Around The World in 61 Days ...in a homebuilt

Don Taylor's Thorp T-18, which covered 24,877 miles in 171.5 flying hours during a successful globe-girdling trip, is named "Victoria", after one of Magellan's ships.

Single-place Thorp T-18 fulfills 11-year dream

by DON DOWNIE / AOPA 188441

■■ When the near-sunset lights of the Adak runway slid past the nose of the tiny Thorp homebuilt, Don Taylor (AOPA 151609) felt that he had a fair chance of making good an eleven-year-old dream. He might just be the first person to fly a homebuilt airplane around the world.

It had been a long day, that September 20, 1976. For the first time in his second 'round-the-world attempt, he had taken off with full fuel, 145 gallons. His 20-foot, 10-inch Thorp T-18 had an empty weight of 1,050 pounds and his gross at takeoff was 2,150, more than double the empty weight of the airplane. Normal takeoff weight for the T-16 is 1,500 pounds.

"I wanted to have just enough sunrise to see what I was doing on takeoff at Midway," explained Taylor. "If I waited any longer, I'd run out of daylight 1,650 miles northward and Adak isn't the biggest island in the world. If I missed it for any reason, I planned to land on the first island of the Aleutian chain that I could find before dark.

"I remember looking back over my left shoulder after heading out from Midway and watching that island go out of sight. I almost turned around and went back, but after all the effort and the help that had gone into the trip, I kept on going."

During an unplanned 16-day stay at Midway Island, Taylor had plenty of time to study his route, contact local meteorologists and strike up a friendship with a small RAF detachment that had two Vulcan bombers based temporarily at Midway.

"It just 'happened' that the RAF sent one of their Vulcans on a weather reconnaissance flight toward Adak the night before I was to take off," grinned Taylor. "They fed the data back to the U.S. Navy. That 18-hour forecast was absolutely perfect."

"I'd been in Adak just once before in the right seat of an Air Force C-47 back around 1954," said Taylor. "All I could remember was that the approach was mean and I wanted to get in before dark so I pushed my rpm up slightly to 2,325, picked up that ever-loving ADF 200 miles out and landed 30 minutes ahead of my ETA with 45 minutes of daylight and three hours of fuel remaining."

From Adak, it was all "downhill" along the surface of the globe to Cold Bay, 650 statute miles away, to Anchorage, Whitehorse, Fort St. John, Edmonton (twice), Minot and back to Oshkosh, Wis., where he had departed during the EAA's bicentennial fly-in.

Few people get into the record book the easy way, and tenacious Don Taylor is no exception. Eleven years ago, shortly after he had retired from the U.S. Air Force as a Lieutenant Colonel, Taylor decided that he wanted to make a flight that would go on the record book. One way, back in 1965, was to be the first man to fly a homebuilt airplane across the Atlantic.

First he had to learn about small airplane construction, and small engine theory, design and construction. That took eight months at the Spartan School of Aeronautics in Tulsa and earned Taylor a powerplant rating to go with his 10,000-plus hours of flight time.

He then spent six months looking at all available homebuilt designs and soon had his choice narrowed down to a Midget Mustang or Thorp's T-18. He decided on John Thorp's (AOPA 22461) T-18, a tiny tail-dragger, and went to nearby Burbank, Calif. to talk with the veteran designer.

"Can you put enough fuel in the T-18 to fly 2,000 miles?" Taylor asked.

"Yes," replied Thorp, who then asked why. When Taylor explained his goal, Thorp tried everything he could to discourage the would-be record-breaker.

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"I had to push him all the way and really sell him on the project before he would sell me a set of plans," explained Taylor. "Even then, he was against the idea because he thought I might drop in the drink. However, once he saw I was going to try anyhow, he modified the plans so that he felt I could take off safely with a 100% overload.

Taylor copied all the T-18 templates and made many of the sub-assemblies in Thorp's small shop. The strictly stock 180-hp Lycoming O-360-A2A was one of a group that Thorp had purchased and later sold at cost to T-18 builders. He completed assembly of his T-18 in a garage adjoining his private Ernst Airport, just 14 air-miles from Hemet. Call sign for the T-18 is N455DT for Thorp's print number on the record airplane plus Taylor's initials

The first 50 hours of "shake down time," required by the FAA on any new homebuilt, were flown by Taylor from his front-yard airport. Then came the first, long cross-country flight, only 1,700 miles from Hemet to Oshkosh in 12 hours, 43 minutes. Modifications and test flights were spread out over several months because Taylor goes on the personal theory that, "if an engine will go 200 hours, then it'll go 2,000."

The wiley Taylor named his T-18 "Victoria" because it coincides with the only one of Magellan's fleet to complete the first 'round-the-world trip back in 1622. The name Victoria was popular with the British and kept both the Spanish and Portuguese happy. It was even useful in the Philippines due to their early Spanish history. Victoria 76 was adopted later to reflect the bicentennial year.

Taylor didn't make it on his first attempt, but he certainly gave it a good try. He admits that the first attempt was the most nerve-wracking in all respects. Although challenging, he admits that "Number two didn't seem so bad." His first record attempt was in August, 1973, and ended 63 days later on a 3,500-foot runway, still under construction at Kurshiro, Japan. Arctic winter weather forced him to turn back. He disassembled his tiny T-18 and shipped it home by freighter. This cost him $2,200, including $800 for the crate that Japanese workmen built around N455DT in one day. Today the wood from this crate forms the structure of a hangar in front of his trailer home near Hemet.

On his first attempt, Taylor felt that he had to decide between survival gear and oxygen. There wasn't room for both so the O_2 bottle stayed home. Crossing the Alps, he had to climb to 17,500 feet to top icy clouds before shooting an ADF approach to Rome's Ciampino Airport. Because of anoxia, Taylor admits making two incorrect heading changes during the early portion of this let-down.

Taylor found that international red tape, not fuel capacity, limited his daily range. At the last minute he was denied landing permission at Baghdad. All American aircraft were prohibited over Iraq so he detoured over the lonesome Dasht-E-Kavir desert of Iran, climbing to 15,000 feet to clear a sandstorm. "Worst desert in world. Visibility nil at 15,000" said his flight log. It was eight days more to Calcutta on the first trip.

En route, he found that his planned fuel stop at Raipur, India, had no avgas, just jet fuel. Thus the former fighter pilot used the first of a series of ploys, filing VFR to Raipur, declaring a fuel shortage en route and landing at Nagput, some 100 miles distant. He refueled and was back in the air before governmental complaints developed. This same procedure, while less than perfect, actually made it possible for him to complete his goal three years later.

After his first attempt, tenacious Taylor really wasn't through, even though he told his many flying friends, "No, I wouldn't do it again. Well, not unless I had enough financing for good food and rest as well as some refinements on the airplane. I'd certainly add a cockpit heater and oxygen for safety. I'd want a more comfortable seat. I'd replace the engine cowling for better cooling and speed, update the radios and add a more powerful transmitter. (The Narco Mark 12A that's made both flights came out of a wrecked Bonanza over 10 years ago). Then, I'd remove the baggage fuel tank and add 10 gallons under the seat where it has a more forward CG. . ."

At that time, Taylor said, "The mid-Pacific route is out. A 2,200-pound Class C-1-b airplane just won't carry enough fuel to make it. Some of my friends wise-cracked that I could complete my hangar with the crate from the next trans-Pacific shipment."

Just three years later, Taylor and his T-18 were back to try it again. He'd

Taylor points out flags of 30 nations he overflew during record flight aided by help from fellow EAAers and sponsor Cobramatic.

made all the changes required in the T-18, aided by both "spiritual and practical help from local EAA chapters."

Now an "old-timer" at flying his T-18 to the far corners of the world, Taylor had his international paper work fairly well in hand. His application for landing permission stated, in part, "These countries and their airports are the best and most convenient in which to land, refuel and rest. They were selected to expedite the flight. No passengers and no cargo will be carried on this flight. All stops are for crew rest and refueling only."

The paint job on Taylor's Thorp is deliberately gaudy so that it can be seen on the desert, against foliage, over water, snow or ice. Basic elements of the $375 survival kit that Taylor has never opened include a two-man raft, flares, thermal blanket, fishing gear, etc.

A 36-cubic-foot, high-pressure oxygen bottle was strapped securely in the right seat. Taylor used oxygen on only three of the 37 flights of his second, successful attempt. "As every pilot knows, it's foolhardy to try precision IFR flying at altitudes above 12,000 feet, even if you're a young tiger. I tried it without oxygen on the first trip and had some hazy spots at 17,500 feet over the Alps. I had no such problems on the second flight and ran my oxygen tank dry on only one occasion."

According to Taylor, one of the truly inspirational aspects of the entire project was the cooperation and dedication of fellow homebuilders all over the world. He admits freely that he is not the most adept of aircraft craftsmen. Thorp has described his workmanship as "safe but not outstanding." Nearby EAA members developed a camaraderie in helping Taylor who painted a list of about twenty names on the top of the fuselage "for the most persistent helpers, but there isn't room on the whole airplane to list everyone who pitched in."

The engine is fed directly from the standard Thorp 30-gallon gravity feed tank forward of the instrument panel. Then the engine-driven fuel pump takes fuel from any of the other tanks when the selector is changed. Taylor attempted to always takeoff and land on his main tank with fuel that he was sure about. He used pick-up fuel of sometimes-questionable vintage in wing and seat tanks.

N445DT did not carry a reserve oil tank. Taylor said that he used less than one quart of oil in ten hours on long, hot flights and only a quart in 15 hours in the Arctic.

Fuel availability was a continuing problem. In Bangkok, the Thai Air Force finally drove up in an old truck with 1,000 gallons in the tank. "All I knew was that it was purple," said Taylor philosophically. On the Pacific Islands of Truk and Ponape there were thousands of gallons of jet fuel, but the avgas came out of old 55-gallon drums via a wobble pump. There was no practical way to test the age or deterioration of the fuel but to start up the engine and try it.

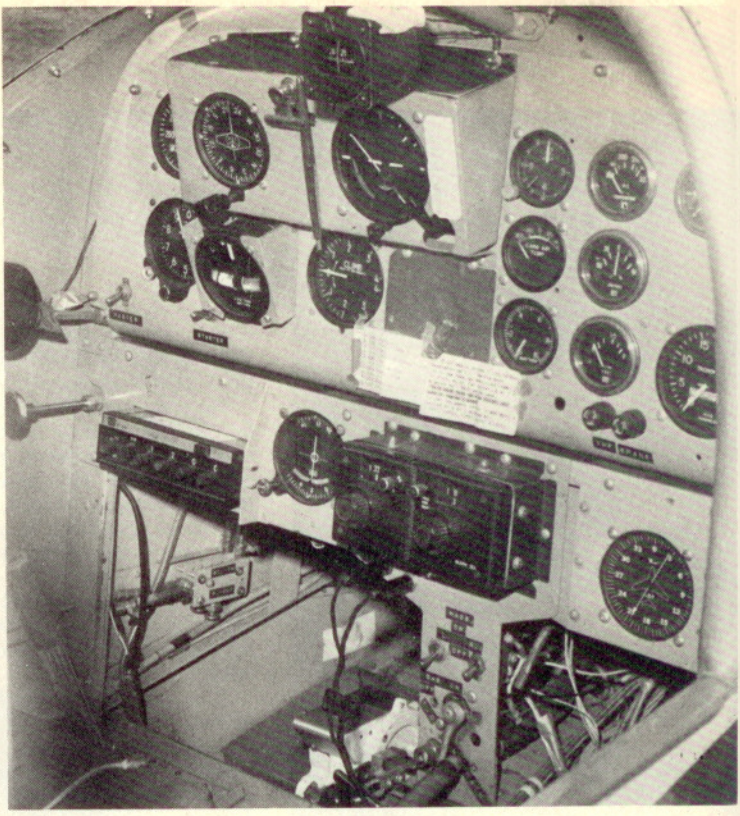
Taylor's "impossible" mid-Pacific crossing was relatively uneventful as far as Wake Island, "where the U.S. day begins." His next planned landing, and the only way the mid-Pacific route would work for a plane with the range of the T-18, was a fueling stop at Midway Island, but a landing approval was never received. Perhaps it was because the U.S. Navy didn't want to go out and look for him if he turned up missing.

Since Taylor didn't want to send his airplane home a second time on one of the few freighters to stop at Wake, he took on 120 gallons of fuel and filed a VFR flight plan to Lahui, the north island of Hawaii, some 2,400 miles distant.

"It was a funny leg," admitted Taylor. "I had the headwinds at 5,000 feet that you normally get out there. There just wasn't any dry place to go except Midway, so I amended my flight plan after 8½ hours and made it into the big U.S. Navy base with no problem."

Since he had landed without prior

Taylor and wife, Lois, balance globe on nose of tiny airplane that circled the real thing.



No fancy upholstery here. Bare bones cockpit includes only necessities to keep weight down. Attitude indicator, DG protrude to leave room for fuel tank forward of panel.

approval, Taylor expected a dressing down. However, he hadn't expected the Navy to impound his T-18. Taylor hadn't spent 22 years in the military and been a fighter pilot for nothing. He called on his reserves, members of the EAA, flying friends of congressmen and everyone else to obtain permission to fly out of Midway.

No one is really sure of the chain of events, but it took approval from the Chief of Naval Operations at the Pentagon to get Taylor a full load of fuel, a $100 fine and permission to take off for Adak. He waited an additional three days—16 days total on Midway—for that perfect weather forecast. "If I'd waited another week, I'd have been in a hell of a mess," said Taylor candidly. "The days kept getting shorter and the weather predictably worse.

"That dawn takeoff from Midway was one of the greatest experiences of all my flying days," reminisced Taylor. "Weather had said it was go now or not at all. I'd overstayed my welcome and really wanted to go. Yet, this was somewhat of a test hop since I'd never before flown the T-18 crammed full of fuel. On all the other hops, the 15-gallon extra tank had been carried empty in the baggage compartment. Out of Midway, it was in the right seat and full.

"I climbed out at 500 fpm on 2,400 rpm. All these flights were made with a fixed-pitch prop to save 20 pounds and $1,200.

"The sunrise was fully developed off my right wing and it was truly a beautiful morning. That's when I looked back and watched Midway go out of sight. Lonesome? You'd better believe it!

"When things settled down, I tuned in the HF receiver and heard the Anchorage FAA crew calling me. They called every half hour for the entire trip. I met two of the operators three days later. Great people."

After completing the long leg to Adak, Taylor began to relax a little and look toward the successful conclusion of his dream. However, he did make an unscheduled second landing at Edmonton. Some 20 minutes after takeoff, his dependable Lycoming began to shake and shudder. A mag check showed a drop of "plenty" on each side so Taylor made a 180° and returned to the airport. He and a mechanic pulled the cowling and spark plugs. The bottom plugs were completely fouled and the top ones weren't so good so Taylor threw them all away and put in an almost-new set from a nearby aircraft. The set of plugs cost Taylor $30 and are still in his T-18.

"I really should have changed plugs in Anchorage, but didn't because I was too cheap," he admitted with candor.

Two days later, he was back in Oshkosh where his wife, Lois, and EAA members met him. He celebrated his 58th birthday there after a 61-day journey of 24,877 miles in 171.5 flying hours.

What's next? Taylor smiles a lot. He's happy, but not a fully contented, almost-senior citizen. "Well, now, there are a couple of other areas that have never yet been flown by a homebuilt, but I don't want to talk about them until perhaps I get a chance to try them first." □