SIR ROY FEDDEN

MBE, HonDSc, HonFRAeS, HonFAIAA, FIMechE, HonFSE, FRSA, FBIS

1885–1973

Honorary Fellow

President of the Royal Aeronautical Society in 1938, 1939 and 1945

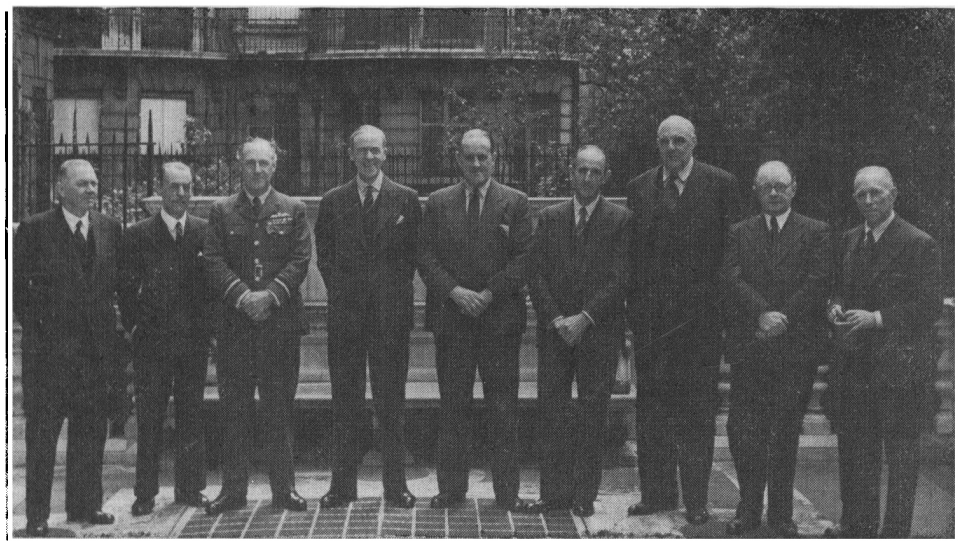
ROY FEDDEN was a giant among those pioneers who put our country in the forefront in the field of aero engines between the two World Wars. His contribution started in the 1914–18 War when, as Chief Engineer of Brazil Straker & Co, of Fishponds, Bristol, which he joined in 1908, he was responsible for building Rolls-Royce water-cooled aero engines such as the Hawk and Falcon and, also, the air-cooled Renault. Brazil Straker produced some 2500 engines in the War and Fedden was appointed an MBE for his work. He also had a lot to do with the design of the attractive, post-war, Straker Squire six cylinder sports type car. Because of an agreement signed between him and Rolls-Royce not to engage in the (post-War) manufacture of competitive water-cooled engines, Fedden started on the design of air-cooled radial engines, the first being a two-row, 14-cylinder, radial named the "Mercury". This was intended to meet Air Board Scheme A issued in April 1917. The "Mercury" was followed by the world famous, 9-cylinder "Jupiter".

He had, at the end of the War, formed the Cosmos Engineering Co to exploit his designs, but this failed due to lack of capital or orders because of the post-war run-down and lack of Ministry contracts. Then, due I believe to the foresight of Sir Henry White Smith, Fedden joined The Bristol Aeroplane Co as Chief Engineer and formed their aero engine department. From then onwards, until the sad parting between him and the company in 1942, he never looked back; and his air-cooled, radial engines (both poppet and single sleeve-valve types) enjoyed world-wide acclaim. The "Jupiter" engine was licensed to manufacturers in 17 countries, the first being Gnôme et Rhône in France in 1922.

As the power output of Bristol poppet valve engines was being steadily increased, Fedden became dissatisfied with exhaust valve life, particularly in engines operating in commercial (airline) conditions, so he turned his attention to the Burt-McCullum single sleeve-valve. This development took many years to reach the production stage and give good operating reliability and, notably, the "Hercules" and "Centaurus" engines were a credit to his faith and persistence. Some remain in service today.

I first met Roy Fedden in 1924 at Lympne on the occasion of the two-seater light aeroplane trials there, but more personally in 1925–6 when I was experimental engineer to Peter Hooker (the British Gnôme and Le Rhône Engine Company). He offered me a similar position at Bristol to develop a large, air-cooled, compression ignition oil engine cylinder. I declined because I was more interested in what I was doing at the time. Roy Fedden's energy was immense, practically to the end. Watching him work on his little, twin cylinder "Cherub" engine in the Beardmore, "Wee Bee" and the Bristol "Brownie" at Lympne in 1924 was an education. He was the true mechanical engineer; the engineer who could create and the mechanic who was capable of correcting running faults. This was the characteristic that brought his larger engines to a high state of development and reliability. He was indeed the most persistent man I have ever met, once he had decided upon the route he would take. Lord Kings Norton has written: "to deflect him from a course in which he believed was impossible".

I had almost continuous contact with him from 1928 and throughout the Second World War and saw him many times afterwards; but more particularly in his Bristol days in my rôle as a specialist in the application of high anti-knock fuel and how to deal with the "hot end" of an engine. He very quickly appreciated the importance of fuel quality to improve the performance of his engines and one was subjected to continuous pressure by him to "go one better"; though, of course, that had to depend upon the oil companies and the practical availability of the fuel.



The RAeS Advisory Committee to the Minister of Aircraft Production. Sir Roy Fedden was Chairman of this Committee which met from 1941–1946. This photograph was taken in 1945 on the terrace at 4 Hamilton Place. *L to R:* Sir Arthur Gouge (Chief Designer, Short Bros), Captain J. L. Pritchard (Secretary, RAeS, and Secretary of the Committee), Air Vice-Marshal Sir Ralph Sorley (CRD Ministry of Supply), Sir Stafford Cripps (Minister of Supply), Sir Roy Fedden (Chairman), Mr. S. Camm (Chief Designer, Hawker Aircraft Ltd), Mr. R. K. Pierson (Chief Designer, Vickers Weybridge), Dr. L. Aitchison (Professor of Metallurgy, Birmingham University), Mr. C. C. Walker Chief Engineer, de Havilland Aircraft).

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Sir Roy Fedden speaking at the RAeS Centenary Lunch held on 5th May 1966. Also in the picture, HRH The Duke of Edinburgh (Honorary President 1966), and Mr. A. D. Baxter (President 1966-67).

Fedden, like Royce, Hives and Halford and other successful engineers, built up a first class and very loyal team around him and he worked them hard but never spared himself.

As already recorded elsewhere, Fedden "masterminded" the Shadow Factory scheme whereby the automobile manufacturers were educated and then tooled up to produce aero engines in the Second World War. He was virtually the creator of Rotol, the propeller company formed fifty/fifty by Bristol and Rolls-Royce.

In his advisory capacity to the MAP, after leaving Bristol, he gave much valuable help; and again quoting Lord Kings Norton, "his wartime vision of a great post-graduate college of engineering for the aircraft industry . . . with the invaluable support of Sir Stafford Cripps" gave us the College of Aeronautics at Cranfield, now granted a Royal Charter to become the Cranfield Institute of Technology.

With the folding of hostilities in Germany, Roy Fedden headed a ministry and industry team to delve into German gas turbine and other aviation developments, bringing back engines and other equipment for all to see at an exhibition he arranged in London. Then he helped us, and me personally, through Tedder and the American High Command, who occupied and controlled that area, to get permission to use the advanced high altitude engine test tunnel outside Munich, so that we could calibrate our Derwent and Goblin turbojets and their compressors.

Always pressing, always working for the advancement of aviation, Roy Fedden will be remembered as one of aviation's great creative engineers.

To Lady Fedden we offer our heartfelt sympathy. No man has had a more encouraging or loyal helpmate.

F.R.B.

NOTE: Sir Roy Fedden's other distinctions were: the Belgian Bronze Medal; the Silver Medal of the RAeS; the Manly Gold Medal; the Simms Gold Medal; the Guggenheim Trophy; the (German) Lilienthal Ring. It should also be recorded here that, during his Presidency of the RAeS, Fedden more than any one person was responsible for the efforts to collect sufficient funds to acquire the Society's present headquarters in Hamilton Place.

He was a keen fisherman and yachtsman and an early motor boat racing pilot.

He was, I believe, interested in the creation and design of rock gardens.

F.R.B.

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