

# GRASSHOPPER ROUNDUP

BY JAMES P. BUSH

**N**ot all warbirds had huge engines and breathed fire from multiple gunports. Some were designed to serve ground troops in a manner no other airplane could muster. Enter the Grasshopper.



In the summer of 1941, with a world war knocking at America's door, the U.S. Army was itching for a "low and slow" observation plane. The Army wanted one that could loiter near and over the hidden enemy and, when spotted, could then coordinate with artillery units to rain destruction down upon the foe. During the Louisiana war games of 1941, three of the big names in aviation—Taylorcraft, Aeronca, and Piper—showed up to play, each with a proven, off-the-shelf candidate, in hopes of winning a lucrative military contract. The Stinson L-1 Vigilant, already on line, significantly dwarfed the civilian entrants. Needless to say, "bigger" was not better, as the little "grasshoppers" won the day.

As with all military aircraft, the three contenders were given alphanumeric designations with their fresh coats of Army green paint. The original military letter code for an observation aircraft was "O," but it was changed to "L" (for "liaison") in 1942. The "L-birds" were all fabric covered, similar in length and wingspan, and carried a pilot and observer seated in tandem surrounded by a glass greenhouse. The same well-built and proven "bulletproof engine," the Continental A-65, powered most of the early models, until the purpose-built Stinson L-5 arrived with a bigger airframe and bigger Lycoming O-435 190hp engine.

# Treetop Warriors in Fabric Kites



Sometimes called "grasshoppers" by the military and "warbugs" by civilian enthusiasts, the liaison L-birds, like the L-3 pictured here, performed duties no other aircraft could even approximate. (Photo courtesy of James P. Busha)

## Stinson L-1 Vigilant

The Stinson L-1 Vigilant was equipped with full-span automatic slats on the leading edges of the wings and pilot-operated slotted flaps on the trailing edges. Thus, Vigilants were well suited for operations from short fields. With a length of more than 34 feet and

The rudimentary appearance of the Vigilant belies the fact that it was a sophisticated piece of aeronautical engineering. (Photo courtesy of Stan Piet)

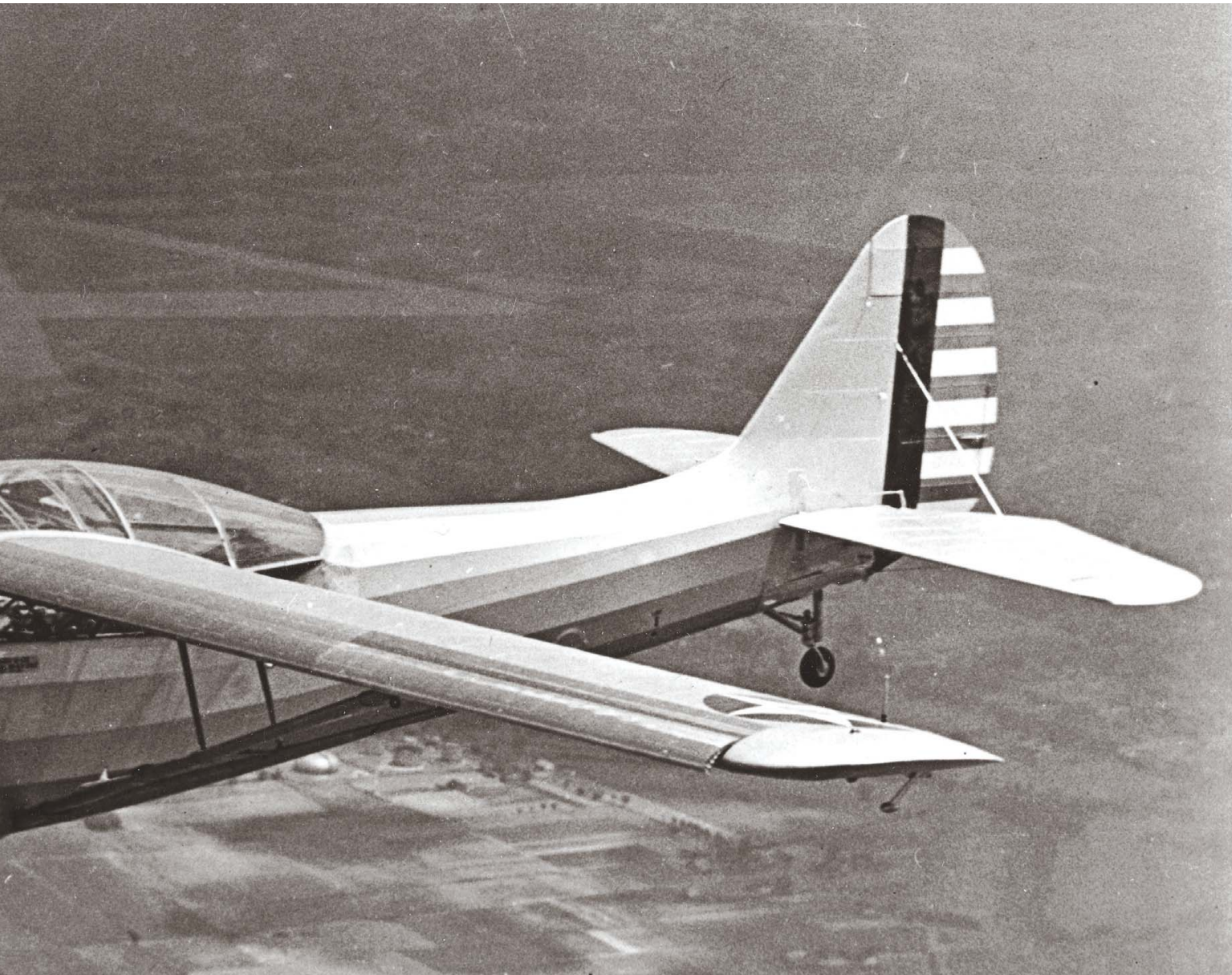


As if the Consolidated-Vultee-Stinson L-1 wasn't tall enough, amphibious floats gave it a higher profile as well as increased utility. (Photo courtesy of Stan Piet)

a wingspan of almost 51 feet, the top speed of the liaison giant was around 122mph via a 295hp Lycoming R-680 radial engine.

During WW II, the Vigilant was used in a variety of roles, including towing gliders, spotting artillery, undertaking rescue missions, supplying front-line troops, and conducting clandestine missions behind enemy lines. Some Vigilants were converted as air ambulances, with a set of litters in the rear to carry wounded soldiers to field hospitals. Whether on wheels, skis, or floats, the Vigilant was able to carry out its mission when called upon.





The Vigilant is one of the rarest warbugs in captivity. Only three L-1 Vigilants are still airworthy in the world. (Photo courtesy of James P. Busha)



Serving primarily as a stateside trainer and liaison hack, the L-2 did much of its service converted to gliders. (Photo by bentwing.com)

Later L-2s were equipped with spoilers on top of the wings, which killed some of the type's well-known float on landing. (Photo courtesy of EN-Archive)

## Taylorcraft L-2

The first "civilian" aircraft to compete was from the Taylorcraft Company, given the designation O-57/L-2. The L-2 had a wingspan of 35 feet 2 inches and a fuselage length of 22 feet 9 inches. The empty weight was 875 pounds, with a gross weight of 1,300 pounds. With a maximum speed of 98mph, the L-2 was the fastest contender in the field. Later models incorporated wing spoilers similar to those found on gliders, allowing the aircraft to make very steep approaches to short landing strips.

Of all the models considered, the only one that remained stateside, never seeing combat, was the L-2. Designed and built by C. Gilbert Taylor, the man responsible for the famous Taylor Cub, which eventually became the J-3 Piper Cub, the L-2 proved it could adapt to anything the U.S. military threw at it, including having its engine removed and replaced with a third seat.

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With a shortage of gliders and glider pilots, the U.S. military turned to Taylorcraft for help, and the company converted L-2s into three-seat glider trainers called "TG-6s." Easy to fly and cheap to build, the gliders helped train hundreds of men. Some pilots ended up flying the bigger versions over the beaches and hedgerows of Europe during D-Day operations.



## Aeronca L-3 Defender

The next entrant came from Aeronca Aircraft Company in Ohio, receiving the military designation O-58/L-3. Based on the civilian version of the 65TC, the L-3 carried the pilot in front with the observer in back, facing forward or rearward depending on the mission. Some L-3s saw combat in North Africa, Europe, and the South Pacific.

The L-3's wingspan was 35 feet, bolted to a 21-foot-long fuselage. It had an empty weight of 865 pounds and a gross weight of 1,300 pounds. Many Army pilots who flew "downhill" in an L-3 tried to avoid the bullets coming "uphill," as they often exceeded the blistering maximum speed of 87mph. Around 1,500 L-3s were built by Aeronca.

*"That damn 65-horse Aeronca Defender (L-3) saved my butt. When I entered the service in January of '42, I had already obtained my private pilot's license. I had a whopping 39 hours in the Aeronca, so when I went to Primary, instructors didn't have to tell me about chandelles, loops, and spins because I had*

**"Learning to fly that little tandem two-seater built a foundation of stick and rudder skills that carried over to both the P-47 Thunderbolt and P-51 Mustangs."**

*that training already. My instructors had a little 'fun' with me, teaching me things I was supposed to learn in Basic. I went on to Basic and the same thing happened; I was taught tactics and air work I was supposed to learn in Advanced. When I got to Advanced, I was labeled a 'hot pilot.'*

*After graduation, I was sent to fighters. To this day, I still consider those 39 hours in the Aeronca as the most important time I ever had in the air. Learning to fly that little tandem two-seater built a foundation of stick and rudder skills that carried over to both the P-47 Thunderbolt and P-51 Mustangs I flew in during combat with the 352nd Fighter Group over Europe, where I was credited with 13.33 enemy aircraft destroyed."*

—Lt. Col. Donald S. Bryan, USAF, Retired

One of the less numerous L-birds, the Aeronca L-3 nonetheless saw its share of combat around the world. (Photo courtesy of James P. Busha)

Lt. John Donnan with his L-4 just after D-Day. (Photo courtesy of Jack Cook)



## Piper L-4 Cub

The last contender of the original three—and probably the best known—was the Piper O-59/L-4. The L-4 was a J-3 Cub of a different color; Piper simply cut the fabric away on the back and sides of the fuselage and replaced it with Plexiglas. The Cub enjoyed a successful civilian life, with many men and women receiving their flight instruction in the vulnerable J-3, and then it was time for the Cub to go to war. More than 5,000 L-4s were produced and sent to all corners of the globe, contributing to the Allied victory.

During WW II, the L-4 flew off aircraft carriers, landed on beachheads, and evacuated countless wounded men from the battlefields. One L-4 named “Miss Me!?” also participated in one of the last aerial victories of the war. On April 11, 1945, its pilot and observer, using their semi-automatic pistols, shot down a German observation plane. Not wanting to leave the job unfinished, the L-4 landed next to the wrecked German aircraft and captured its crew.

The L-4 had a wingspan of 35 feet 2 inches and a fuselage length of 22 feet 3 inches. The Piper was the lightweight of the bunch, weighing 695 pounds empty, with a gross weight of 1,220

pounds. The generic name given to all of these workhorses in 1941 came from a general who dubbed them “grasshoppers” because of their ability to land and take off in very short distances.

*“I had named my new L-4 ‘Miss Me!?’ for two reasons. One was because I wanted the Germans to miss me when they shot at me, and the other reason is I hoped someone was missing me back home.*

*On that day’s mission, [William] Martin was again spotting from the back seat as we flew out ahead of the advancing column looking for targets. We were flying at between 600 and 800 feet when we spotted a German motorcycle with sidecar that came racing out of a treeline below. This guy was parallel to the front lines, and we assumed he was a messenger. Our plan was to see where he was going, then we would fly alongside of him and pop a couple of rounds off at him from our .45s. We were all set to do just that when, all of a sudden, a German Fieseler Fi 156 Storch flew right below us at treetop level.*

*The Fiesler Storch tried his best to outmaneuver us, but it is darn near impossible to outmaneuver a Cub! I flew at him head on, and neither one of us was changing course or altitude. At the last minute,*

Underneath the olive drab paint is a nearly stock J-3 Cub. It had more Plexiglas and radios, but that was about the only changes made when it was drafted as an L-4. (Photo courtesy of Stan Piet)



Lt. William Martin (observer) and Lt. Merritt Frances inspecting the Storch they had just downed. This is one of the few aerial victories by an L-bird during WW II. Also, it's possibly the only one brought down with 1911 .45 Colts. (Photo courtesy of James P. Busha)



I jinxed back on the stick, and as we flew over him, missing him by a few feet, I remember thinking there was a lot of glass windows over the Storch's cockpit. I realized that both the German pilot in the front and the guy in the back had just seen us because their eyes were as big as saucers. Lt. Martin and I started to fire at him with our .45s as we passed overhead. The Storch was 30mph faster than we were, but instead of running, he tried to circle upward for altitude. I could turn tighter than he could, so it didn't take us long to get back into a firing position as we let loose again with our handguns. This time, I unloaded my entire magazine.

I had to hold the L-4's stick with my knees as I dropped my empty magazine out of the airplane; there was no way I wanted that to lodge under my rudder pedal. I continued to fly with my knees as I put a fresh magazine into the .45 and I began to fire at the Storch again. I was getting close to him at that time and still above him, so I led him just a little bit. When I thought I had the right lead, I began to crank off rounds as fast as I could. I saw a small flash near his engine cowling and on his fuselage, so I knew I was hitting him, especially when I saw fuel streaming from one of the fuel tanks. The Storch began to turn

left and climb, and then suddenly made a hard right and dove into a corkscrew turn. I was still above him as I emptied my last magazine into him. We were finally able to drive him into the ground as the Storch tried one last turn. Because his wings were much longer than mine, he misjudged his height and his right wing dug into the ground. It was more of a controlled

crash than it was a landing as the Storch plowed into a beet field, wiping out his gear and right wing."

—Lt. Merritt Duane Frances, U.S. Army, Retired, 5th Armored Division, 71st Field Artillery, 9th Army, 11 April 1945, Vesbeck, Germany



Every military aviator is—and was—a fighter pilot at heart, including L-bird pilots. Many went out of their way to join the fight. (Photo courtesy of Stan Piet)

## Stinson L-5 Sentinel



Although much larger than the other common L-birds, the L-5 still lent itself handily to being crated and shipped where needed. It was simple enough that it was easy to assemble in the field. (Photo courtesy of Stan Piet)

The L-5 Sentinel was especially well suited for duty in the Pacific, where it had to deal with weather and terrain issues. (Photo courtesy of Stan Piet)

Built by the Stinson Division of Consolidated-Vultee Aircraft in Wayne, Michigan, which had also built the L-1A, the L-5 was the biggest of the tandem-seat grasshoppers. Reportedly, the government had approached Stinson to build more L-1A Vigilants, but the company stated that it could design a different airplane that would be less expensive and less complex yet would do the job just as well as the much larger Vigilant.

Thus emerged the L-5 Sentinel, designed and built specially for getting in and out of tight, rough places. With a wingspan of 34 feet and a length of 24 feet, the L-5 had an empty weight of 1,550 pounds and a gross weight of 2,200 pounds. It was constructed of chromoly steel tubing with wood wings, all covered with fabric. Its wraparound Plexiglas greenhouse gave the pilot and observer an unobstructed view. The L-5 had three times the power of its smaller warbug cousins owing to the 6-cylinder, 190hp Lycoming O-435 engine. With the other L-birds, the L-5 proved its worth and was the second-most-used liaison airplane in WW II next to the L-4 Cub. The airplane was definitely a flying jeep, and the later models had large litter doors

installed in the rear fuselage area to carry the wounded.

*"When we got orders to move to the Pacific Theatre, we crated the L-5s, put them in containers, and loaded everyone on the boat and set sail for Australia. We were the first liaison squadron sent to the South Pacific. Upon arrival in Australia, I reported to the 5th Air Force, found the duty officer and told him very proudly, 'The 25th Liaison Squadron has arrived and is ready for duty!'"* The officer looked up at me and asked, "What is a liaison squadron?" Before I could answer, he said, "Don't get in the way of the bombers and fighters, there's a war on, ya know!"

*Things were becoming very busy for the group. I would send two or three different flights out to the combat units to look for downed airmen, to drop food and supplies to ground units, haul wounded out, or just deliver mail and supplies. We finally got to a point that, after we took a couple downed pilots out of the jungle, we realized what our role was in this war. All in all, when I was in command, I believe we rescued over 50 bomber and fighter pilots from the jungle. The fighter and bomber boys grew to appreciate us. If any of the 'landing sites' looked too short or too tight for the L-5s to get in, we would borrow an L-4 Cub from one of the artillery units and use that for a specific mission.*

*We built up quite a reputation, and with that, I felt the group needed to have its own name and symbol. Someone in the group came up with the name 'Guinea Short Lines,' and we had an artist in the group paint a kangaroo under the name because 'we were just hopping around everywhere.' We would be forever known as the 'Guinea Short Lines.'"*

—Lt. Col. Frank J. Barlett, USAF, Retired





1st Lt. Thomas Rozga, a frustrated Marine L-5 pilot on Iwo Jima with VMO-4, poses with his solution for doing more than just observing the enemy: three bazookas under each wing. (Photo courtesy of James P. Busha)

## Bazookas on an Airplane?!

*"As a Marine observation pilot, droning around above a battlefield talking on the radio calling in artillery, most of us were frustrated fighter pilots. We wanted in on the action, but with only a .45-caliber pistol slung on our hips, we knew we had to come up with something bigger to do any damage. One of the pilots in our squadron had the mindset of an ordnance man and came up to me one day and said, 'Skipper, how's about we mount some bazookas on the airplanes?' I laughed and said, 'Do you really think it can be done?' He nodded his head up and down like an excited boy and said, 'I know it can be done!'*

*My concern was that the fabric-covered tail section or elevator on the OY-1 [the Marine L-5] would be burned completely off from the flame that exited the rear tube of the bazooka. The smile from the pilot's face departed and he became more serious, thinking about the question I posed. 'I guess it's possible, Skipper, but we won't know unless we try it out. Want me to mount one on each side?'*

*I thought about it for a second and said, 'Hell, if we're going to do this right, then let's put three bazookas on each side. Now go find some bazookas!'*

*We had installed six toggle switches on the instrument panel to fire each of the bazookas. The handling was beautiful, no adverse effect whatsoever, and no fire exiting the rear tube. As a matter of fact, once the projectiles have left the bazooka, it becomes a hollow tube with no resistance and excellent airflow. It made for some great Marine Observation payback!"*

-1st Lt. Thomas Rozga, USMC, VMO-4, Retired ✈



Lt. Rozga was surprised that the blast from launching the rockets had almost no effect on the L-5. He could fire them one at a time or in salvo mode. (Photo courtesy of James P. Busha)