one station to the next.

Complete turning of the wings is permitted by the following arm which is bolted to the wing attachment fitting and wings stay on the same rack from the time they leave woodworking until they're mounted on planes.

Storage space is facilitated since the racks are only 24 inches wide as compared to 60 inches for the saw horses.

Original idea for the racks was thought up by Carl Bailey. Modifications were added by President Jack Connelly and General Manager Felix Kallis.

The racks are the answer to a two-fold problem—create more storage space and simplify the constant task of turning wings. Most of Southwest's fabric and paint and dope department employees are women who, in the past, had to SOS for male help to turn or carry wings. This has been entirely eliminated with these new racks.

Racks are ten feet long and 24 inches wide with an upright armpost 34 inches mounting a 38-inch revolving steel arm. A "horse" 25 inches high supporting the wing when in horizontal position, is swivled on a $\frac{3}{8}$ inch bolt 26 $\frac{1}{2}$ inches from the rear crosstie. The tailpiece, notched to take the leading edge of a wing, is 20 inches wide. When let down it folds between the two 10 foot stringers. Framework of the rack is made up of two-inch stock. The armpost is four-by-four.

Points where the wing rests on the horse and tailpiece are padded with $\frac{1}{4}$ inch felt.

