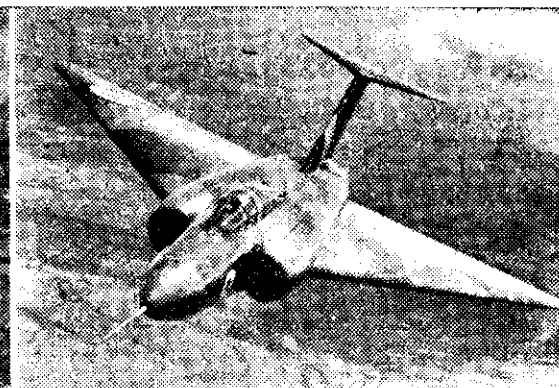
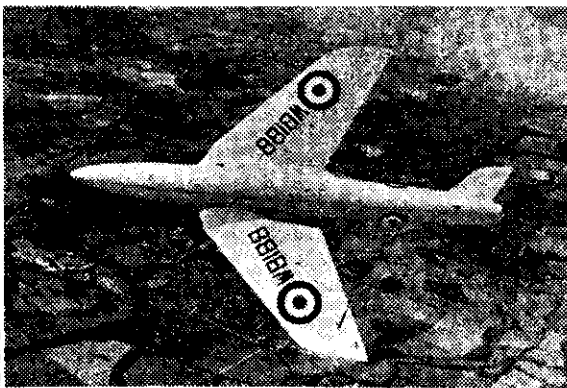
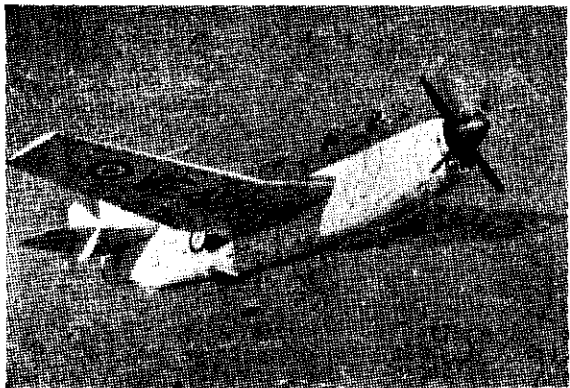




JET KING FROM OPOTIKI

ONE of the outstanding jet test pilots in the world is James Starky of Opotiki, who has recently been doing a brief tour of ground duty back home in New Zealand. While he was in Wellington he recorded a series of six talks for the NZBS, describing some of the experiences and trials of a test pilot working on prototype jets and rocket motors. These talks will be broadcast on a national basis in the next month or two. When *The Listener* finally tracked down Starky before he left the city we found a tall, gangling man who gave the impression of possessing more sheer courage than half a dozen ordinary earth-bound men. He wasn't very anxious to talk about his experiences. But he did say that for the two years before he had come back to New Zealand last September he had been chief test pilot for Armstrong Siddeley, the firm that developed the Sapphire jet engine now being used in the latest military aircraft on both sides of the Atlantic.

We later discovered from the Air Department that Starky had had an exceptional career in the air force during the war. He had served with Bomber Command in England and was awarded the D.S.O. and D.F.C. and rose to the rank of Squadron Leader. He was one of two New Zealanders selected to spend a year at the Empire Test Pilot School at Boscombe Down, in Wiltshire, which was established by the Air Ministry for civilian as well as military pilots. In the highly specialised training at this experimental station, which was the principal test establishment of the R.A.F. in England, he proved an outstanding pupil, and graduated second in the course. He joined the aero-engine development company in 1948 and stayed with them for four years, in the last two years being their chief test pilot.

Testing Prototypes

We were able to have a preview look at the scripts of his radio talks, the first of which begins in this fashion: "When the war ended in 1945, the company that I flew for as chief test pilot was given the job of designing and developing aero engines for use in future aircraft designs. In particular it had to concentrate on the development of propeller turbines, rocket motors and straightforward jet engines. I joined the firm when the first of these engines came to the stage where it could be mounted in an airframe for actual flight test." In this modest fashion

he passes over the fact that he was one of the pilots who test-flew the Canberra bomber when it was first fitted with Sapphire engines, and the Sapphire-equipped Javelin and Hawker Hunter. He flew prototypes of the Wyvern and the Navy's Gannet, fitted with the prop-jet Python and Double Mamba engines respectively, and he also tested the Snarler rocket motor. Others which he had tested were still on the secret list.

The job of a modern test pilot, as he outlines it, is far more complicated than that of a glorified Superman built up by the popular imagination, with the emphasis on nerve and muscle rather than brains. The test-pilot must have courage and powers of physical endurance far above the ordinary, but he must also be something of an aero-engineer himself, an expert technician who spends more of his time noting the dial readings of the new and complex mechanisms that surround him than he does in simply testing his plane's capabilities of speed and manoeuvrability. It is upon the test pilot's experience and ability that largely and finally depends the successful development of new types, as much as the inventive drawing-board genius of the man on the ground.

Starky points out that the role of the test pilot in the development of a new aeroplane or prototype really begins when a start is made to build it. As it progresses through all its stages he keeps a close eye on everything that is going on, and may often be able to point out

errors that a clever designer misses, until finally the aeroplane is assembled and checked on the airfield for its maiden flight.

"I've no doubt," he says, "that the test pilot should coolly step into the cockpit, take off, and fearlessly perform dexterous aerobatics, culminating in a terminal velocity dive. It's unfortunate and an anti-climax to know that of course he'll give no such performance, for he well knows that if he did it would probably be his last."

The First Flight

What does happen is that he first makes runs up and down the runway, increasing speed on each run and testing controls, brakes, and the feel of the engine. If the runs are satisfactory, and if the runway is long enough, he makes a brief take-off and landing known as a "hop." If he is still satisfied with the preliminary handling he takes the plane back to the hangar for a last check-up. This is the test pilot's worst moment, while he is waiting for his first real



JAMES STARKY, left, and some of the high-speed planes he has test-flown. From top, clockwise, the Fairey Gannet, Hawker Hunter, Gloster Javelin (delta wing) and the Electric Canberra

THE AGE OF FLIGHT

IT'S not much more than 40 years since flying began in New Zealand, but progress has been fast—it had to be to bring us in that time from planes in which you felt your way along at 60 miles an hour to the Vampire and Comet. How did it all come about? Highlights of the story are told in *The Age of Flight*, an hour-long programme by David Kohn which 2YA will broadcast at 7.57 p.m. on Friday, March 27, and again at 9.30 a.m. the following Sunday. Listeners will hear in this programme the voices of many of the men who know the story of New Zealand aviation best—the men who were on the spot when things were happening. They will talk about the beginnings of flying (remember the Walsh Brothers?), the growth of aero clubs from 1929 on, the flights of Sir Charles Kingsford Smith, the beginnings of the R.N.Z.A.F. and its work during the recent war, the development of civil aviation, air traffic control and the coming big air race. There will be a word, too, about the Comet, and finally a glance toward the future.

flight. However much he respects the brains of the team he has been working with, he knows there's a chance they may have made a miscalculation, and a bad one. "The extraordinary feeling a pilot has at that moment when his aeroplane is actually in the air for the first time, and is gathering speed and gaining altitude can't really be explained," he says, "but I know that nothing I've done can be compared with it, and other test pilots have agreed with me."

Starky points out that the active life of a test pilot nowadays is shortening. "Apart from all the worries of developing a new type, the test pilot of today spends a lot of time flying at or near the speed of sound. Flight in this field is full of surprises, most of them unpleasant, which inevitably have their effect on the toughest nervous system. The pilot is also often flying at high altitudes, and this has a most marked effect on the human body. On top of this when flying a single engined aeroplane he's uncomfortably aware that he's sitting just above a new type of combustion chamber that is burning fuel and compressed air at a temperature of some 2000 degrees centigrade, and there's only a thin outside wall between it and himself."

Finally, on the question of rocket flying he agrees that a rocket could now be made that could fly to the moon, though he thinks that the flight would be rather hazardous. Thousands of fragments are continually entering the earth's orbit from space (we see some of them at night as shooting stars); and Starky says, "I feel that perhaps just one of these fragments, going rapidly in the wrong direction, might get in the way of our rocket, and that would surely mean promotion for a junior interplanetary test pilot."

N.Z. LISTENER, MARCH 20, 1953.