

DOWTY ROTOL NEWSLETTER

Issue 15
January 1990

Eurofighter Success

The company with its German, Italian and Spanish partners has won a development contract to supply the main and nose landing gear for the European Fighter Aircraft.

The development contract is the first stage of the programme leading to a production phase with a potential value in excess of £150 million.

The contract is the result of a tremendous team effort matched by the technical excellence of our consortium's design and related experience. We will need an equivalent team effort across the company and from our partners to meet the demanding delivery timescales.

First rig unit
Second rig unit
1st prototype

February 1991
June 1991
November 1991

Pictured are artist's impressions of our main and nose landing gear designs.



Current Performance

Sales Turnover

Detailed below is the regular update on our sales turnover showing the value of sales since August 1989:

Month	Target	Achieved
August 1989	£ 11,749,000	£ 9,380,000
September 1989	£ 13,149,000	£ 14,653,000
October 1989	£ 13,146,000	£ 13,613,000
November 1989	£ 12,896,000	£ 11,337,000
December 1989	£ 11,615,000	£ 12,018,000
5 months total	£ 62,555,000	£ 61,001,000
April to December 1989	£109,316,000	£106,070,000

We are over £3,000,000 behind our sales target after completing 9 months of this financial year. We need to make every available effort to recover this backlog in order to reach our target of £149 million sales by the end of the financial year.

Order Book

Month	Orders Received	Total Outstanding
August 1989	£19,462,000	£256,760,000
September 1989	£ 7,070,000	£249,177,000
October 1989	£ 6,021,000	£241,585,000
November 1989	£18,573,000	£248,821,000
December 1989	£16,109,000	£252,917,000

Major Orders

The major orders received between August and December 1989 were as follows:

Project	Equipment	Value of Order
A320	Landing Gear, Hydraulics, RAT's	£13,200,000
Saab 2000	Propellers	£ 6,667,000
BAe 146	Landing Gear, Flap System	£ 4,819,000
Fokker 100	Landing Gear, Hydraulics	£ 4,714,000
Fokker 50	Propellers, Hydraulics	£ 2,465,000
A310	Landing Gear	£ 2,100,000

\$40 Million Propeller Contract for Saab 2000

Dowty Rotol has been selected by Saab of Sweden to supply the propeller system for the new Saab 2000 fast regional jetprop.

The initial contract is worth in excess of \$40 million with a potential value over the life of the programme in excess of \$100 million.

Won against strong competition the all-composite propeller was selected for its advanced design and technical qualities, based on our proven technology and over 50 years' experience in the propeller market. This experience includes the supply of composite bladed propellers for the Saab 340.

A key factor in the selection was the company's commitment to major reorganisation of our product support activities to improve our worldwide service, particularly in the USA.

Optimised for low noise and high efficiency at cruise, the Saab 2000 propeller will have 6 swept blades to maintain these parameters. The propeller is electronically controlled by a system integrated with the engine FADEC (Full Authority Digital Electronic Controller).

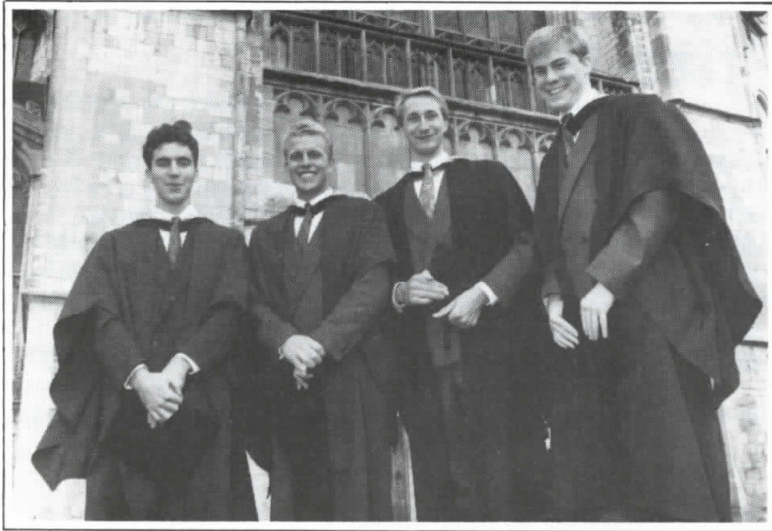
The 12.5 ft. diameter propeller and control system for the Saab 2000 are based on the failsafe design philosophy proven on recent applications, such as the propellers for the Fokker 50 and the latest Allison T406 turboprop which is currently running in an engine test cell at Allison.

There is considerable commonality between the Allison and Saab 2000 systems which gives significant advantages to the Saab programme through the use of hardware which has already undergone vigorous testing.

The contract is a tremendous achievement for the company on this new generation of high speed regional jetprops. It confirms our position as the leading manufacturer of advanced technology all-composite propellers.



Pictured are artist's impressions of the new Saab 2000 aircraft and the Dowty Rotol propeller



HND Awards

Congratulations to four of our Technician Engineer apprentices who were conferred HND awards at a ceremony in Gloucester Cathedral.

All four completed their studies at Gloucestershire College of Arts and Technology this summer and have now been placed in jobs within the company.

Pictured left to right are Ben Sutton (PSD Sales), Nigel Miller (Technical Office), Adam Williams (Development) and Andrew Paddock (Drawing Office).

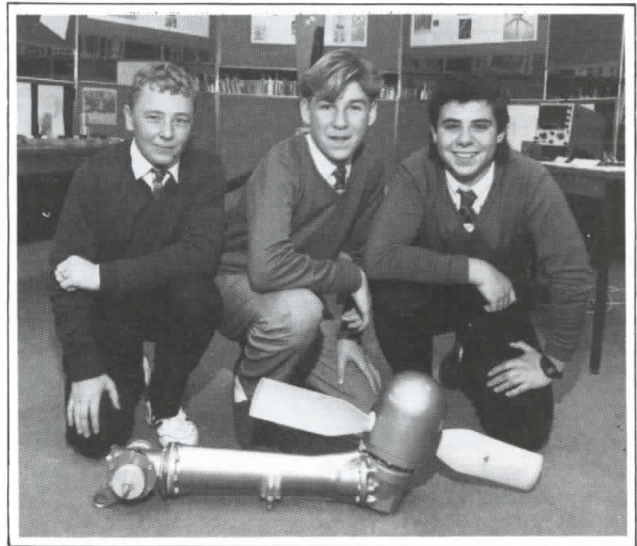
School Links

Following a recent gift to Arle School, Cheltenham of an exhibition propeller and ram air turbine, three 5th form pupils enjoyed a week's work experience with Dowty Rotol, looking at our development testing and manufacturing disciplines.

On their return to school Mark Raybould, Nathan Janes and Stephen Calver put on an exhibition to tell the other pupils and staff about our products. The three youngsters are shown in the photograph with a display board designed by Nathan.

In the last year over 500 pupils from local schools have visited Dowty Rotol for career advice, work experience or as part of their project work at school. Our training staff have visited most local secondary schools to give advice about careers in engineering and we have donated a variety of equipment and materials to local schools for use in Design and Technology courses.

It is vital for the long term future of Dowty Rotol, and British Industry in general, that young people have the opportunity to find out about manufacturing. Our thanks go to all employees who have assisted in our programme of school visits and work experience.



Child Aid

Last year's Christmas collection for the NSPCC saw a huge selection of toys generously donated, ranging from books and puzzles to soft toys and dolls, and including three brand new bicycles given by Dowty Rotol union representatives, and 2 rocking horses made by an ex-employee.

The money collection raised £350, and a cheque for this amount was presented to David Pettit, Team Manager of the Gloucestershire Child Protection Team.

Mr. Pettit expressed his thanks and gratitude to all Dowty Rotol employees for their generosity and explained that the toys will be given to under-privileged children locally, and that the donation will be used for local projects.

Mr. Pettit is shown receiving the cheque from Melanie Lewis, of the Personnel Department.

Annual Apprentice Indenture Presentation and Prize-Giving

Dowty Rotol's Annual Apprentice Indenture Presentation and Prize-giving was held on Monday, 11 December.

Guest speaker Professor Terry Hill BA, MSc, recently Professor of Operations Management at Bath University, presented over 40 ex-apprentices and sponsored students with their Indentures marking the completion of their training.

A number of trainees were also awarded prizes for specific achievements. These were:

First Year Prizes: Nigel Adams, Philip Hopkins.

Intermediate Prizes: Michael Turley, Stephen Wheatley.

Final Year Prizes: John Pendrey, Adam Williams, David Anning, Tania Weobley.

Special Craft Prize: Simon Jones.

Specific Academic Prize: Roland West, David Anning.

Mr. Lockyer opened the evening, welcoming the guest speaker Professor Hill and expressing the company's commitment to training and the importance of people as an asset.

During a well received speech, Professor Hill spoke of the decline of the UK as a manufacturer and exporter of goods and the measures necessary to make us, once again, a country of manufacturing excellence. He commented on how companies need to invest not only in equipment but also in people and skills training. Addressing the trainees, he advised that their training was only beginning and they must continue their own development, at least over the next 10 years. His final message was — 'effective training fuels business growth and individual opportunity'.

Having completed their apprenticeships, including both in-house and college based training programmes, of between 3 and 4 years duration, all 44 ex-apprentices and sponsored students have taken up positions at Dowty Rotol.

Their newly acquired skills are now being put to good use across a wide range of departments including design and development, manufacturing, purchasing, accounts and marketing.



The Prizewinners, pictured left to right are: Nigel Adams, Stephen Wheatley, John Pendrey, David Anning, Tania Weobley, Simon Jones, Roland West, Michael Turley and Philip Hopkins.

Chief Executive's Award For Martin

Martin Akerman, Warranty Controller, has won one of the Chief Executive's Awards for Excellence for the Aerospace Division.

Martin, who was previously a Foreman in No. 1 Assembly, moved to his present job on 1 January 1989. He was nominated for the award as a result of his efforts to analyse, and help reduce, the warranty problems faced by the company.

Although most of our achievements are the result of team efforts, Dowty Group Chief Executive, Tony Thatcher, is keen to reward individual achievement. "I very much believe in the value of personal initiative and effort. I have introduced the Award Scheme so that individual achievement can be recognised and rewarded", he commented in his congratulatory letter to Martin.

Martin's prize is a luxury weekend holiday for two. He is shown receiving his award from Tony Thatcher at a dinner held at Arle Court on Monday 18 December.



First Propeller Delivered to Allison USA

In October we delivered on schedule the first of a new family of all-composite, 6-bladed propellers to Allison Gas Turbine. This follows the successful completion of propeller spin testing at Staverton.

In September 1988, we signed an agreement with Allison to develop, flight test and qualify an advanced turboprop propulsion system based on our R373 propeller and the Allison T406 Turboprop engine.

From go-ahead in September 1988, the propeller and system design was completed by December 1988. Component testing of the control system and propeller started in July 1989; spin testing of the propeller at Dowty was completed in October 1989.

The first complete propeller and engine system is currently running in an Allison engine test cell, which marks the commencement of the full system qualification phase.

The objective of the programme is to meet the requirements of the military and commercial markets for large turboprop propulsion systems up to 6000 SHP engine rating. The R373 propeller is designed to suit both the new Allison T406 turboprop engine and for retrofit to existing T56 engines.



Pictured is the team involved in the successful completion and testing of the first propeller for the Allison T406 turboprop.

A Pat on the Back

It is always easy to criticise those who supply us with a below standard service because this tends to be highlighted through the resultant problems it causes. On the other side of the coin we need to make sure that the efforts of suppliers who give us an outstanding service are recognised.

We are, therefore, pleased to report the following awards to two of our sub-contractors.

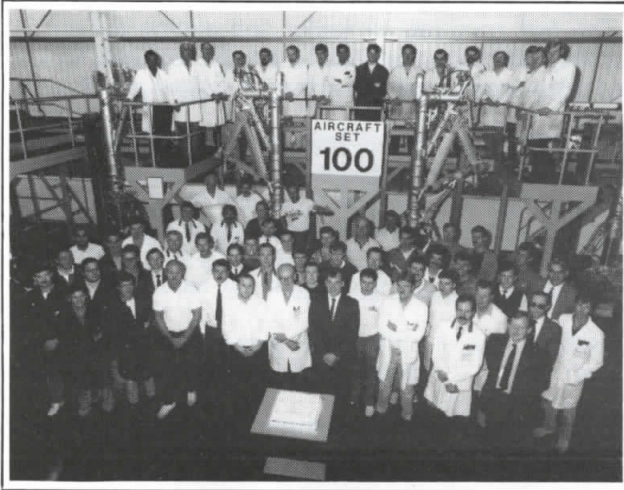
Harker & Sons Ltd. were presented with our Sub-Contractor Award for Excellence, which was based on their overall performance in the 1988/89 financial year for quality, price and delivery. We were particularly impressed with their efforts transferring the manufacture of the BAe 146 main undercarriage main fitting from Messier-Hispano-Bugatti in France to their factory at Stockton-on-Tees.

Bowmill Engineering at Poole in Dorset received our Sub-Contractor Award for Improvement during the 1988/89 financial year. They manufacture a wide range of high quality, close tolerance components, including the Dart propeller controller unit body, and have recently invested in specialised plant and inspection equipment to carry out more of our precision work such as spools, sleeves, valve seats and thread rolling.



The picture shows Bowmill Managing Director, Vic Boucher, being presented with the award by Tim Davis.

100th A320 Set Completed



In October, we completed on schedule the 100th aircraft set of Airbus A320 main landing gears.

The photograph left shows the team involved in the production of A320 landing gears on the occasion of the completion of aircraft set 100.

Pictured right is the hand-over of the 100th set to BAe/Aerospatiale at Toulouse for the build of the 100th A320. In the group is the team of Dowty Rotol service engineers who are ensuring the smooth transition of our equipment through the production phase in Toulouse to Aircraft hand-over to the customer. (Terry Rose extreme left; John Parry, 4th from left; Neil Crossman 5th from left; Steve Barnes, 3rd from right).



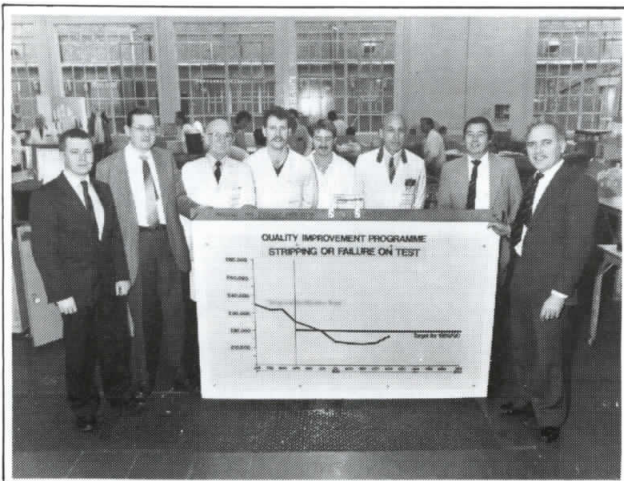
The first set of A320 landing gear was delivered in August 1986 with a production programme of one aircraft set per month. Since then the production programme has risen to 8 sets per month, ultimately building up to 10 sets per month, with the next 100 sets to be delivered before the end of this year. By the end of 1989 we had delivered 120 aircraft sets.

In total we have received orders for 315 aircraft sets in 3 differing configurations: 66 tonne twin wheel; 72 tonne twin wheel; and 72 tonne bogie.

Team Effort Improves Quality

A successful team effort has led to a significant reduction in test failures and the associated cost.

Every unit we make is subject to a Production Acceptance Test most of which are carried out in No 1 Assembly. These tests are the final check to ensure that the unit meets our customer's specification before it is despatched.



If the unit fails the test it has to be stripped down, the reason for the failure has to be investigated, and defective parts have to be rectified or replaced. In mid 1988 this was costing us around £35,000 per month.

This cost has been almost halved as a result of a team effort involving No. 1 Assembly, Costs, Production Methods, Inspection, Quality Assurance, and Design. It was reduced to under £20,000 a month in June last year, achieving a target set for March 1990 nine months early.

How was this achieved:

- Cost Department carried out an analysis to identify the most costly units to rectify.
- These units were subjected to a thorough investigation by all relevant departments to establish where improvements could be made.
- Production and Design introduced the necessary improvements to reduce future failures.

The picture shows the chart which is normally displayed in No. 1 Assembly and details the cost of production test failures. Surrounding the chart are some of the employees who contributed to this creditable team effort.

Quarterly Prize Draw

The second Quarterly Prize draw for the Suggestion Scheme took place at the end of December. The names of all employees who had received an award from the scheme in the previous three months were entered into the draw. Employees with more than one suggestion accepted had a draw entry for each accepted idea.

The winner of the prize was Robin Roles, who works in the Paint Shop. Robin is pictured receiving his prize, a

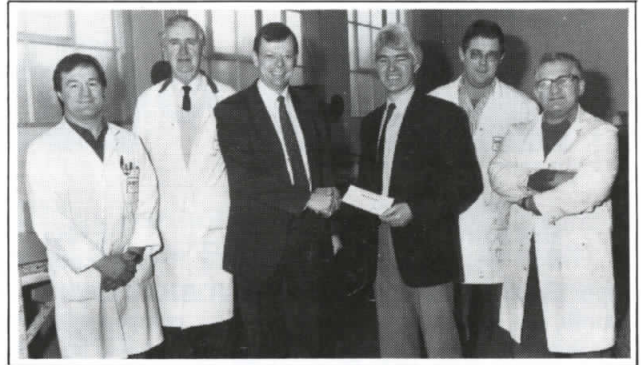
remote-controlled video recorder, from John Herring, Production Engineering Manager.

The next prize draw, to be held in April, will be for a midi Hi-Fi system.

The other pictures show awards from the Suggestions Scheme being presented by Managing Director, Graham Lockyer.



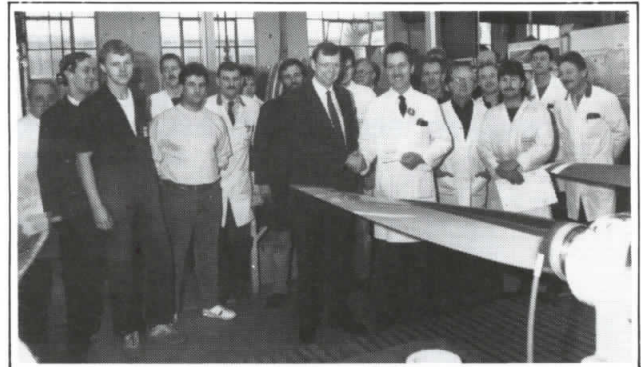
Winner of the Quarterly Prize Draw, Robin Roles, pictured receiving his prize.



Receiving a cheque for £350 is Paul Beard from Electrical Production. Paul put forward a suggestion which reduced the scrap rate on A300 RAT coil assemblies by reducing the length of monel strip across the coiled diameter and supplementing the remainder with cable.



John Kinder from Development receives a cheque for £330. His idea was to change the test schedule of overspeed governors on the F50 to allow the use of gas nozzle adjusters thus enabling continuous testing.



A cheque for £2,000 is being received by Owen McConnon. Owen's idea was to lay the element in manufacture of overshoes "loop down" on top of the bottom rubber. This eliminated the test failures on "flash test" which was accounting for 10% scrap rate on overshoes.

Tribute To Brian

Thanks go to all employees who contributed to a total of £1,000 in memory of Brian Bateman, who died tragically last year.

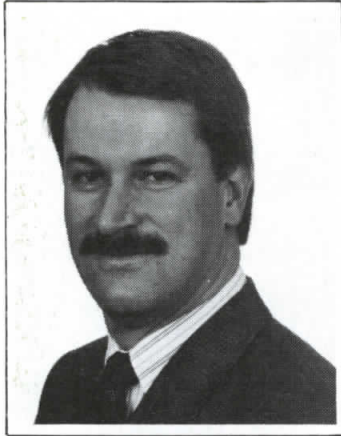
The amount included over £300 raised in a sponsored bike ride by Phil Brookes, from Repair Stores. The company added an additional £250 to the collection.

At the request of Brian's family the money was donated to the Cobalt Unit at Cheltenham General Hospital. It will be used towards purchasing a "Magic Bullet" machine which can diagnose and cure forms of cancer.

Brian's daughters are shown presenting the cheques to Dr. Roch-Berry of the Cobalt Unit.



Appointments



**Peter Booth —
Executive Director —
Purchasing**

Peter Booth joins Dowty Rotol this month, as Executive Director — Purchasing, from British Airways, where he was employed as Purchasing Manager.

Peter's career in purchasing has given him experience of working in both Europe and the Far East.

Peter is married, and his main hobbies are skiing, watersports, photography and travel.



**John Lindley —
Executive Director —
Customer Technical Support**

John Lindley started his career as a graduate apprentice at Rolls Royce, moving from there to spend several years working at the Ministry of Defence, and then in the Aerospace industry.

He joined Dowty Rotol in 1982 as Chief Development Engineer, becoming Chief Engineer in 1987.

John is Chairman of the local Royal Aeronautical Society, and his main interests outside work are conservation, wildlife, and motor sports.

John is married, with 2 sons, and lives near Stroud.



**Richard Willcox —
Commercial Director**

Richard Willcox joined Dowty Rotol in 1970 as Technical Sales Engineer. Since then he has held several positions in the Marketing, Sales and Commercial areas, including a four year assignment in the United States as Sales Manager — North America. In 1978 he was appointed Product Manager — Propellers, and most recently he has held the position of Executive Director — Commercial.

Richard is married, with 2 children, and his main hobbies are squash and golf.

1,000 Years With Rotol



The group of employees pictured above with Managing Director, Graham Lockyer, represent, between them, a total of 1,000 years service with the company!

The forty received their twenty five years service awards at a buffet lunch at the White House Hotel on Friday 8 December.

Before presenting the gifts, Graham Lockyer thanked those present for their long service and stressed the contribution they had made to the company's past and future success.