

'IF AT FIRST YOU DON'T SUCCEED ...'

THE FIRST NONSTOP COAST-TO-COAST FLIGHT

by R. L. MOORE

■ ■ Today 747s swoop from New York to San Diego in 4½ hours. But 51 years ago, when Lieutenants John A. Macready and Oakley G. Kelly made America's first nonstop transcontinental flight, it took a bit longer. The trip took 26 hours, 50 minutes, and 38 seconds to be exact—a remarkable feat, considering that the aircraft piloted by Macready and Kelly averaged only 92 mph, and that a compass and assorted highway maps were the pilots' only navigational aids.

Kelly was a five-year veteran in the Army Air Service when he first got the urge, in 1922, to attempt the cross-country flight.

Earlier that same year, Lt. James H. Doolittle had broken all records for cross-country flight when he flew from Jacksonville, Fla., to San Diego, Calif., in his de Havilland, stopping en route for fuel. And Lt. Col. R. L. Hartz and Lt. E. E. Harman had made a circuit flight around the boundaries of the United States in a Martin bomber, over a distance covering more than 9,800 miles. But no one had crossed the nation nonstop.

In the early twenties, the Air Service was hard pressed to justify the maintenance of its 1,681 airplanes and 958 officers. Many people felt that, since the

war was over, flying was useless.

Eager to prove its worth, the Air Service was glad to have the publicity brought by a record-breaking demonstration. So when Kelly presented the idea of the nonstop crossing, the War Department approved it in a snap. The problem lay in finding an aircraft with enough range to make the trip.

Kelly finally selected the Fokker F-IV, a high-wing monoplane designed by the Dutch weaponry wizard who had given the Germans such advanced aircraft during World War I.

The F-IV was one of the few new transports General Billy Mitchell had been able to acquire in the postwar period. It was decided to call the aircraft "T-2" (standing for "Transport 2") since mention of the name "Fokker" was likely to rankle a public still recuperating from the war.

The single-engine T-2 was a huge aircraft for the time, with a wingspan of 79.57 feet. The blunt-nosed aircraft had fully cantilevered wings and boasted a Liberty engine in command of a two-bladed wooden prop.

Kelly figured that, with some modifications, the T-2 could handle the job. But the venture would require a second flier. He initially planned for Lt. Muir S. Fairchild to be on board, but when

Fairchild was injured in an aircraft crackup, Kelly asked Lt. John A. Macready to fill in.

Macready was a good choice as copilot. A five-year Air Service veteran himself, he had already set a world altitude record and had also test-flown the 42,000-pound Barling bomber, largest plane built in its day. He was eager to be part of the transcontinental attempt.

Kelly and Macready had originally planned to fly from San Diego eastward, to take advantage of the prevailing winds. This would present the problem, however, of topping the California mountains early in the flight, when the T-2 would still be heavily loaded with fuel.

The pilots had hoped to solve that problem by flying northward after leaving San Diego, then dropping back down at San Jacinto, where the mountains were lowest, to reach the border area of Yuma, Ariz. The circuitous route would add an extra 300 miles to the trip, but the added distance would be preferable to bucking headwinds on an east-to-west flight.

In September 1922, Kelly and Macready arrived with their T-2 at Rockwell Field, San Diego. The pilots hoped, as Macready put it, to "take a few sun-



At San Diego's Rockwell Field, May 3, 1923, tired fliers Macready (left) and Kelly were welcomed with bouquets on completion of their historic transcontinental flight.

baths on the beach at Coronado and a number of swims in the Pacific" before undergoing the ordeal of the flight." But such relaxation was out of the question.

Rockwell Field was in such disuse that it was overgrown with brush. Besides having to clear a two-mile runway for the T-2, Macready and Kelly had to condition their aircraft, study weather reports and make map arrangements, install control wires to check engine temperature, and tend to other preliminaries, all of which, as Macready said, left the fliers "dog-tired by the time we were supposed to be in the pink of condition."

On October 4 the pilots learned from the U.S. Weather Bureau that a full moon was expected for the next night, to be followed by daytime clear sky and a moderate westerly wind. Conditions seemed perfect; the fliers would depart at sunrise.

They arrived at Rockwell Field shortly before the sun appeared, neither pilot having slept much the night before. A flip of the coin had Kelly as the pilot on takeoff. Macready climbed into

the cabin seat. With a total load of 10,695 pounds, the T-2 was weighted almost to maximum.

On the first try the T-2 wouldn't budge. It was as though the chocks were still in place. Macready had begun to wonder whether he had "come all the way across the continent to give a burlesque show on a steam roller" when the T-2 began to inch down the strip.

A mile down the runway, the heavy plane began to lift. Gaining altitude was slow, and when Kelly went into a turn to avoid hitting Point Loma, the craft dipped dangerously close to the ocean. Kelly circled North Island twice and got the plane up 200 feet.

At Temecula Pass, 50 miles from San Diego, the mountains were soupy with fog. By now the T-2 had reached an altitude of 1,700 feet. For an hour the two pilots searched for slots in the foothills, but the fog soon grew so thick, that they could not see more than 50 feet ahead.

Cruising blind through those winding mountain passes was bound to result in a crackup. Even if the fog

completely dissipated, the fliers had used up so much of their fuel allotment that the cross-country attempt was defeated.

Kelly and Macready knew they would have to turn back, but it seemed a shame to waste all those man-hours they had spent on preparing the T-2, so they decided to shoot for a world endurance record.

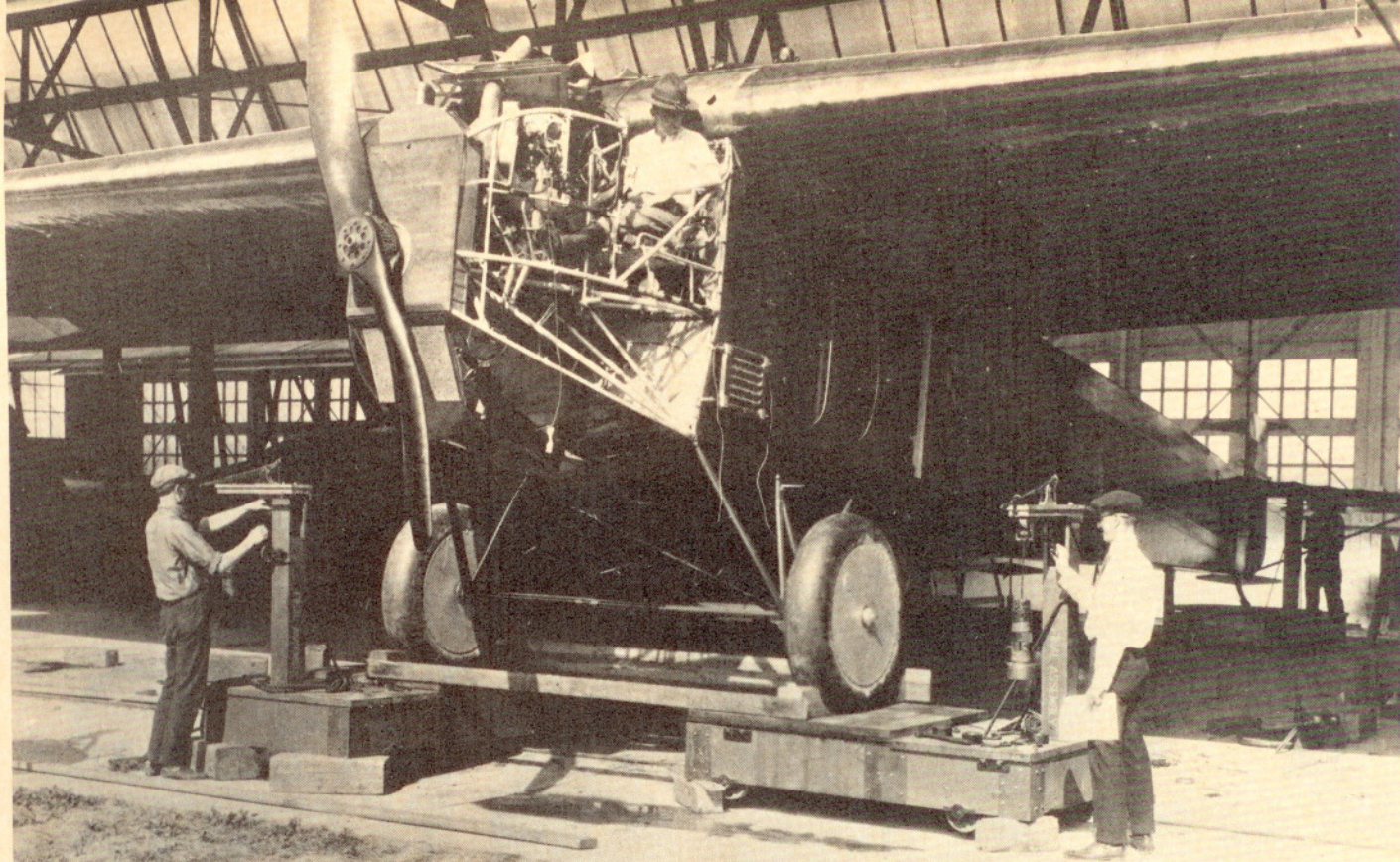
Back over Rockwell Field, the pilots circled at low altitude and dropped this note, addressed to Capt. R. G. Ervin, commanding officer:

"Impossible to get through mountain passes with heavy load on account of dense fog. . . . We are attempting to break the world's endurance record for airplanes. . . . Please get in touch with . . . National Aeronautical Association . . . to authenticate our endurance record should we be successful. . . ."

Hovering over San Diego's countryside, the pilots changed shifts every six hours. The first night was cold. The pilot at the main controls was exposed to the torture of chilly winds slapping him at 100 mph; cramped arms and legs; and the deafening roar of the propeller, which made note passing the only effective means of communication. At the end of a six-hour shift, the main pilot would crawl through a tunnel-like passageway to the rear controls. Dual controls enabled the pilot in the rear to level the ship while the pilot up front burrowed his way back.

When the T-2 finally touched down at 5:11 p.m. on October 6, the bone-weary Kelly and Macready had managed to endure 35 hours, 18 minutes, and 30 seconds in the air. The National Aeronautic Association, however, could not declare the record official because a sealed barograph had not been aboard the airplane.

Kelly and Macready were eager to make their second attempt at a transcontinental flight. They ordered their mechanics to overhaul the T-2 and hoped to start again in two or three



The huge T-2 transport balances on three scales for a preflight weigh-in. U.S. Air Force photo.

COAST-TO-COAST FLIGHT *continued*

days, if weather conditions permitted.

Finally, on November 2, 1922, the air-
men got the word they had been waiting
for from the Washington Weather
Bureau. The following morning the
pilots were at Rockwell Field before
dawn. They had slept only three hours
the night before.

When fueled, the T-2 weighed 155
pounds more than it had on the first
attempt. The aircraft again lifted slowly
on takeoff, but this time the air was
clear, and Temecula Pass and the San
Jacinto Mountains presented no prob-
lems. The team dropped down to the
Salton Sea, as they had planned, and
crossed east to the Colorado River.

At Tucson, Ariz., the high mountains
forced the T-2 to its maximum ceiling.
Updrafts lifted the plane with extra 100-
to 300-foot boosts, then let it drop sud-
denly. Around Deming, N.M., a south-
erly wind knocked the aircraft around a
bit. It took a strong effort just to keep
the plane 50 feet above the jagged
peaks. The T-2 crossed Deming at 5,200
feet, but Kelly, who was at the controls
again, knew that the course ahead lay
over elevations of 7,000 feet.

Down currents of air around Tecolote,
N.M., plunged the aircraft groundward.
Barely skimming cactuses and bushes at
20 feet, the T-2 grazed a mound of earth
that sent its wheels spinning. The
mountains at Tecolote were insurmount-
able because of the weight the aircraft
carried; therefore, the pilots jockeyed
the plane around for 40 minutes to con-
sume enough fuel to lighten it. Finally

the balky aircraft cleared the summit
with less than 30 feet to spare.

As night advanced without the moon
appearing, the pilots' course was an
aimless one until they caught a twinkle
from the lights of Tucumcari, N.M.
Here Macready took over. Rain lessened
the visibility even more, forcing Mac-
ready to fly just over the treetops to
miss the clouds. Lightning occasionally
brightened the landscape, revealing
train tracks to guide the fliers.

Goggles ablur, hearts in their throats,
Kelly and Macready were actually on the
edge of a storm system which, they later
learned, killed 12 persons and injured
80 in Oklahoma and Kansas.

At Pratt, Kan., Macready left the rail-
road and aimed straight by compass for
Wichita. It was after midnight, and for
stretches of 30 or 40 miles no lights of
any kind appeared to guide the fliers.
When the welcome lights of Saint Louis
appeared, Kelly assumed control.

Morning came, and the worst seemed
over. Macready passed a note to Kelly,
saying, "Nice work, Oak, old boy! What
do you want for supper tonight at the
Waldorf-Astoria?"

But Macready's elation was prema-
ture. Shortly past Terre Haute, Ind., the
T-2 started rocking erratically. The Lib-
erty engine's water jacket had cracked,
and water in rivulets squirted from both
sides of the engine. The pilots changed
shifts again in Dayton, Ohio, while the
leak grew more serious.

Shortly after the T-2 passed Indianap-
olis, the engine grew so hot that Mac-
ready prepared for a forced landing. It
didn't seem that the Liberty could last
another five minutes. Macready prayed

that the plane would make it back to the
Indianapolis Speedway, but it didn't
seem likely.

Then Kelly had a bright idea. He
began pouring all the liquids from the
food supply—beef broth and coffee—
into the radiator. With these coolants,
the fliers were able to reach the Indi-
anapolis Speedway and land safely.

Thus the second attempt to cross the
country nonstop was curtailed.

Macready and Kelly had had it—some
other fools could attempt the flight. But
after two days of rest, Kelly was back
at the map, rerouting a new flight. Soon
Macready, too, was bent on trying again.

From the U.S. Weather Bureau, the
pilots learned that during the latter part
of April an unusual pressure condition
occurred in the United States, reversing
the prevailing winds from west to east.
While this temporary condition—known
as the "Hudson Bay High"—obtained,
an aircraft could make the transconti-
nental flight from east to west with the
winds in its favor. This would be ideal
for the fliers because by the time they
would reach western mountains, the air-
craft would have burned off enough fuel
to be able to attain higher altitudes.

But April was a long way off, and
Kelly and Macready were eager to make
the Air Service proud of them. Since the
duration record they had set at San
Diego had not been officially accepted,
they decided to establish a better one
officially. Two Frenchmen had recently
set a record of 34 hours in the air, but
Kelly and Macready planned to beat that
time.

Their first attempt was made at Mc-
Cook Field in Dayton, as newsreel cam-

eras and hopeful crowds looked on. The T-2 taxied out on the field, rolled about 50 feet, and then bogged down solid in the mud.

Embarrassed but undaunted, the duo made a second attempt on March 30, 1923, but preignition problems developed in the Liberty engine, and after only eight hours Macready had to bring the T-2 down with a dead engine in the midst of a snowstorm.

The pair's final attempt at the record was made on April 17, 1923. Kelly and Macready set a new endurance mark of 36 hours, 14 minutes, 8 seconds, with Orville Wright acting as official timekeeper.

In preparation for the long-awaited third transcontinental try, the pilots had the T-2's engine replaced and went on to Long Island, N.Y., which was to be the flight's jumpoff point. Fuel from California was shipped in, engineering tests having revealed that this fuel was superior to eastern fuel in its antiknock quality.

On May 2, 1923, the T-2 was loaded to 10,850 pounds, just 150 pounds shy of its maximum gross weight limit. With Kelly again at the controls on takeoff, the aircraft rolled a mile down the runway of Long Island's Roosevelt Field, but refused to lift.

There seemed to be only one way to get the plane into the air. Kelly taxied to a plateau that afforded a 20-foot drop over neighboring Hazelhurst Field. When the T-2 shot over the edge of the precipice, at least it was up.

A row of hangars loomed ahead. Excitement rose in the watchful crowd below: Could the T-2 clear the hangars? An Army colonel in the crowd bet \$5,000 that it could, and that the T-2 would next be seen in San Diego.

The aircraft skimmed over the hangars and crossed New Jersey at 400 feet. Over Pennsylvania, Kelly shook the controls to signal Macready to take over from the rear.

The rear controls were for temporary use only, and visibility was poor from the rear cabin, so Macready grew slightly miffed when almost a half hour had passed and Kelly had not taken back the controls. Macready then learned that Kelly, having noticed a malfunction in the voltage regulator, had completely disassembled the unit in his lap and adjusted the breaker points. This bit of mechanics was delicate enough when performed in the repair shop, let alone in the open air at speeds close to 100 mph. But if Kelly had not been successful, the batteries would have discharged, leaving the T-2 with a total loss of electrical power.

The fliers crossed the Allegheny Divide at 2,800 feet and navigated across Pennsylvania, whose winding railways, rivers, and roads constantly confused their sense of direction. When they reached Dayton, Ohio, at 5:50 p.m., Macready became the main pilot. Mist began to impair the visibility, but Macready could occasionally see the headlights of an automobile below. After the T-2 crossed over the Wabash River, however, the drizzle obscured any headlights.

Just before 9 p.m., Macready suddenly saw a shaft of light in the distance. It was the 450-candlepower searchlight at Scotts Field, Ill., providing a guidepoint from which the pilots could find Saint Louis.

Passing Saint Louis at 500 feet in fog and drizzle, the T-2 flew on, in Macready's phrase, like a "dripping bat in the night." Without fixed reference points, he added, "we might have been flying upside-down half the time and never have known it."

Before long the pilots were just south of Jefferson City, Mo., which was a blur in the mist. They crossed the Missouri-Kansas line at midnight. The moon emerged when the plane was near the Arkansas River, and Kelly once again resumed control.

Dawn broke as the pilots flew over Tucumcari, N.M. At Santa Rosa, N.M., 1,725 miles into the flight, Macready took back the controls.

In the vicinity of St. Johns, Ariz., the countryside began rising faster than the T-2 could climb. The plane was still too heavy with fuel to surmount the heights with ease. In addition, the elevation charts were inaccurate, and while the contour map showed ground elevation as 8,000 feet, the T-2's altimeter was actually registering 10,200. Further difficulties were presented by a strong crosswind that had replaced the Hudson Bay High and was thwarting the plane's efforts to gain altitude. All of these conditions combined to force Macready to divert from the planned course and strike out in a westerly direction.

Eventually the fliers picked up the Santa Fe Railroad near Wickenburg, Ariz. Near the Arizona-California border, the T-2's tachometer drive shaft failed, but no matter—Macready was headed for the Pacific Ocean with only 170 more miles to go!

Soon San Diego was in view. Macready banked the T-2 and passed squarely along the city's main street, clearing the buildings with 100 feet to spare. Cheering crowds, waving handkerchiefs and sheets, lined the rooftops.

Macready took one turn around North Island, in order to head into the wind, and expertly landed at Rockwell Field. Greeting, the pilots hopped out of their plane as the stopwatch froze their elapsed time.

They were greeted by Major H. H. "Hap" Arnold, later to become chief of the U.S. Army Air Forces. Telegrams arrived from President Harding and General Pershing, congratulating Kelly and Macready on their triumph.

Among the messages was a \$5,000 check for the two fliers from Col. Frank R. Kenny, former executive officer of the Air Service, who had won his bet at Roosevelt Field. □



Stacked beside the T-2 are gas and oil containers holding the necessary fuel for the record flight. Kelly (center) is shaking hands with the plane's chief mechanic, Clyde Reitz; Macready is at right. U.S. Air Force photo.