# Rolls-Royce: Up, Up and Away

By Shozo Hochi

**A.D. Jackson, currently director of international affairs for Rolls-Royce plc, has been with the company for 45 years, and remarked before this interview that he had never considered doing anything else. The pride he takes in the company's achievements is obvious, equaled only by his expectations for an even brighter future ahead.**

**Q:** *Almost all Japanese are familiar with Rolls-Royce, first as an automaker and, more recently, as an aero engine manufacturer. The company is highly respected for the quality and performance of its products and the very high level of its technology. Could you give us a quick history of Rolls-Royce's activities in Japan?*

**A:** Thank you for the compliment. Rolls-Royce was selling aircraft engines to Japan long before World War II. First we sold them to the Imperial Japanese Navy and, in the early 1920s, we sold Rolls-Royce Eagle engines to power the F-5 flying boats. At that time our company was actually two different entities: Bristol Co. and Rolls-Royce Co. But both sold engines to Japan in the 1920s and early 1930s. The Rolls-Royce Eagle and Bristol Jupiter engines were used in a number of Japanese aircraft. We have thus had a very long association with Japan. Soon after the last war, we reestablished relationships with Japan as early as 1952, when Japanese companies started to form airlines and new industries. We have progressed since then in a very happy relationship with various Japanese companies.

**Q:** *When did you come to Japan for the first time?*

**A:** I came here for the first time in 1960 or 1961. In the past 25 years I've visited Japan for a week or so around 80 times. On my first visit, I was an engineer at Rolls-Royce; in fact, in my first 27 years with the company I worked as an aircraft engine engineer. I came here to discuss

A.D. Jackson, director of international affairs for Rolls-Royce plc.

the Dart engine, which was designed into Japan's first civil passenger aircraft, the YS11. We had many interesting discussions and established an excellent relationship with all parties concerned, especially with our main contact, Mr. Teruo Tojo, who was the senior engineer at Mitsubishi Aircraft Co. seconded to NAMCo.

**Q:** *Who was the YS11 manufactured by?*

**A:** It was made by Nihon Aircraft Manufacturing Co., of which the president was Mr. Toru Shoda, a very nice man. He was partly educated in Scotland and he understood us very well. We had a very close engineering relationship with Mr. Tojo, the designer of the YS11. My friends at Bristol Co. had a close relationship with Kawasaki Heavy Industries Co. which had been licensed to manufacture a jet engine called the Orpheus. The Orpheus was used in the T-1, a new Japanese trainer at that time. That was a very successful program and engine parts are still being made by Kawasaki and used to support the T-1 trainer.

**Q:** *Did Rolls-Royce build any other engines for trainers in Japan?*

**A:** Yes. Soon after the T-1 program, later in the 1960s, we became involved in the competition to supply the engine for a new, advanced trainer, the T-2. Our previous association with Mitsubishi enabled us to talk to some old friends, including Mr. Tojo who was still responsible for Mitsubishi Aircraft Co. A great deal of help was extended by them, with the result that the Adour engine was selected for the T-2 trainer. In 1969 we eventually sold the license for manufacturing the engine in this country to Ishikawajima-Harima Heavy Industries Co. (IHI), the start of what was to become a close relationship with IHI. So now we have relationships with Kawasaki Heavy Industries, Mitsubishi Heavy Industries and IHI. We met and came to know a large number of people in those companies and have seen them rise to their present senior positions. We have known them for a long time and we have grown with them.

**Q:** *Have you established any new relationships with other Japanese companies in recent years?*

**A:** Since the T-1 trainer we have enjoyed a good relationship with Fuji Heavy Industries. We do have very good relationships with many major Japanese manufacturing companies and airlines. But our business is to sell engines and help our customers solve any problems. It became clear at a certain stage that, in order to sell our engines in Japan, we had to seek a more visible presence. Initially, in the very early days, we were represented by consultants to help us in our business. Nevertheless, the name of Rolls-Royce had to be more visible, so we formed a subsidiary company, Rolls-Royce (Far East) Ltd. We needed that company, not only to make the name of Rolls-Royce

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more prominent, but also because we had more business by that time.

All Nippon Airways (ANA) had purchased F27s and the Viscount aircraft with our Dart engine. We had more people here who were responsible for product support, and we needed a manager here to look after them. We also needed a means of communicating with the manufacturers and designers of the YS11. There was also a need for marketing liaison and intelligence gathering and transmitting data and information to the head office in England. Rolls-Royce (Far East) Ltd. is, of course, a British-registered company, but the main branch office is here in Tokyo. Without an office here it would have been more difficult to continue to expand business in Japan.

**Q:** *Is the company here run exactly like the head office in England?*

**A:** We accept that the Orient is different, and that Japan is different from other countries. It's not like selling in another European country or in the United States. The Orient and Oriental culture are sometimes very difficult to understand. It is not simply a question of language, but of understanding how people think and act in all aspects of life. Today perhaps East and West are becoming more like each other, but certainly 20 years ago the differences were greater. When I first came to Tokyo in 1960, almost all four-wheeled passenger vehicles on the streets were British cars made here under license, such as the Hillman Minx and the Austin. There has been a complete industrial revolution here since then and Japan has become a major car manufacturer.

**Q:** *Don't you think this has contributed to trade friction?*

**A:** Well, in some ways perhaps, but nevertheless, the credit must go to Japan for that success. Anyway, for us it was important to have a Rolls-Royce presence here. We hoped to be able to generate in our people a good understanding of how to do business in Japan. It was simply not possible to obtain that kind of understanding by visiting Japan once a year.

**Q:** *What is the annual company income by division?*

**A:** Our total business last U.K. financial year was £1.6 billion; some of that was in the nonaircraft engine divisions. Just under 10% was in the industrial and marine division which markets aircraft engines adapted for use in marine propulsion, power generation, gas pumping, oil pumping, etc. More than 80% of our business, however, is in aircraft propulsion engines. Out of all aircraft propulsion engines, about 55% is military and 45% civil. But that is changing: Today, and for the foreseeable future, military business throughout the world will remain almost constant, and may even decrease because of the introduction of new, advanced missiles that replace aircraft. So there is unlikely to be any noticeable increase in the military side of our business. The commercial, or civil, side is increasing on the average at about 5% or 6% annually worldwide. This year we expect civil business to almost equal military business. From now on civil business will continue to grow and military business to decrease or remain constant, so that by the end of this century the civil aviation business will far exceed the military aviation business.

## Market growth

**Q:** *What opportunities are there for Rolls-Royce in Japan in the future?*

**A:** Airlines in Japan today generate about 5% of the total free world's airline business. That's a big percentage for a single country. It is growing faster than the business in the West and we will certainly see Japan's share in the civil aircraft business rise fairly quickly in the not-too-distant future. It may perhaps reach as much as 10% of the world's total. Today, Japan Air Lines (JAL) is by far the biggest operator of the Boeing 747 aircraft. We do have engines for Boeing 747s, but not yet in JAL's planes!

**Q:** *Are you exploring that market?*

**A:** Yes. We are working hard on that. In the past three or four years around 40% of Boeing 747s have adopted Rolls-Royce engines. That is one of the reasons we are here. We shall try very hard to secure airline business from JAL, ANA and Toa Domestic Airlines (TDA). They represent a very substantial market for all engine manufacturers, and we shall compete with our friends in the United States as hard as we can. We have been successful in the past and we hope we shall be more successful in the future. Japan holds great potential for Rolls-Royce. Of course, the military aircraft field is a small market here, but we have sold Orpheus engines in the T-1 trainer aircraft and Adour engines in the T-2 to Japan's Self-Defense Forces. We believe we have a very competitive engine, the RB199, for the proposed new FS-X fighter.

**Q:** *Japan's Self-Defense Forces seem to buy mainly U.S.-made aircraft, such as the F-4 and F-15, etc. Does the Japan Defense Agency use Rolls-Royce engines?*

**A:** Yes, they do. The Adour engine powers the T-2 trainer and F-1 fighter and the Orpheus powers the T-1, so we are hopeful that we can secure a bigger share of the fighter business here.

We are also collaborating in the V2500 project with Pratt & Whitney and Japanese Aero Engine Corporation and with Germany and Italy. When we started that collaboration seven years ago, Rolls-Royce and Japan designed and built successfully the engine known as the RJ500, with three Japanese companies who collaborated with us on a 50:50 basis. However, world aircraft manufacturers at that time were looking for a slightly larger engine and our Japanese partners felt that larger engines would have a bigger market in the United States, so we sought an American partner. I spent some time negotiating and eventually we included Pratt & Whitney in our collaboration, which is now very successful. The engine has been sold for Airbus Industrie's A320 and we hope that it will also be purchased by ANA. More than $1.2 billion worth of V2500 engines have already been sold for that aircraft.

**Q:** *How do you view the potential of the Japanese market as compared with Rolls-Royce's worldwide activities?*

**A:** Well, the Japanese market is one of the fastest growing and thus very important. Unlike our American competitors, we do not have a large domestic market, but the United States is our biggest customer and we see Japan as potentially a very large customer also.

## Collaboration crucial

**Q:** *What trends do you expect in the aviation business in the future?*

**A:** First, we expect to see a good growth in several businesses in many parts of the world. There are some interesting statistics that I have used often to explain our business forecast: By the end of this century, around two-thirds of the world's population will live within a four-hour flight from Hong Kong. This is the area of the world that will generate most of the commercial air traffic growth in the next century. The Far East altogether currently has perhaps no more than 12% to 15% of the world's air traffic, but the growth will be enormous. The changes we foresee are that the costs of designing and developing a new aircraft engine will become so great that it will be beyond the capability of any single company. Even a great American company will find it almost impossible to design a new civil engine alone. Military engines are perhaps different because governments will pay the price.

A Boeing 747-200 with the Rolls-Royce RB211 engine

A Tornado with the Rolls-Royce RB199 engine

The collaborations in which we have been involved for some years now will continue to increase. We do not think any new major civil engine will be produced except by companies collaborating with each other. Therefore, we look to Japan and Japanese companies as potential future partners.

**Q:** *How much of Rolls-Royce's total sales has been put into research and development?*

**A:** All aero engine manufacturers spend around 15% of sales turnover on total R&D. Now, that may be a little misleading, since R&D can be broken down into three categories. The first is basic research and development, generating new technology in materials, aerodynamics, thermodynamics and so on. This is the most creative part of R&D. The second category involves taking that basic technology and building it into demonstrator engines. The third and final category is the application to equipment in production. That application requires still more R&D to manufacture a production article. The first type is the most important, and I suppose that basic R&D expenditure in Rolls-Royce probably accounts for around £70 million per year. We have found that the Japanese method of funding basic R&D is rather different. In Japan much more investment is made by universities and governmental research facilities, rather than by industry. In Britain, more basic research is funded by industry.

**Q:** *Will there be advances in the application of aero gas turbines for marine propulsion in merchant fleet operations?*

**A:** I am not an expert in that field, but certainly the view of our company is that it is not yet time for gas turbines to be used in merchant ships. Military vessels can sacrifice economy for speed and performance. In merchant ships, economy is all important, and although at the moment the gas turbine is not economical enough, new technology has been developed that could make it competitive with other forms of marine propulsion in the future.

**Q:** *Throughout the world, and particularly in Japan, the shipbuilding industry is suffering from depression. What do you think of the shipbuilding industry and its future, especially in connection with Rolls-Royce's business operations?*

**A:** We have a very successful market in the British Navy. More than 25 other navies in the world use our gas turbine engines, but the merchant shipbuilding industry is certainly in a serious depression. It will be some time before we find a merchant ship market for gas turbine engines.

**Q:** *What do you think are the special characteristics of the Japanese market?*

**A:** That is a very difficult question. The Japanese market is very important to us and I hesitate to make generalized statements, because they could be taken too literally and misunderstood. We must always be extremely accurate in what we say. The cultural understanding between Europeans and Americans allows us to use jargon and speak imprecisely. I think it is important to be precise in Japan, to establish personal relationships and to generate trust between individuals.

**Q:** *What general economic trends or changes do you expect in 1987?*

**A:** Well, I'm certainly not an economist, but I think political factors, due in part to upcoming elections in various countries, will influence business in 1987. At the same time, it will be important for the industrial nations of the West not to lose sight of the Far East as a very important market. The greatest problem, in my opinion, will be instability in exchange rates. In the aircraft industry, we sell in dollars, so we are at particular risk regarding exchange rates as our costs are in sterling. The dollar will remain strong and European currencies will not be quite as strong against the dollar. The yen will be stronger, meaning that for companies like Rolls-Royce that buy some parts and components in Japan, the situation may have to be reviewed unless purchases are offset by sales in Japan. I do expect to see continuing substantial growth in the civil aircraft engine business in 1987, with oil prices remaining reasonably stable.

## Going public to widen scope

**Q:** *Does Rolls-Royce have any plans to expand into any other fields, such as the development of new equipment or new engines?*

**A:** As I have said, our major business is aircraft engines, but we derive industrial and marine propulsion engines from these. About another 10% of our business is in other products. However, the aircraft engine business generates a great deal of advanced technology applicable to other products. The British government has announced that this year our company will be sold to the public. We now operate as a normal commercial company under the Company Law of England, but we have only one shareholder, the British government. After 1987 we will be a public company with the objectives of maximizing profits for our shareholders and expanding our business. We will have greater freedom to look at alternative businesses and certainly we are always looking for possibilities to apply our technology to other products. I hope that we shall succeed and that 1987 will present opportunities for wider operations.

**Q:** *Do you have any words of advice for foreign companies hoping to become established in the Japanese market?*

**A:** I would repeat that you cannot hope to do business in Japan without acquiring some understanding of Oriental culture, Japanese history and the Japanese people. You cannot do business from an office in London. You must establish close relationships by spending a long time in Japan. You must also have great patience. Patience will be rewarded, no question about it. People in Japan respect and remember the past. ●