



Dobson, who fathered the CF-100, has seen the company he built mushroom with purchase of Algoma Steel.

## How Roy Dobson pushed us into the jet age

He was broke, his borrowed factory was dubbed Dobson's Folly and Ottawa called him crazy. But in spite of ourselves, he gave us jet leadership, and built himself an industrial empire into the bargain

**By Marjorie Earl**

PHOTOGRAPHS BY PAUL ROCKETT

**S**eventeen miles northwest of Toronto, adjoining Malton airport, sprawls an untidy collection of factory buildings known in certain quarters of Canada and England as Dobson's Folly. The buildings belong to A. V. Roe Canada and their name is a testimonial to what was once considered a ruinous blunder on the part of the founder and chairman, Sir Roy Dobson.

Dobson is a bold and contrary Lancashire man of sixty-five who is managing director of A. V. Roe Limited in Manchester and a respected, if somewhat unpredictable, figure in British aviation. His judgment is usually considered sound. But when he chose December 1945, with the war just over and the market for airplanes moribund, to start an autonomous branch of his company in Canada, considered too small to design and manufacture her own aircraft even in wartime, he was thought to be getting old or going crazy or both. "You've got more guts than brains," commented his most enthusiastic supporter, C. D. Howe, then minister of munitions and supply.

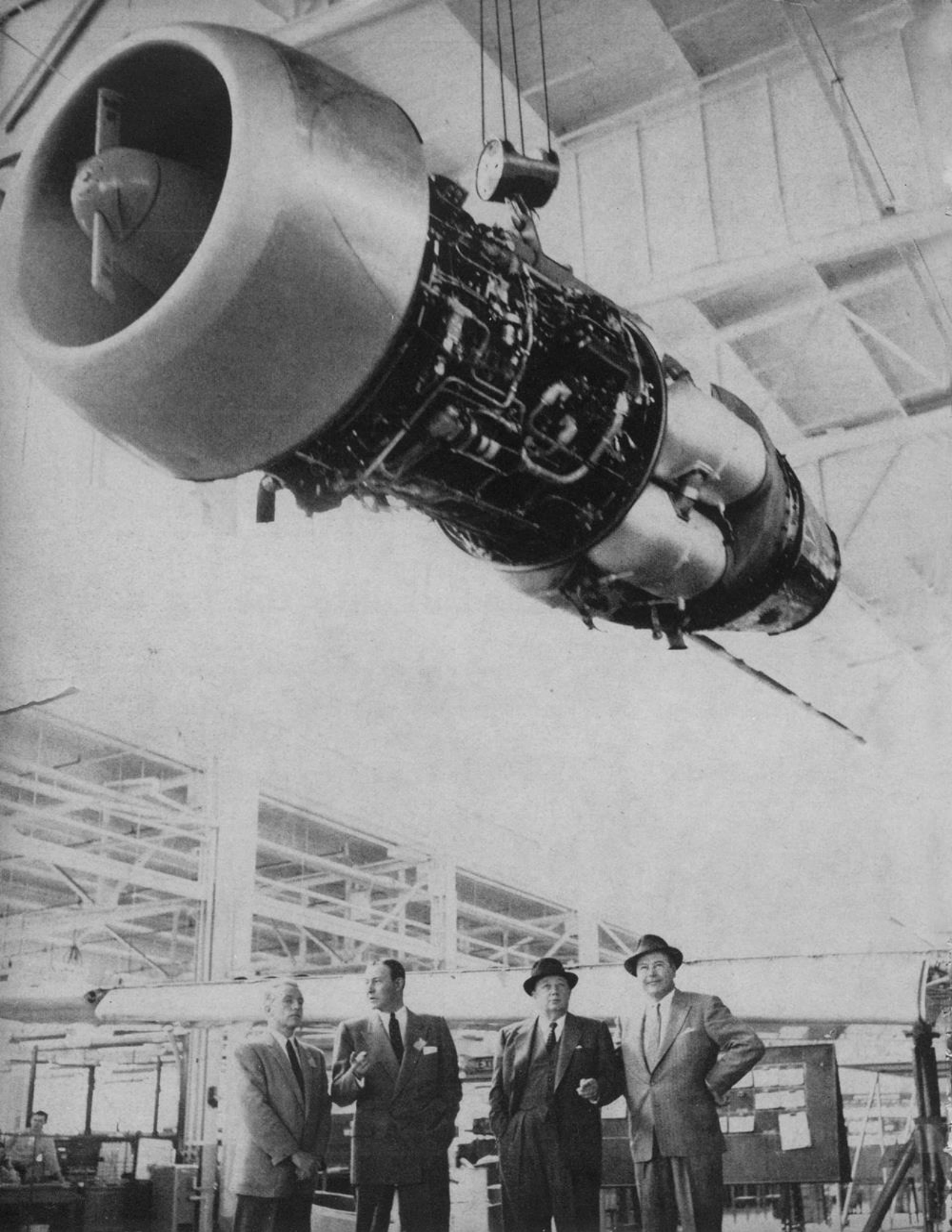
In the spring of this year when A. V. Roe Canada bought one hundred and fifty thousand

shares of Algoma Steel Corporation it became one of the biggest industrial combines in the nation. It also became a new kind of testimonial to Dobson, proving that he is not so foolish as many Canadians thought twelve years ago.

In 1945 Dobson had no money, few supporters and fewer prospects. His fellow directors in the Hawker-Siddeley Group, a combine controlling A. V. Roe Limited and twenty other aircraft and allied firms in Britain, felt tepid toward his plan to plunge them into the aircraft business in Canada when everybody else was bailing out. Even if they had been enthusiastic they were still unable to export currency from England. Before he could incorporate his company Dobson had to appeal to J. P. Bickell, the late Toronto industrialist, to lend him a thousand dollars for share capital and legal fees. He also had to appeal to Howe to lend him a plant—Victory Aircraft, at Malton, a crown company about to be dissolved—until he earned enough money to buy or pay rent.

When A. V. Roe Canada was launched in the Malton factory, so large it had once been manned by nearly ten thousand workers, it consisted

Continued over page ►







**SADDENED**, Dobson abandoned pioneer Jetliner designed by Jim Floyd (left) when Korean War broke.

"You've got more guts than brains," said C. D. Howe. Dobson answered with engines, planes—"and we're not finished yet"

of one company "without enough cash to buy a pot of paint" employing three hundred people making, among other sundries unconnected with aircraft, fenders for trucks, dispensers for soft drinks and forms for plastic hair-brushes.

Today A. V. Roe Canada consists of eight companies with assets valued at one hundred and twenty million dollars and net profits last year of nearly seventeen million. The companies in the combine are A. V. Roe Canada Limited, now a holding company; Avro Aircraft Ltd., Orenda Engines Ltd., Canadian Steel Improvement Ltd., Canadian Applied Research Ltd., Canadian Car Co. Ltd., Canadian Steel Foundries (1956) Ltd., Canadian General Transit Co. Ltd., and Canadian Steel Wheel Ltd.

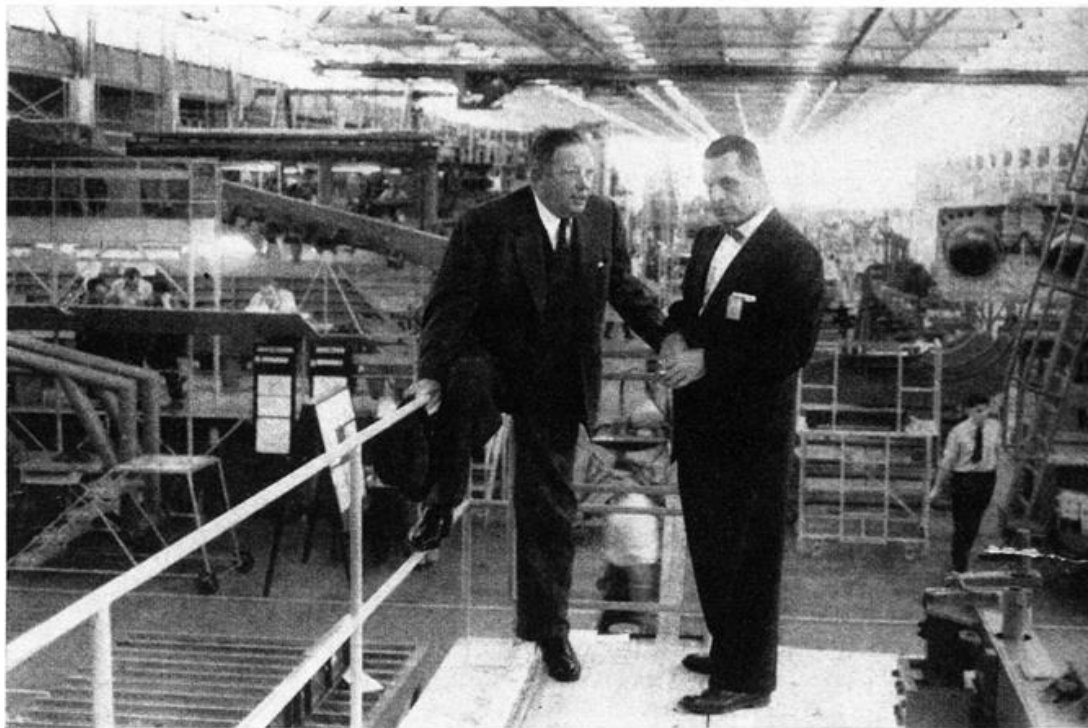
The twenty-five thousand employees in these companies make aircraft ground-handling equipment, mobile training systems, guided missiles, precision castings and forgings, light alloy products, heavy steel castings, mining equipment, railway and automotive equipment, diesel-powered tractors and buses (last year the city of Montreal ordered two hundred and fifty buses from Canadian Car Co.).

They also make or have made some Canadian firsts and products to which superlatives have been applied. These are the CF-100, a twin jet and the first military aircraft designed and produced by Canadians; the Jetliner, North America's first jet airliner; the first and, so far as is known, the only real flying saucer (although nobody will admit it); the first all-Canadian jet engine, the Orenda, said to be a leader in its class; the world's most powerful jet engine, the Iroquois; the first stainless-steel railway cars ever made in Canada; and the first diesel-powered truck ever made in Canada.

A. V. Roe's stake in Algoma Steel, controlled until his death last year by the New Brunswick industrialist Sir James Dunn, makes it a major stockholder in Canada's second-largest steel company, which produces annually one million tons of steel ingots and more than one million tons of pig iron, as well as coke, chemical by-products of coke, oil and light alloy. In other words, Algoma produces most of the raw materials necessary for the extensive operation of Dobson's Folly which now exceeds even the optimistic prediction of its founder.

Dobson is five feet six inches tall with a firm fighting stance and a head thrust slightly forward and topped by smooth black hair. Beneath a high forehead permanently contracted into a slight frown, a pair of brilliant eyes literally

**OVERSHADOWED** by Orenda jet engine, Dobson (with vest) tours factory with executives Jim Floyd (left), Fred Smye, boss Crawford Gordon. Jet broke five world records. It could heat 6,500 homes.



**PERCHED** high over Avro Aircraft's vast factory floor, inspecting plant he boomed from scratch in less than 12 years, Dobson chats with Avro vice-president Harvey Smith. A. V. Roe Canada made \$17 million in 1956.

light his ruddy face with laughter whenever laughter is called for. But at other times, particularly when he hunches over his desk and with a neat impatient hand pounds out his displeasure at bungling, inefficiency and red tape, they pierce the air over the tops of half-size, horn-rimmed spectacles that ride low and angrily on the bridge of his nose.

Most of the time he speaks in the salty manner of the working man from Lancashire, the northern English county that is said to breed the toughest businessmen in the world. In the local idiom he is known as "a real bloody character" who has been firing department heads every Friday night for thirty years but expecting them to be in as usual on Monday morning, and who complains perpetually about nearly everything in language so colorful that a labor union recently refused to negotiate with him unless he cleaned it up.

In Canada he expurgates his vocabulary, softens his native accent **continued on page 48**



**WATCHED** by Dobson, Avro pilot Stan Haswell prepares to put twin-jet CF-100 through its paces.





**"You don't own him," he snapped, and shanghaied Avro's new boss from under C. D. Howe's nose**

with Oxford overtones and tries valiantly to modify his conduct. As a consequence most Canadians who work for him think he is always mild and good-humored, a false impression he creates deliberately. He is shrewd enough

to realize that Canadians are too touchy to be bulldozed by an Englishman. From the beginning he chose Canadian executives and imposed no management from England, although he has imported technical personnel. By means of flying visits,

cables and telephone calls he managed the Canadian company by remote control from Manchester until 1951 when he retired as president in favor of Crawford Gordon, of Toronto, who arranged the Algoma purchase.

Dobson says he "pinched" Gordon. He remembers this event, as he remembers all the events that have marked his progress through the aircraft industry, as a dramatic colloquy in which he stands on the side of the angels against some tiresome obstructionist, usually a minister of the crown or a managing director. In 1951 the obstructionist was C. D. Howe. Gordon, a dollar-a-year executive vice-president in John Inglis Co. during the war, was then under Howe as co-ordinator of defense production. "I wanted Gordon," Dobson relates, "so one day I phoned C.D. in Ottawa and asked if I could pinch him."

"No. You leave him alone," Howe replied.

"Why should I?" demanded Dobson. "You don't own him and I'm going to have him whether you like it or not. I'll call him right now."

"Don't do anything now," pleaded Howe. "Leave it with me for twenty-four hours." Twenty-four hours later Dobson was waiting at the telephone when Howe called. "Much against my will I agree that you can talk to him," Howe said. "What do you intend to do with him?"

"Never mind," said Dobson. "You'll see."

Gordon confirms that he was virtually shanghaied for the job of president and general manager of A. V. Roe Canada. Almost as soon as Dobson finished his conversation with Howe he called Gordon and ordered. "Son, I want you to get up here to Toronto at once." When Gordon asked why, Dobson replied, "Never mind. Just get here." Gordon went and a few weeks later took over the management of A. V. Roe Canada.

Critics have suggested that the government promoted Gordon's appointment in order to protect the vast sums of public money (about twenty million dollars) spent on Avro contracts to develop aircraft and engines. They have also claimed that Canada could have bought better and cheaper products from Britain or the U.S. But eleven years ago when the contracts were let to Avro neither Britain nor the U.S. had produced a jet with the speed and range needed for the defense of Canada, nor had they produced an engine capable of powering such an aircraft. According to some experts neither country has yet produced an engine to better the Canadian Orenda or an aircraft that more exactly fulfills Canada's needs than the CF-100. According to one English technical writer, the successor to the CF-100, the CF-105, is "four years ahead of anything in its class in Britain and two years ahead of anything comparable in the United States."

Critics also say that Avro wasted public money developing on a cost-plus basis, but defenders of Avro say the company, with its greenhorn Canadians, brought the CF-100 from design to test flight in thirty-seven months. Average British time is thirty-eight months and the record U.S. time is thirty-four. And from first test flight to flight of the first production model, the Canadians beat their more experienced rivals, the British, by two months, and the Americans by six. The Orenda engine, from initial run to acceptance, beat the average British time by one month and the average U.S. time by ten.

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Speed and efficiency are the real basis of Dobson's reputation, and it was largely for these qualities that he was knighted in 1945. With Roy Chadwick, chief designer of A. V. Roe in Manchester, Dobson was jointly responsible for the Lancaster bomber. It was developed in months, not years. At the flat it could outfly the Hurricane fighter. It dropped two out of every three bombs that fell on Europe and has been called the greatest bomber of the war. Its cardinal virtue, directly attributable to Dobson, was that it could be mass produced quickly and at low cost.

It was to welcome the first of four hundred and twenty-two Lancasters from the production line of Victory Aircraft at Malton that Dobson first came to Canada in 1943. He decided, after a tour of factories in Ontario and Quebec, to come back after the war to study the possibility of going into business. He did this in the summer of 1945, as soon as the European war ended. He sought advice from two people familiar with the aircraft picture in Canada—J. P. Bickell, who had been president of Victory Aircraft; and Fred Smye, a bright young man of twenty-nine, who had been deputy head of aircraft production in the department of munitions and supply.

On Bickell's advice he hired Smye and arranged with the government to take over the operation of Victory Aircraft. "We were to pay half our profits in rent," says Dobson. "But no profits, no rent."

Before he could browbeat the Hawker-Siddeley Group into accepting his plan, the Pacific war ended. Ottawa cancelled its war contracts, and Canada's future as a producer of aircraft looked dimmer than ever.

#### "I'm going to stay"

In the autumn of 1945 Dobson again called on Howe, this time, everyone believed, to bow out of his earlier arrangement. According to Dobson, Howe greeted him with the words: "Well, Roy, I suppose you want out."

"No, I don't want out," Dobson replied. "Well I think you should get out," Howe advised.

"You bloody well don't think any such thing," replied Dobson.

"Well, perhaps I don't at that," Howe admitted. "But I'll tear up the contract and no hard feelings if you say the word."

"I'm going to stay," Dobson repeated. "Well, you've got more guts than brains," said Howe.

"Others around Ottawa didn't bother to qualify it," says Smye, who is now vice-president and general manager of Avro Aircraft Ltd. "They just thought The Dobber was plain crazy."

The next thing to be decided was how much of the Victory Aircraft plant Dobson would need for his new company, A. V. Roe Canada. After weeks of calculation, Dobson, Smye and the directors of the Hawker-Siddeley Group agreed that one assembly bay and the administration building would be enough. Dobson and Smye returned to Ottawa. Smye remained in his hotel room while Dobson went to see Howe. An hour later Dobson burst into the room, tossed his hat on the bed and sank into a chair.

"What happened?" asked Smye.

"I've taken the bloody lot," said Dobson.

"What?" cried Smye in an anguished voice. "You are crazy!"

"We'll see, boy. We'll see," said Dobson.

"So there we were," Dobson recalls. "With a great big factory, no contracts and no money."

Money was on his mind a few days later when he was sitting with J. P. Bickell, by then his close friend, at the bar in Bickell's mansion outside Toronto. Bickell was saying he was pleased that Dobson had decided to take the plunge. It was risky, he thought, but right.

"I agree," said Dobson. "I must go on. But I can't do it without money—two and a half million dollars."

"It's lying on the bar in front of you, Dobbie. Pick it up."

Dobson grinned. "No, Jack. This is a gamble and I don't gamble with my

friends' money. But you can guarantee a bank overdraft for me."

"It's done," said Bickell and the two men raised their glasses. On Dec. 1, 1945, A. V. Roe of Canada was in business with Bickell as chairman of the board until he died in 1951. Smye as assistant general manager and Dobson as president. The vice-president and general manager, until he retired because of illness in 1951, was Walter Deisher, former head of Fleet Aircraft Ltd.

With Smye at his elbow, Dobson began "touting" in Ottawa, as he puts it.

He takes a perverse enjoyment in recalling one of his early visits. "I went with Bob Leckie, head of the RCAF, to the Department of Defense," he says. "Oh, lumme, I got a cold reception there. 'Canada doesn't want to embark on aircraft design and research,' they told me. 'Canada is too small and should only build on license.'"

"That's rubbish," I said. "Canada *does* want an aircraft industry. What you want to see is poor old Bob here being a kept woman and having to rely for his livelihood on other people's resources."



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Early in 1946, in another colloquy with C. D. Howe, Dobson proved that he, at any rate, had confidence in Canada's future as an aircraft producer. At this meeting Howe mentioned, in passing, that he was sorry to have to close Turbo Research Ltd., a small company in north Toronto started by the department of defense in 1943 to design a jet engine. "The government will never pay for the design and development of a jet engine now," Howe said. "And there

isn't anybody else who has the guts to take it on."

"I have," said Dobson.

"You!" exclaimed Howe. "Your plate's full now. Besides, what do you know about engines?"

"Not much," Dobson replied. "But they've always been one of my little hobbies." Hobby is a euphemism to describe Dobson's long-thwarted obsession to "become independent," designing aircraft and engines to complement each other. Turbo Research Ltd. seemed to offer the chance he wanted. "We bought it lock,

stock and barrel and transplanted it to Malton," he says.

Dobson's tireless softening-up campaign in Ottawa bore fruit in mid-1946 and the young company jumped from a despondent halt into a full gallop, working concurrently on four major projects: two engines and two aircraft, all partially subsidized by the government. The first of these was a jet transport to be made to Trans-Canada Air Lines' specifications. Twenty were provisionally ordered. The second was a fighter ordered by the RCAF, which had changed its

attitude to home-produced products. This was to be powered by a homemade jet engine, the Orenda. The Chinook, designed by the young Canadian engineers whom Dobson had transplanted from Turbo Research, was too small to power the fighter, but it was continued anyway, as an exercise to develop Canadian talent.

"The whole future of the company hung on that little engine," explains Smye. "If it failed we might lose our contract for the big one." But the Chinook ran without a hitch on March 17, 1948. When the Orenda was finished, the designers were so confident they didn't bother with a private test run before the official one in February 1949. The Orenda too ran without a hitch. It is with an Orenda powering her Sabre aircraft that U. S. flyer Jacqueline Cochran has broken five world records. So far about four thousand Orendas have been built, for use in RCAF Sabres and CF-100s.

The CF-100 had the stormiest passage of all A. V. Roe's early projects, principally because it became the focus of all opposition criticism to government sponsorship of a Canadian aircraft industry. But in September 1953 the first production model came off the line on schedule, although workmen had bet up to fifty dollars of their overtime pay that they wouldn't make the deadline. By the following June production reached a peak of one a day. Approximately six hundred have been produced. To Dobson's immense satisfaction, the Canadian fighter stole all the headlines from its more illustrious competitors at the Farnborough Air Show in England in 1955.

#### Death of the Jetliner

Of the four projects on which the future of A. V. Roe Canada hung so precariously for the first five or six years of its life, the jet transport, called the Jetliner, had the most dramatic start, the most triumphant youth and the saddest end.

If workers on the engines and the fighter were hurried, those on the Jetliner were frenzied, racing to be in the air before Britain's De Havilland Comet. For nearly two years the Jetliner's chief designer, Jim Floyd, of Manchester, worked seven days a week and most nights, catching naps on a cot in the plant hospital.

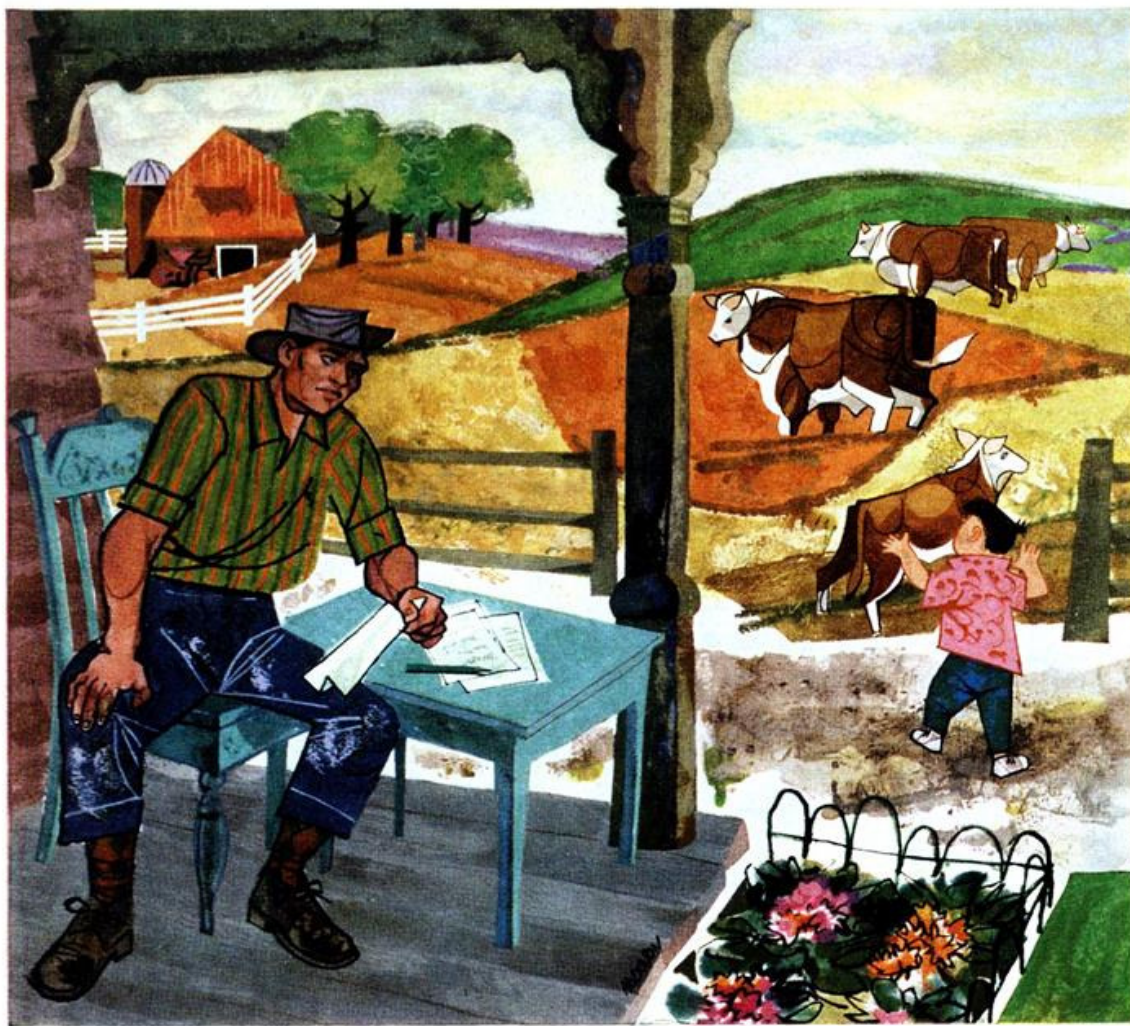
In August 1949 the Jetliner successfully passed her first flight test a few days behind the Comet. While the rest of the workers cheered and danced, Floyd wept.

Then came the first blow. TCA canceled its provisional order for twenty; the company had second thoughts and felt that a switch in engines made the Jetliner too expensive for inter-city operations. Still, this news was offset by the interest shown in the Jetliner by the U. S. Air Force, and two U. S. air lines placed orders for a total of forty.

But the orders were never filled. In June 1950 war started in Korea and the Jetliner had to be abandoned in favor of the fighter.

"Before I undertake the development of a civil aircraft again they'll have to carve the contract in stone," says Dobson, thumping the table. "That Jetliner broke my heart."

The Jetliner led a faultless life as a company aircraft until March of this year. Then Fred Smye tried to give her away as a museum piece. He found no takers. Obsolete and unwanted, but still in flying trim and still the world's first successful jet transport, she was broken up and discarded. Jim Floyd wept again



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he sow to grain? How much hay will he need to get through the winter? His neighbour is feeding antibiotics and the new hormones to his herd. Should he do the same? Livestock health is vital too. How much will preventive medicines cost him, this year? And so on.

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as he removed a souvenir from the control panel to place beside the Wright Brothers' medal that he won for designing her—the first time this award has ever gone to anyone outside the U.S.

According to Smye the Jetliner cost a total of nine million dollars, three quarters of it contributed by the Canadian government in behalf of Trans-Canada Air Lines who drew up the specifications and ordered its construction. The loss to the company was offset by the successful mass production of the fighter and the engine. Since 1951 A. V. Roe Canada has been making a profit, although none of this has gone to England where eighty-four percent of the stock is held. (The other sixteen percent is held by Canadians.) "We haven't taken a penny out of the country," says Dobson. "It's all been ploughed back."

The strong position of A. V. Roe Canada today is Dobson's reward for a life spent fighting for aircraft. Backed by basic industry, he feels that his Canadian company is safe from the hazards that have beset him throughout a professional history that is almost identical to the history of British aviation.

In 1908, five years after the Wright Brothers made the first airplane flight, Dobson joined a firm of general engineers in Manchester as a boy apprentice. By 1914, at the age of twenty-three, he was a flourishing sales engineer of wood-working machines and crude-oil engines. One day a friend in Manchester announced that he had just started to work for Alliott Verdon Roe, who was the first Englishman to fly, in 1908. Roe was then making aircraft. "Oh lumme," said Dobson. "You don't want to get mixed up with that lot. They're crazy."

"They're not crazy," replied his friend, "and what's more you should work for them too."

Dobson reconsidered. "The following Monday I went down and presented my card at the sales window because I didn't want to stand in the line-up of fellows waiting to get jobs. When old A.V. (he wasn't old then of course) said he didn't want any woodworking machines or engines, I said, 'Well, as a matter of fact, I'm not selling anything but myself. I want a job as a fitter.'"

Dobson started with A. V. Roe, not as a fitter but as a draftsman, and from 1914 to 1919 "did every job in the place," alternating between the workshop which he loved and "the white collar" which he hated. In 1919 he "put on the white collar for good" to become manager of a huge factory, built on the strength of war contracts, but then idle and manned by a skeleton staff. As he was later to do in Ottawa he "touted for contracts," traveling to London twice each week. His skeleton staff made billiard tables, pinball machines, babies' high chairs and ventilation fans while they waited. In 1921 A. V. Roe sold a controlling interest in his firm to Crossley Motors and Dobson began making car and truck bodies. He produced these so fast that Crossley Motors, making the chassis, couldn't keep up with him. It seemed foolish to the managing director, Sir William Letts, to waste such talent on aircraft, so he sold all A. V. Roe's aircraft machinery and sent for Dobson. "Dobson, are you an aircraft man?" he asked.

"I'm an aircraft man," replied Dobson. "Well you're a damn fool," said Letts. "Maybe, but I'm still an aircraft man." "Well, I want you to go into cars." "Well, I won't do it."

"Dobson, this factory is going to make cars."

"Sir, our factory is going to make air-

craft, whether you like it or not."

Dobson wheeled, left the office and took a train to London. He returned to Manchester, convinced that he was about to obtain a government contract. But without machinery he couldn't fill it. He burst into Letts' office and demanded nine thousand pounds to buy some at an auction sale.

"Dobson," said Letts, "get this through your head. I am not spending one penny on aircraft. Not one penny."

Dobson went to the sale anyway, bid for the machinery and got it for nine

thousand pounds. The next day when the machinery was delivered Dobson and his aircraft team installed it after hours. A few days later the air ministry ordered a fleet of training aircraft from A. V. Roe, and Letts sent for Dobson again.

"Well, I suppose we'll have to buy that machinery you wanted," said Letts.

"Yes," agreed Dobson, "and what's more you'll have to buy it from me and it will cost you ten percent commission."

From then on there was no question about what A. V. Roe would manufacture or who would control its operation.

But the aircraft industry was not flourishing and to get orders Dobson gave tight delivery dates, then jumped on his workmen to keep them.

He used to charge out of his office onto the gallery around the assembly bay and if he saw a man slacking he would roar down. "What the bloody hell do you think you're doing?" Then he would race down the steps, give the slacker a more detailed tongue lashing and, since he was down anyway, hurry through the shop and bawl out everybody else. Often he would drop in un-



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expectedly on the night-shift workers.

Once he almost missed a train for London and when he arrived, breathless, he said to the men waiting for him, "I've just been down to the works and given them all a bloody good do. I woke them up! That'll keep them on their toes till I get back."

Regularly on Friday nights technical-department heads would file silently down the steps from his office while he stood on the gallery and roared after them, "And what's more, you're all bloody well sacked."

Once he offered a job to a visiting technician. The technician demurred. "I notice you go around firing all your executives every Friday night," he said. Dobson snorted. "Don't be a damn fool, man, I don't mean half what I say."

In spite of his rough manner and even in a sense because of it, Dobson has immense personal charm, a valuable asset to a salesman. He has always been his firm's most important salesman. It was at least partly due to his persuasive charm that the British air ministry, in 1933, gave Avro a contract for a coastal reconnaissance plane. This was the Anson, which came to be known as Unbreakable Annie and on which more pilots have learned to fly than on all other makes of aircraft put together. The Anson was produced in such numbers that it changed the fortunes of A. V. Roe Ltd., and facilitated Dobson's climb to the position of ultimate authority, managing director.

Between 1919 and 1945, when he founded A. V. Roe Canada, Dobson was directly responsible for one hundred and eighty different aircraft projects. From a public standpoint the most important of these was undoubtedly the Lancaster bomber, which was not so much built as evolved, with Dobson's stubbornness its most important ingredient.

Shortly before the war the air ministry gave Avro a contract to build a two-engine bomber called the Manchester. "We had nothing but trouble with the damn thing," says Dobson, explaining

that the engines failed to develop the expected power, and a catapult take-off, which the ministry had promised, never materialized.

Both Dobson and Roy Chadwick, Avro's chief designer, were convinced that the air frame was a good one needing only more power. When war broke out Dobson asked the air ministry for permission to redesign it. Permission was denied. He was instructed to continue building the Manchester until the Halifax, made by a rival company, was ready to replace it. Dobson appealed directly to Lord Beaverbrook, then minister of aircraft production. Beaverbrook refused to reverse the decision of his ministry.

"I insist that you reverse it," said Dobson.

"I have no time to listen to this frivolous request, Dobson," said Beaverbrook.

"It is not a frivolous request," said Dobson. "I want four engines."

"Well you can dig for them," said Beaverbrook.

Before returning to Manchester, Dobson called on Rolls-Royce and begged his friend, Lord Hives, the managing director, to lend him four Merlin engines, reserved for the Spitfire and Hurricane fighters. Hives agreed. Back in Manchester, Chadwick was anxiously waiting to hear Beaverbrook's decision.

"We're going ahead with it, boy," said Dobson.

"Did Beaverbrook say yes?" asked Chadwick.

"No, Beaverbrook said 'No!'"

"Well who said yes?"

"Me."

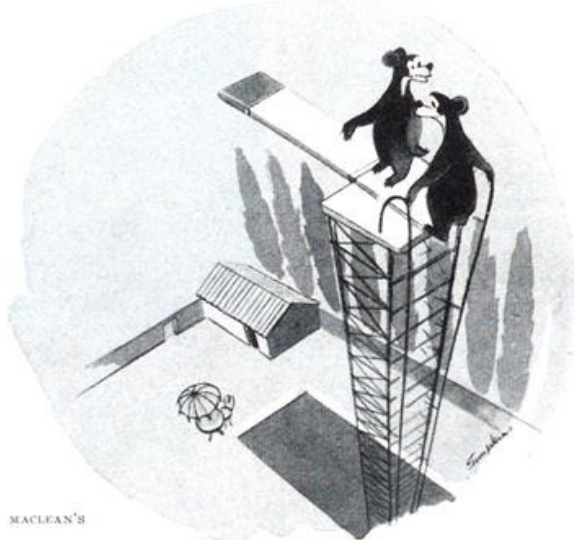
In July 1940 a Manchester was converted and Dobson invited a startled air ministry to send officials to watch it perform. They were impressed. The next morning a wrathful Beaverbrook telephoned Dobson.

"What's this four-engined bomber I hear you've suddenly produced?" he asked.

"It's the one you wouldn't give me the engines for," said Dobson.

## JASPER

By Simpkins



"Seems silly but when they finally do get up here they jump off."



"Where did you get the engines?" demanded Beaverbrook.

"I dug for them," said Dobson.

"Well," said Beaverbrook after a long pause, "it looks pretty good to me."

Within a few days the ministry officially asked A. V. Roe to deliver for tests one Manchester bomber with four Merlin engines. But Dobson was still not satisfied. He felt that a simpler, more easily manufactured and easily repaired bomber was needed, one that would be light weight and overpowered and able to carry increasingly heavy bomb loads.

"How much time have we got?" Chadwick asked.

"None," replied Dobson. But Dobson stalled the ministry and Chadwick ordered the engineering and drafting departments to move into the hangar. "We literally worked day and night while the engineers sawed off everything that wasn't necessary and the draftsmen made drawings when the work was done," said a member of this team. "Dobson and Chadwick stormed about the place cheering us all on."

#### He'd rather be right

In January 1941 Dobson delivered a prototype Lancaster, having accomplished in months something that normally takes years. Air-ministry officials were speechless at the spectacular performance of the Lancaster which at the flat could outfly the Hurricane. They were also speechless at the spectacular audacity of Dobson who had overthrown them and delivered a machine that they had not ordered. In wartime this was almost an act of treason. A once-secret report on the Lancaster concludes with this statement: "Although we must admit that this bomber has a remarkable performance, we cannot but deplore the methods by which it was obtained."

A. V. Roe and its subcontractors made a total of seven thousand three hundred and sixty-six Lancasters, the only bomber capable of carrying the twenty-two-thousand-pound blockbusters of the war's ultimate phase. "The Lancaster far surpassed all other types of heavy bomber. Its efficiency was almost incredible," says Sir Arthur Harris, Marshal of the RAF.

When he is convinced he is right Dobson cares as little for regulations as for criticism. In January 1948 the ministry of transport grounded the Avro Tudor, the world's first pressurized airliner, after a mysterious crash near the Azores. The following April, Dobson announced that he would fly in a Tudor to South America with a party of aviation notables. The ministry ordered him not to make the flight. Dobson invited the ministry to try to stop him. Finally Prime Minister Attlee personally implored Dobson not to make the flight on the ground that a crash involving so many important people would ruin the British aircraft industry. Dobson made the flight anyway. The Tudor is still officially grounded but a flight of ten, using the name Trader, are still on charter service in England.

One of his reasons for defying the ministry over the Tudor was his concern for the beginners in Canada. The Tudor was a test bed for the Canadian Jetliner. If Dobson showed a lack of confidence in the Tudor, his doubts would carry across the Atlantic to dampen the ardor then so necessary to the success of A. V. Roe Canada.

"I often used to dream of a little empire in Canada," says Dobson. "Now it's a fact. But we're not finished yet. When we start selling planes and engines to the United States, then we'll raise the flag." ★

## TRAVEL TIP: How to get the best view of Niagara Falls

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