The DC-3 is fifty years old this month and still flying. It may be immortal.

The Grand Old Gooney Bird

BY C. V. GLINES

TRIVIA QUESTION: What transport aircraft designed to carry twenty-one passengers has hauled more than 100 and has been transformed into a fighter, bomber, amphibian, glider, tow plane, laundry, classroom, crop duster, flying loudspeaker, hospital, wire layer, command post, mobile home, chicken coop, restaurant, fire fighter, and chapel?

ANSWER: The Douglas DC-3, also known in the Air Force as the C-47 (plus other designations) or Skytrain and in the Navy as the R4D. The British called it the Dakota. The airlines referred to it simply as the Three; their pilots called it Old Methuselah, Placid Plodder, Dowerger Duchess, Doug, or the Dizzy Three. But the name most commonly applied to this Grand Old Lady of the Skies is Gooney Bird, named after the albatross, a seabird known for its endurance and ability to fly great distances.
Whether in civilian livery or warpaint, the Gooney Bird has done yeoman-like work on every continent in the world, once broke the coast-to-coast speed record, and set nineteen other national and international speed records. It was the first aircraft to land at both poles and, according to C. R. Smith, former president of American Airlines, was “the first airplane that could make money just by hauling passengers.”

The progenitor of the ubiquitous Gooney Bird was the DC-1, which came about through a specification issued by Jack Frye, president of Transcontinental and Western Air (now Trans World Airlines) on August 2, 1932. The letter asked for bids for an all-metal monoplane to be manned by a crew of two, with a maximum gross weight of 14,200 pounds, a range of 1,080 miles at 145 miles per hour, and the capacity to carry twelve passengers. The lucky bidder would receive an order for “ten or more trimotor transport planes.”

The letter was sent to the presidents of the Curtiss-Wright, Ford, Martin, Consolidated, and Douglas. Donald W. Douglas, Sr., head of the company that built several mail planes and the famous Douglas World Cruisers that had circumnavigated the globe in 1924, later called the Frye letter “the birth certificate of the DC ships” because it spawned a new era in aircraft design for Douglas that took advantage of new aeronautical developments then coming into being.

Instead of three engines, Douglas engineers came up with a twin-engine design. It would be a low-wing monoplane with semimonocoque fuselage and wings with a then-new “honeycomb” construction. The wheels would retract into the engine nacelles for better streamlining. Three-bladed Hamilton propellers whose pitch could be controlled by the pilot inside the cockpit would be attached to 710-horsepower Wright
On December 17, 1935, this first of more than 10,000 other Gooney Birds took to the air for an hour-and-forty-minute flight around the Santa Monica, Calif., airport. A DST (Douglas Sleeper Transport) version of the DC-3, this aircraft was later “drafted” and designated as a C-49E. The plane crashed in October 1942.

Cyclone air-cooled radial engines. The cabin would seat passengers in two rows of six passengers each. There would be a small galley and a lavatory, the latter a “first” for airline passenger comfort. The cabin would be heated and noise-insulated. In the cockpit, the two pilots would have the new gyroscopic instruments and Sperry automatic pilot, making the DC-1 the first commercial plane to be equipped with such devices.

When the Douglas design was submitted to TWA, Frye asked Charles A. Lindbergh, then a consultant, what he thought about it. Lindbergh liked it, but recommended that TWA specify that the aircraft had to prove it could take off with a full load from any point on the TWA system on one engine!

The DC-1 Appears

Douglas engineers thought they could meet this latest requirement, so a contract was signed on September 20, 1932. On June 22, 1933, a sleek, shiny craft sixty feet long with a wingspread of eighty-five feet was rolled out into the bright sunlight. On July 1, 1933, the DC-1 (for Douglas Commercial, first model) made its initial flight and began a series of tests that culminated in a successful single-engine takeoff from Winslow, Ariz., on September 4, 1933. When it was obvious that the Douglas design was meeting all the specifications, TWA placed orders for twenty-five more with slightly altered structural changes. The fuselage was to be longer and wingspread wider so that fourteen passengers could be carried. The Douglas engineers saw that they were really designing a new aircraft and labeled it the DC-2.

There was only one DC-1 built because the DC-2 immediately outdated it. The first DC-2 was accepted by TWA on May 22, 1934. Others followed, and one of them was purchased by KLM Royal Dutch Airlines. Christened Ulver, it was entered in the 1934 MacRobertson Trophy Race, better known as the London-to-Melbourne Derby. To everyone’s surprise, the DC-2 finished second in the 11,000-mile competition to a souped-up British fighter plane. The result was a sudden interest by the world’s airlines in this transport, which had not only raced the distance without difficulty but had nonchalantly carried mail and three passengers.

While orders for DC-2s poured into the Douglas factory at Santa Monica, Calif., American Airlines prepared a new set of specifications that called for a passenger capacity of twenty-one. This meant another stretch to the fuselage and a new designation—the DC-3. When the 185th DC-2 or a military variant was pushed out of the hangar, the first DC-3 was rolled out beside it. Three models of the new version were offered: a twenty-one-passenger day plane, a fourteen-passenger luxury DST “Skysleeper,” and the fourteen-passenger “club-car-of-the-air” “Skylounge.” American Airlines placed the first quantity order and, on June 25, 1936, became the first airline in the world to put the new plane into service. Shortly thereafter, Donald W. Douglas received the coveted Collier Trophy from President Roosevelt for having developed “the most outstanding twin-engined transport plane.” This plane, the President said, “by reason of its high speed, economy, and quiet passenger comfort, has been generally adopted by transport lines throughout the United States. Its merit has been further recognized by its adoption abroad, and its influence on foreign design is already apparent.”

Air Corps Interest

While the airlines found they could make money with the DC-3, the war clouds gathering in Europe prompted the US Army Air Corps to study all types of aircraft. Experts pored over the DC designs and made exhaustive flight tests of the
DC-2 and -3. The DC-1 was borrowed from TWA briefly to test the Sperry autopilot: 1,600-gallon fuel tanks were installed, which tripled its range.

Eighteen DC-2s, modified to Air Corps specifications, were ordered by the Air Corps and designated C-33s. New specifications were ordered, resulting in new designations: XC-32, C-32A, and C-34. While these were being tested and the DC-3s were being produced to airline specifications, the Air Corps asked for changes, and one DC-2 with a DC-3 tail was constructed and called the C-38. Subsequent tests proved successful, and an order was placed for thirty-five C-39s, which were DC-2s with DC-3 tails and modifications inside to carry cargo.

As was often the case before Pearl Harbor, aircraft procurement decisions were made too often by men who had never flown and were not acquainted with the capabilities and limitations of aircraft. Army officers with no knowledge of flight characteristics insisted that the loading door on the new C-39 be made wider to accommodate a 75-mm field piece. One insisted that the aircraft’s floor be rebuilt so that it would remain level while on the ground. Another wanted the floorboards covered with a sandpaper-like material so that paratroopers wouldn’t slip as they went out the door (a good idea that was adopted). Others wanted modifications to carry litter patients or urged that it be outfitted as an airborne office or that it drop paratroopers and supplies. Someone asked for the installation of hooks on the outside of the fuselage to carry spare propellers and wing panels. (During World War II in the Pacific, P-40 wings were attached underneath the fuselage to carry spare propellers and wing panels. (During World War II in the Pacific, P-40 wings were attached underneath the fuselage to carry spare propellers and wing panels.)

In an attempt to satisfy some of these separate requirements, single purchases were made of a C-41, C-41A, and C-42. The engine horsepower was boosted by the installation of 900-hp Wright Cyclone engines to accommodate the increased weight. Later, the power was again increased by the installation of 1,150-hp Pratt & Whitney engines.

During this prewar period, so many changes were made inside and out that the Air Corps designated the major model as the C-47. However, more changes were made, resulting in a few more variants with more designations: C-48, C-49, C-50, C-51, C-52, C-53, and C-68. Of these, only the C-49 and the C-53 were produced in quantity. The only difference between the C-47 and these two was that the C-49 was the “Skysleeper” version of the DC-3 and the C-53 had a wide door for use as the paratroop model. After the war, a plushed-up version of the C-47 became the C-117, and one Super DC-3, with squared-off wingtips and tail surfaces, designated the YC-129, was converted from a C-47 and purchased by the Air Force. The Navy bought 101 of this converted model. Three more were sold to Capital Airlines.

**Stories of the Goon**

As could be expected, any plane that has survived a half century of the toughest kind of flying has spawned many stories, most of them seemingly unbelievable but true. Here are some that have been documented.

- A Chinese airline DC-3 that was strafed by a Japanese fighter had to make a forced landing. One wing was completely destroyed. The only available spare wing panel—ten feet shorter—belonged to a DC-2, but had the same wing attaching points. It was put on the DC-3, which, although a little wing heavy, was flown away. Naturally, it was called the DC-2½.

- Another badly shot-up Chinese DC-3 with more than 1,000 bullet holes was patched up with canvas cut from a missionary’s awning. Capt. Harold Sweet flew it with sixty-one refugees from Chungking to a military base in India. In flight, many of the patches came off. Sweet recalled, “We could hear an eerie whistle even over the roar of the engines.” Fifteen minutes from his destination, Sweet radioed his estimated time of arrival. When he arrived, the base commander asked, “Why did you bother to call us? We could hear you coming fifty miles out!” That Gooney, of course, was named Whistling Willie.

- Several Gooneys were used as bombers during World War II. Maj. Archie C. Burdette led two planes of the 317th Troop Carrier Squadron that dropped twenty-eight barrels of napalm on Caribou Island at the entrance to Manila Harbor to burn out the last of the Japanese resisters. In Burma, Maj. Richard L. Benjamin of the 1st Air Commando Group in India piloted a “B-47” that dropped 500-pound bombs and several boxes of fragmentation bombs on an enemy truck convoy driving along the Burma Road.

- Col. Charles D. Farr and Capt. John A. McCann of the 443d Troop Carrier Group in Burma installed
two .50-caliber machine guns in the aft section of two Gooneys. "The guns had a radius of action of about 160 degrees, about eighty degrees of elevation and a like amount of declination, minus, of course, the contour of the tail and wing assembly, about which there was a lot of head-shaking among the pilots," according to McCann. Both planes were used successfully during low-altitude drop missions. Side-firing, pilot-aimed 7.62-mm Gatling guns were installed on Gooneys in Vietnam to give them a new sobriquet—"Puff the Magic Dragon" or "Spooky," and a new designation, AC-47.

- Although designed to carry about 5,000 pounds of freight, Gooneys have carried much more.

Capt. John Mowat once hauled eighty live sheep and sixteen shepherds with baggage and equipment, which totaled 11,000 pounds. During the Berlin Airlift, C-47s averaged somewhere between 6,000 and 7,000 pounds of varied cargo. One pilot, whose manifest said he was hauling pierced aluminum planking from Wiesbaden, actually hauled a load of pierced steel planking. Hardly able to get above the treetops along the corridor to Berlin, he flew the distance at full throttle and crunched down his Gooney at Tempelhof to discover that he had just delivered about 13,500 pounds!

- The Gooney has often carried many more passengers than the twenty-one the designers originally intended. Jimmy Doolittle, called tendants from the village at Da Lat to set what must be the all-time record.

The Gooney Bird was a tough old bird. Despite major structural damage to its center section after a midair collision, this C-47 made it back to its base.

Explored against the mountain. The other enemy fighter fled.

Animal and Amateur Aviators

Although the tales above have been verified, there are some that cannot. Yet they persist in aviation lore. For instance, there's the story of the C-47 that ran out of fuel over Missouri. The crew parachuted and watched as the Gooney gently circled and then landed gracefully wheels-up in a pasture. Another crew bailed out of a Gooney when both engines malfunctioned en route to Tempelhof during the Berlin Airlift, leaving the crew chief’s dog aboard. The plane's engines, acting erratically, kept the Gooney airborne far into East Germany, where it landed in a farmer’s
field with only minor damage. The dog was unhurt. It is said that to this
day the Russians cannot figure out
how the Americans taught a dog to
fly.

Flying the Gooney was not diffi-
cult for a qualified pilot, but tran-
sition training was necessary. Or was
it? A nineteen-year-old mechanic at
Naha AB on Okinawa didn't believe
he needed any instruction for his
flight in May 1962. The airman, as-
signed to the 51st Field Main-
tenance Squadron, for reasons only
he and his psychiatrist know, de-
cided he wanted to fly one of the
base's Gooneys. Although he had
only seven hours of instruction in a
light, single-engine plane, he was
apparently convinced that the C-47
was so easy to fly that he could do it
alone.

When no one was looking on a
late afternoon, he boarded a
Gooney, started engines, and taxied
out without radio contact with the
tower. The base was alerted, and
when it was established who was
aboard, Capt. Dallas H. Pope and
Lt. Col. Robert E. Woody took off
in another Gooney to try to talk the
airman down. As they flew forma-
tion and began to talk with him, they
found that the cover to the airspeed
pilot tube had not been removed,
but had been partially torn by the
wind. His airspeed reading was
about twenty percent less than the
actual speed.

Colonel Woody, flying copilot,
began instructing the airman in a
calm voice how to reduce the power
and prepare for a landing.

The first pass at the field was too
high, apparently because the airman
could not bring himself to pull the
throttles back. Colonel Woody in-
structed him to go around and then
set him up for a long, straight-in
approach. This time the errant
Gooney got down to fifty feet and
had to go around again. A report of
the incident tells what happened
next:

"By now the sun had dropped be-
dow the horizon, and dusk was be-
ginning to fall. A thin layer of scud
clouds had begun to form at about
800 feet, and concern was mount-
ing. Captain Pope decided that he
could best judge [the airman's]
approach by positioning the nose of
his plane underneath the tail of
[the airman's] craft. Another long,

Whatever Happened to the DC-1?

After TWA took delivery on the DC-1, it was used for a number of flight tests—so
many that the press dubbed it "the laboratory plane." In February 1934, Jack Frye
and Eddie Rickenbacker set a nonstop coast-to-coast record from Burbank to
Newark, taking the last load of mail east before President Roosevelt canceled all air
mail contracts in February 1934.

Later that year, the Department of Commerce and the Army Air Corps used the
DC-1 to test the new Sperry automatic pilot, which was linked to a radio compass
and used for navigational purposes. Additional gas tanks were installed to boost the
fuel capacity from 500 to 1,600 gallons.

In 1935, two years after its maiden flight, the DC-1 was loaned to the National
Aeronautical Association for an attempt to set new records for speed, distance, and
load. Within a three-day period, it smashed nineteen marks. Following this, Howard
Hughes, largest TWA stockholder, planned a record-breaking round-the-world
flight. He decided that the DC-1 was the airplane for the job and bought it from TWA
for this purpose in the summer of 1936. He modified it further by installing larger
engines and increasing the fuel capacity to get a 6,000-mile range. After exhaustive
tests, however, Hughes chose the faster Lockheed 14, in which he later circled the
globe in ninety-one hours.

Hughes sold the DC-1 to Viscount Forbes, the Earl of Granard, in May 1937. By
that time, the DC-1 had accumulated 1,370 flying hours.

The DC-1's new owner kept the plane for about three months and then sold it to a
French company. Shortly afterward, it turned up in Spain just as the civil war was
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drawing to a close. By September 1938, the Spanish government bought it for
L.A.P.E. (Lineas Aeropostales Espanoles.) It was painted a dull brown and put into
service between Paris, Barcelona, and Albacete. It was reportedly ordered on recon-
nnaissance missions for the Spanish Republican Army.

When Barcelona fell in March 1939, government officials fled in the DC-1 to
Toulouse, France. When the war was over, Nationalist Spanish forces flew it back to
Madrid, where it was handed over to the Sociedad Anonima de Transportes Aeros,
later named Iberia Airlines. The camouflage paint was removed, and the DC-1 was
christened Negron after a famous Nationalist pilot who had been killed in action. It
flew on regular schedules connecting cities in Spain.

On a morning in December 1940, Negron arrived at Malaga from Tetuan with
Capt. Rudolfo Bay in command. On takeoff from Malaga, the left engine failed, and
the aircraft crashed off the end of the runway. No one was injured, but the aircraft
was wrecked beyond repair.

However, the DC-1 is still making a contribution. Monks from the nearby Malaga
cathedral salvaged metal spars and skin from the wreckage to makeandas, or
portable platforms that are used during religious holidays to carry the image of the
Blessed Virgin through the streets. Thus, the Granddaddy of all Gooney Birds is still
doing a job that requires strength and dependability. Somehow, it seems right that
the DC-1 was destined to live on in this fashion.
straight-in approach was established. The landing gear and flaps were set for the landing miles from the runway. Colonel Woody established [the airman’s] approach speed at slightly above landing speed and told him to concentrate on maintaining his wings level for lineup with the runway. He told the airman to disregard his instruments and to look only at the runway and follow precisely his instructions on use of the throttles. By this method, [the airman] was talked down to within one foot of the runway surface, at which time Colonel Woody instructed him to cut the power and concentrate on keeping the aircraft straight down the runway until it coasted to a stop. When the plane was landed and under control, [the airman] taxied to base operations and shut down the engines.”

Flying on Forever?
Will the Gooney last forever? Although no one is certain, it is estimated that there are about 500 DC-3/C-47s still flying somewhere in the world—and maybe a few not flying that will be resurrected to fly again. One disabled Gooney that had been hoisted atop a restaurant in South Africa for several years after World War II was restored to airline service. A Gooney carcass used as a chicken coop in Alabama was put back into flying shape as an executive transport in the 1960s. Another that had landed on a frozen Canadian lake fell through the ice and sank. A salvager lifted it off the bottom, drained it, and when the lake was frozen again, flew it away. And there are several Gooneys abandoned by the Navy at the base at McMurdo Sound in Antarctica that are frozen in the ice there. Someday they may be deiced to fly again.

A ski-equipped Air Force search-and-rescue C-47 was dispatched to pick up the crew of a downed Icelandic Airlines DC-4 on top of Vatna Jokull Glacier in Iceland in the early 1950s. It landed safely, but despite repeated attempts to take off with JATO bottles, the Gooney wouldn’t budge. Bad weather set in, and the C-47 was abandoned, but not forgotten. Two Icelanders—Kris Oleson and Alfred Eliasson, owners of the crashed DC-4 and nearly bankrupt—wanted that C-47 to continue flying. They offered the Air Force $700 for it, and the offer was accepted. After digging through the snow and bulldozing a takeoff strip, they flew it out at a cost of about $5,000. The Gooney was flown to England for modification, but before work began, a Spanish airline executive offered the plucky pair $80,000, which they promptly accepted. The $74,300 profit enabled them to make a down payment on a DC-6 and keep their airline in business.

H. L. “Smokey” Roland of Cardiff-by-the-Sea, Calif., knew what to do with a Gooney he purchased from an airline boneyard in Arizona in the 1970s. He made it into a mobile home. And the airport at Whitehorse, Canada, uses an abandoned Gooney as a wind tee.

Those of us who have piloted the lovable Gooney Bird feel forever privileged. We agree with the words that are often used to describe it—“irreplaceable,” “indomitable,” “fabulous,” “jack-of-all-trades.” And we agree with the tribute paid to it by Braniff Airlines Capt. Len Morgan, who said, “I came to admire this machine, which could lift virtually any load strapped to its back and carry it anywhere in any weather, safely and dependably. The C-47 groaned, it protested, it rattled, it leaked oil, it ran hot, it ran cold, it ran rough, it staggered along on hot days and scared you half to death, its wings flexed and twisted in a horrifying manner, it sank back to earth with a great sigh of relief—but it flew and it flew and it flew.”

It was an old friend who brought us through thousands of hours safely and fairly comfortably. (No one ever solved the leaky windshield problem.) And we will still stop and look skyward when we hear those faithful engines purring in unison. That sound is rarer now, but we shouldn’t despair. The 1986 World Exposition at Vancouver, Canada, will feature an air show next August 6-10 in which as many as fifty DC-3/C-47s from all over the world, led by a DC-2, will make a “flypast” to honor the Gooney’s golden anniversary. There will be many of us there who will view that sight through a few tears. The Grand Old Lady of the Skies will forever have a warm place in our affections and memories.

A Gooney on Ice
How long will there be a Gooney flying?
No one knows, but it’s possible that at least one will be in the air 600 years from now. That’s because Maj. Ralph H. Tate, while on instruments, flew one onto a glacier high in the Alps in 1946 with twelve souls aboard. The Gooney was undamaged as it plowed into soft snow. All aboard were rescued by Swiss mountaineers after extensive search and rescue attempts that captured the world’s attention for more than two weeks. The plane was quickly covered over with snow, and no trace of it could later be seen from the air.

The world’s press soon forgot the incident, but not the Swiss. They collected the photos, magazines, and newspapers featuring the crash and rescue and placed them in their museum at Bern. The next spring, those who had participated in the rescue climbed back up to the plateau, located the plane, dug down to it, and placed a capsule inside. The capsule contained copies of the articles, photos, and news items. The site was quickly covered up again.

This gesture had meaning to the Swiss. It was the first time that a transport plane had crashed in the Alps without killing everyone on board. The rescue had been a classic from beginning to end, with literally hundreds of people of many nationalities pitching in to save lives. But the reason for locating the plane and placing the capsule inside was because Swiss glaciologists believe that Tate’s Gooney will sink slowly through the ice until it slides downhill and emerges at the bottom sometime in the year 2500—completely intact.

Col. C. V. Glines, USAF (Ret.), is the coauthor (with retired Lt. Col. Wendell F. Moseley) of three books about the DC-3: Grand Old Lady, The DC-3: The Story of a Fabulous Airplane, and The Legendary DC-3. Both authors have more than 1,000 hours of pilot time in the Gooney Bird. Colonel Glines’ most recent article for Air Force Magazine was “Jimmy Doolittle’s Greatest Contributions” in the September 1985 issue.