

John Dennis Hodge

February 10, 1929; died May 19, 2021

Birth Location:

Leigh-on-Sea, Essex, England

Death Location:

Herndon, Virginia

Worked For:

Avro Canada as the head of the air loads section on Avro Arrow, went on to NASA

Work Dates:

1952 - 1959

Obituary (online):

John Hodge obituary

British aeronautical engineer who played a key role in Nasa and America's space race

Nigel Fountain

Sun 30 May 2021 15.03 BST

At 11am on 20 February 1959, the Canadian prime minister John Diefenbaker announced the axing of the revolutionary Avro Arrow aircraft project. The fighter was enormously expensive, but had sustained 25,000 hi-tech Canadian jobs. By 3pm on that day Avro was telling employees (via its PA system) that they were being laid off. Among the thousands to go was John Hodge, a British engineer born in Leigh-on-Sea, Essex.

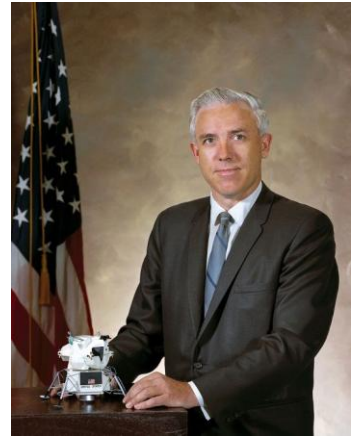
The subsequent career of Hodge, who has died aged 92, embodied the aspiration, triumph, catastrophe – and planning – that made up the saga of space flight during the cold war years, when scientists from across the west were drawn into that vast American enterprise. By 1969, in the wake of Neil Armstrong and Buzz Aldrin's moon landing, the BBC's space correspondent Reginald Turnill, citing the "anglonaut" Hodge as an example, was telling Radio 4 listeners that the "astonishing thing about America's post-Apollo space plans was that they were largely being drawn up by Englishmen".

At that point Hodge was managing Nasa's advanced missions programme. "What is needed is some sort of reusable system, a space shuttle," Hodge told the Guardian journalist Adam Raphael just before the Apollo 11 triumph. With the right money, he went on, it was not unreasonable "to think that we will have landed on Mars before the end of the century".

Booms and slumps in aspiration and funding, and geopolitics were the stuff of the space race. In 1958, reacting to the Soviet Union's launch of Sputnik 1 the previous year, President Dwight D Eisenhower had created Nasa (the National Aeronautics and Space Administration) and, within it, the Space Task Group (later the Johnson Space Centre, Houston). Manned spaceflight was on the agenda, yet, early in 1959, the STG was still only 100-strong.

Avro Canada's collision with reality provided American aerospace with its biggest windfall since 1945, when the US had scooped up the alumni of the Nazi rocket programme. Nasa recruited 32 of Avro's leading Canadian, Irish, French and British technologists, including Hodge. He was appointed technical assistant to Chris Kraft, the chief of the STG's operations division. Kraft later became Nasa's first flight director, and Hodge succeeded him to become its second, in 1963.

In May 1961 – after the cosmonaut Yuri Gagarin's Earth orbit – Eisenhower's successor, John Kennedy, had pledged that Americans would land on the moon before the end of the decade. Nasa's Gemini programme honed the technology for



the moon attempt, but in March 1966 it also generated the first potentially fatal crisis. Hodge was Houston's flight director for the Gemini VIII mission of Armstrong and David Scott. The operation entailed the first docking with an Agena target vehicle, but the combined craft pitched out of control.

The astronauts separated the capsules, but the roll persisted, at 360 degrees a second (a thruster rocket had short-circuited). Eventually Armstrong and Scott switched off the main thrusters, brought Gemini VIII back under control – and used a lot of fuel. Hodge made a brave, and crucial, decision, terminating the scheduled three-day mission on the capsule's seventh orbit.

As he recalled in an oral history interview for the Johnson centre: "If anybody ever asks, 'What did I do in the space program?', it was make sure that Neil Armstrong was around to fly on Apollo."

Worse followed, in what became a defining moment for Nasa, Hodge, the consummate planner, and his colleagues. The Apollo programme, which had begun in 1961, aimed to fulfil the Kennedy pledge. In January 1967, with Hodge as flight director and appalled witness, Apollo 1, thanks to faulty design and construction, caught fire during a rehearsal, killing the astronauts Roger Chaffee, Edward White and Virgil Grissom.

In Charles Murray and Catherine Bly Cox's book *Apollo: The Race to the Moon* (1989), Hodge, with his flight-testing background, reflected on a tragedy that had shattered some members of the team. "You understand that risk is there," he said, "and when it happens it's terrible ... You wish it didn't happen, you wish you were smarter, but you know it's going to happen, and so you learn to live with that."

In the wake of Apollo 11 and the triumphant mission of Armstrong, Aldrin and Michael Collins, enthusiasm for the moon adventure flagged. The cold war impetus was lacking – both sides had nuclear-tipped rockets aplenty to destroy the planet – and Soviet-US space collaboration grew.

Hodge was a flight director until 1968, left Nasa in 1970 and took posts with the Transportation Development Corporation of Ontario and the Department of Transportation in Washington DC. But in 1981, as he had predicted, the first space shuttle took flight, and in the Reagan era, in 1982, he was back with Nasa, directing the Space Station Task Force. In 1984-85 he worked on the Space Station Freedom project – which would evolve into the International Space Station.



Hodge, the son of John and Emily Hodge, was educated at Minchenden grammar school in Southgate, north London. In 1949 he gained a first-class degree in engineering from the Northampton Institute (now City, University of London). He then spent two years in the aerodynamics department at Vickers-Armstrong in Weybridge, Surrey, before moving to Avro Canada in Toronto.

From 1987 to 2003, he was president of an international management consultancy, JD Hodge. He received eight awards from Nasa, including its medal for exceptional service in 1967 and 1969. City University awarded him an honorary doctorate in 1966, and he was an associate fellow of the Royal Aeronautical Society.

In 1952 Hodge married Audrey Cox. She survives him, as do their children, Robert, Janice, Nicola and Jonathan. John Dennis Hodge, engineer, administrator and planner, born 10 February 1929; died 19 May 2021

<https://www.theguardian.com/science/2021/may/30/john-hodge-obituary>

<https://spacecoastdaily.com/2021/05/nasas-second-flight-director-john-hodge-dies-at-age-92/>

<https://www.tributearchive.com/obituaries/21219235/John-Dennis-Hodge>

Other:

Q: Walter Gordon, Chairman Niagara Frontier Section of the American Institute of Aeronautics and Astronautics (Western New York, Southeast Ontario and Quebec):

"How could Avro Canada go from making Lancasters under license in 1945 to the most advanced fighter in the world twelve years later?"

A: John Hodge (head of the air loads section on the Avro Arrow, then NASA's Flight Director):

"We didn't know we couldn't."

Researched by: Barry Copp (2023)

