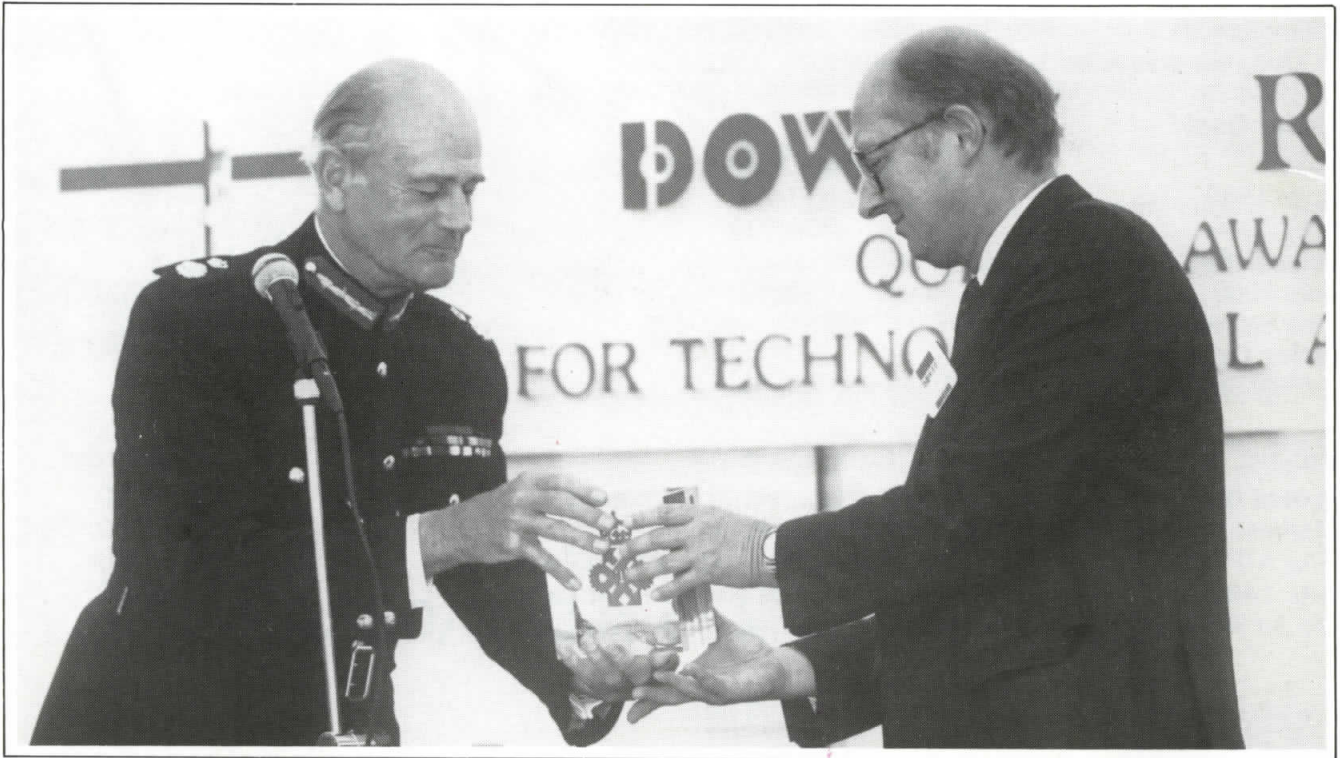


# DOWTY ROTOL NEWSLETTER

Issue 14  
September 1989

## 1989 Queen's Award



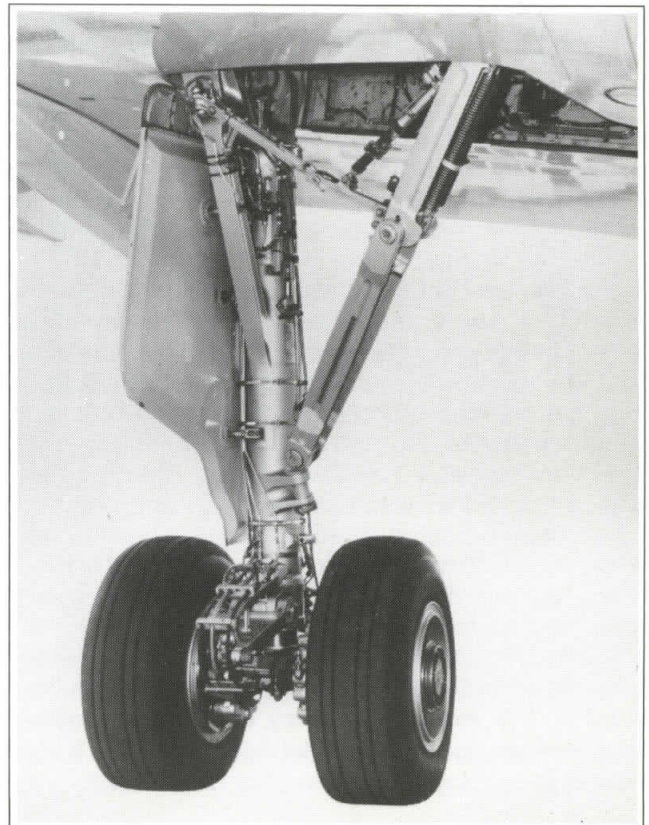
Pictured above is the Lord Lieutenant of Gloucestershire presenting the Queen's Award for Technological Achievement to Jim Lightfoot, Managing Director of the Aerospace Division.

The award relates to the Airbus A320 main landing gear and the technological innovation we have shown in large landing gear structures and in the use of advanced computerised design and manufacturing techniques.

The A320 landing gear design features a single piece main fitting of ultra high tensile steel. This reduces the number of components and cuts out many difficult technical problems. It also leads to improved side stay design, reduced maintenance costs, low weight, simplified installation and enhanced reliability.

In a statement to the press, Tony Thatcher, Chief Executive of the Dowty Group said, "We are prepared to invest in the equipment and people to keep a technological lead where a strong market is identified. We are delighted at this prestigious recognition of this approach. This is a tremendous tribute to all the efforts our employees have made on the A320 programme".

Managing Director, Graham Lockyer, commented, "Whilst the award is specific to the A320 landing gear, the underlying work formed an invaluable base for winning the A330/340 contract. Congratulations to you all".





# Current Performance

## Sales Turnover

Detailed below is the regular update on our sales turnover showing the value of our sales in the first four months of the current financial year.

Month	Target	Achieved
April 1989	£12,018,000	£11,731,000
May 1989	£11,289,000	£11,778,000
June 1989	£12,377,000	£12,238,000
July 1989	£11,077,000	£ 9,322,000
4 months total	£46,761,000	£45,069,000

Our year end sales target for 1989/90 is £149 million.

## Order Book

Month	Orders Received	Total Outstanding
April 1989	£10,618,000	£254,435,000
May 1989	£10,300,000	£252,957,000
June 1989	£ 6,089,000	£246,808,000
July 1989	£ 9,192,000	£246,678,000

## Major Orders

The major orders received in the first quarter were as follows:-

Project	Equipment	Value of Order
Fokker 50	Propellers and Hydraulics	£ 5,900,000
Marine	Hydraulics	£ 2,800,000
BAe ATP	Hydraulics and Landing Gear	£ 1,000,000
BAe 146	Hydraulics and Landing Gear	£ 930,000
Mc Air AV8B	Hydraulics and Landing Gear	£ 850,000

## Message from the Managing Director

We are now approaching the half-way stage in the current financial year. Our results after the first quarter were in line with our forecasts but the second quarter will be affected by the industrial action at the end of July and beginning of August.

It is now time to put the dispute behind us and work together to reach, and hopefully improve upon, our targets for this year. I believe that within the company we have the people with the skills, abilities, and dedication to ensure our future success. What we need to do is to focus our efforts in the right direction and work towards a common objective. We all want Dowty Rotol to be the world leader in the equipment we design and manufacture, supplying a quality product in which we can all take pride. In order to do this we have to make a level of profit which satisfies our shareholders and gives us a firm base for the future.

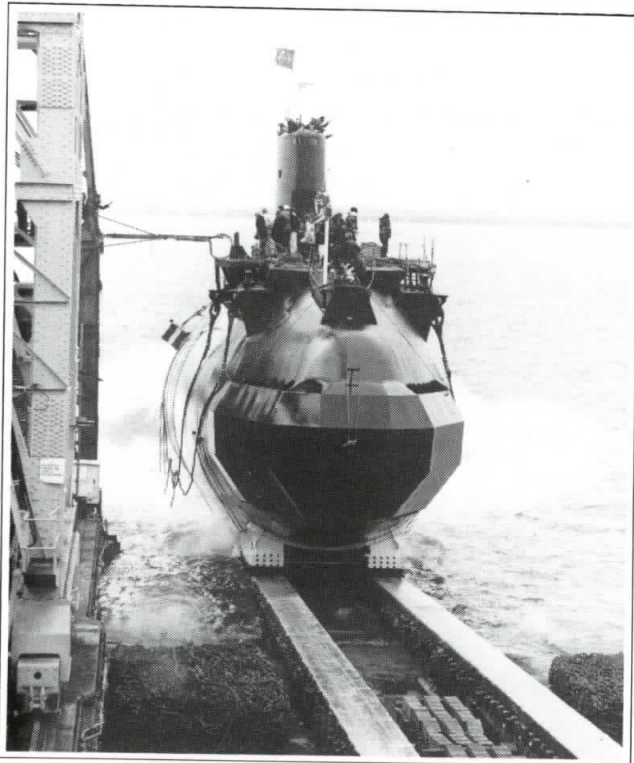
I was delighted to see the report in this Newsletter showing the success of the Ideas In Action suggestion scheme. This has confirmed my view that employees have many useful ideas and that these are valued by the company.

I want to emphasise my support for the decision to create a world wide Aerospace Repair and Overhaul organisation. My reasoning is not just that it will provide a firm foundation for expanding our business in this area but more fundamental in that it recognises the needs of the market plan and customers. However, I do also appreciate the concern and degree of uncertainty for those of you in the Product Support Division. There are a number of questions which we are unable to answer in detail at the present time simply because the relevant decisions have not yet been taken. It was felt to be right to announce the new organisation at this stage so that discussions about these decisions could take place in an open atmosphere. I can assure you that you will be fully consulted, and your views taken into account, on any items which affect you.

Finally I would again ask that we get down to the team job and beat our targets so that customers and shareholders can be satisfied, our future can be more secure and earn more for us through the SFPD and the profit sharing scheme. **Lets show them all who's the best team.**



## More business for submarines



*Launch of Type 2400  
Upholder Class submarine*

One of the less publicised areas of our business, but nonetheless a valuable part of the product mix, is that of hydraulic equipment for naval applications and in particular submarines.

Dowty Rotol has supplied submarine hydraulic equipment for over 20 years, which commenced with the Dreadnought class and currently includes both the Upholder and Trident submarines. The equipment is produced for a number of different submarine applications including:

- Hydraulic actuators for main engine steam valve operation
- Torpedo control packages for weapon firing and handling sequencing
- Electrically sequenced valve package for equipment signalling
- Automatic shut-off valves in the event of hydraulic line rupture

Some of the Royal Navy submarines for which we supply hydraulic equipment are:

Patrol Class — Porpoise, Oberon and Upholder (Type 2400)

Nuclear Ballistic Class — Resolution (Polaris) and Vanguard (Trident)

Hunter/Killer — Valiant, Churchill, Swiftsure and Trafalgar

Customers include GEC Turbine, Vickers Shipbuilding, Strachan & Henshaw and the Royal Navy.

The current 'submarine equipment' order book stands at £6 million with £2.8 million orders received between April and June for Upholder and Trident. Further business is forecast over the coming years.

## First A330/340 mock up's delivered

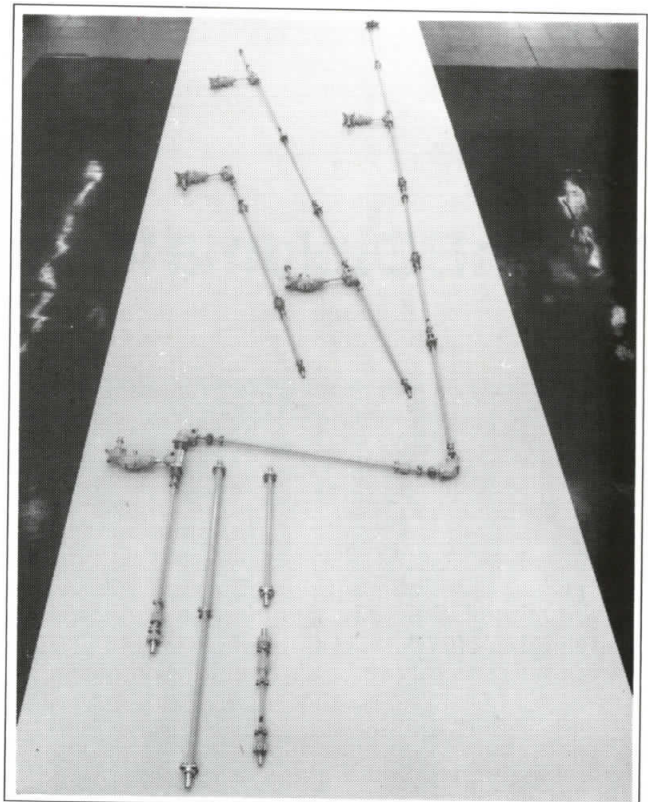
Following the high level of success Dowty Rotol has achieved in bidding for equipment on the Airbus A330/340 and subsequent contract awards, the company has achieved recently the first major milestones of the programme schedule.

The initial full size metal mock-up of the main gear was delivered to Aerospatiale at St Nazaire. This unit will be fitted to a structural model of a section of the aircraft to test for clearances during retraction and stowage of the landing gear.

In May the first bogie forgings were delivered and machining commenced. Also progressing, a 70% scale epoxy resin model of the complete functional landing gear which is being used for a detailed photoelastic survey to validate the minimum weight design.

The first flap system milestone was achieved, again on schedule, when a complete mock-up set of aircraft flap system equipment was delivered to MBB for installation in a structural rig of the wing for clearance checking. Prototypes of the flap system rotary actuator are currently on test with further prototype equipment being manufactured.

Further progress reports on this major programme will be included in subsequent issues of the newsletter.



*Shown above is the mock-up set of flap system  
equipment in No 2 shop prior to despatch*

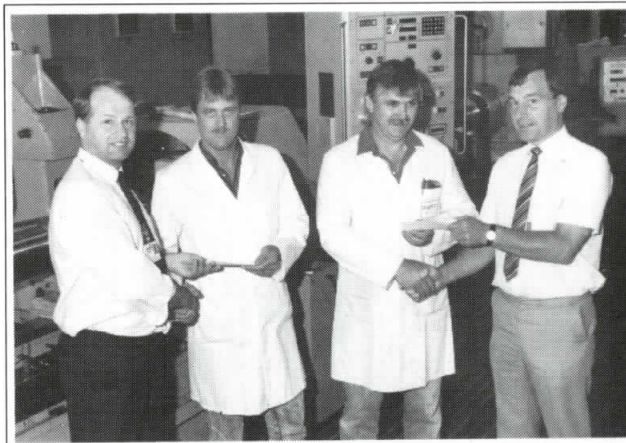


## Awards in Action

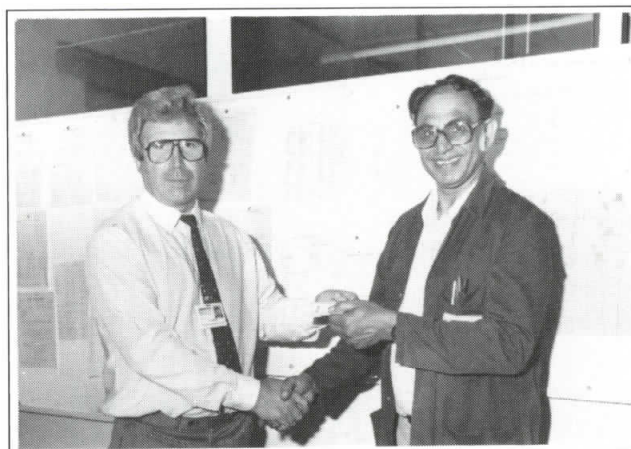
Over 260 suggestions have been submitted since the Ideas In Action campaign was launched on 1st June. This compares with a total of around 250 in the whole of 1988 and demonstrates the level of involvement in the new suggestions scheme and the quality of your ideas.

Pictured right are some of the recent award winners being presented with their cheques. So keep those good ideas flowing in.

Congratulations go to Dave Webber from Development who won the Suggestion of the Month Award for July. Dave's idea was to implement continuous testing of overspeed governors without their removal from test rigs for replacement of relief valves. Dave received an award of £225 for his idea in addition to £100 for being Suggestion of the Month.



The first suggestion of the month award, for June, was won by Andy Burrows and Lenny Bennett. They suggested that a conveyor system be installed on the Wohlenberg CNC deep hole boring machine to carry swarf to a centrifuge and reclaim cutting oil before depositing the swarf in a skip for disposal. Andy and Lenny are pictured with Terry Long and Bob Fluck receiving their awards.



Harry Jusab is pictured receiving a cheque for £450 from Gary Wakefield, Manufacturing Manager. Harry's suggestion reduced the time taken to produce rods on sliding members from 4 hours to 1 hour.

## IMechE Diploma in Engineering Management

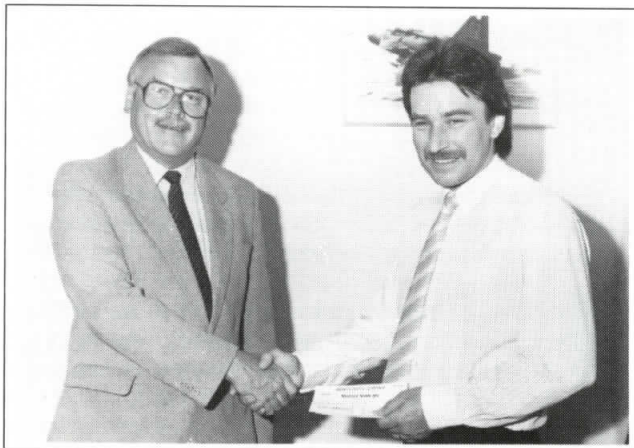


Our congratulations go to five Dowty Rotol engineers who have successfully passed the 2nd year exams of the IMechE's Diploma in Engineering Management.

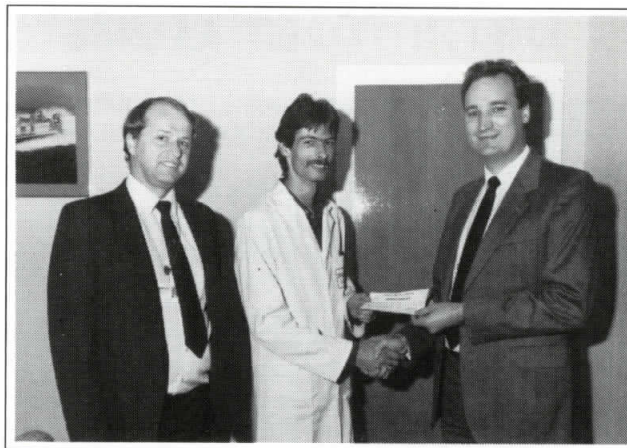
The IMechE's Diploma scheme is designed to increase the business awareness of engineers, and requires a degree of determination and commitment from candidates who have to supplement their monthly half day tutorial with over 100 hours private study.

The Dowty Rotol personnel who sat the exams were Maxwell Gough and Adrian Nyland from the Quality Department; David Wyman and Nigel Woodford from Design; and Chris Gear from the Stress Department. To become eligible for their diploma, they now have to undertake a one year work related project.

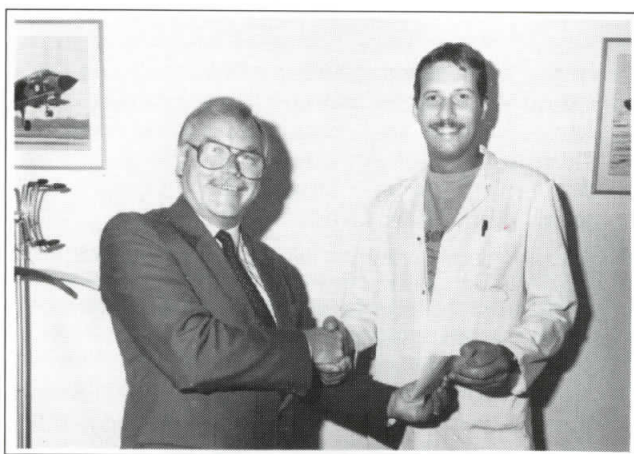




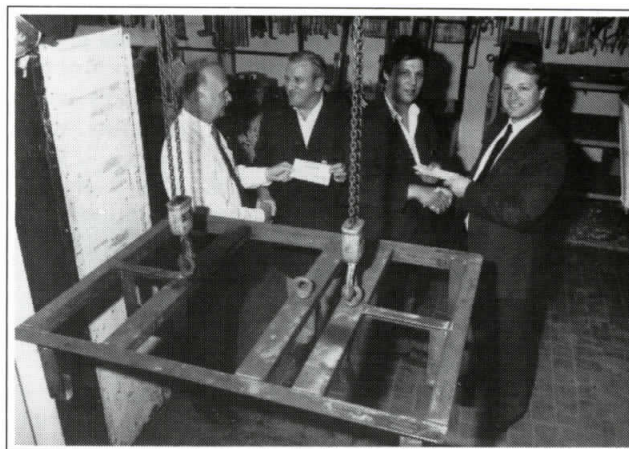
*For writing a program for checking propeller blades on the Ferranti measuring machine, Peter Willis received a reward of £1000. Peter is pictured receiving his cheque from Peter Bennett, Chief Inspector.*



*Pictured receiving a cheque for £1375 from Andy Stevens, Production Director is Dave Berry, a Tooling Service Engineer in the Tool Stores. Dave's idea was for new anvils to be purchased and fitted to Wickman gauges rather than discarding the whole gauge at the end of the anvil's life.*



*Andy Miles, an Inspector from Electrical Production, is presented with a cheque for £400 for his idea to reduce the calibration time for temperature gauges on hydraulic test rigs.*



*Plating Shop employees, Les Foster and Colin Mansell, received £500 for their suggestion to modify component carriers and allow twice as many components to be anodised at one time.*

## Aeronautical Lectures

The Gloucester and Cheltenham Branch of the Royal Aeronautical Society have announced their lecture programme for the new season. The programme for the next three months is:

Thursday 19th October 1989

The Harrier GR Mk 5 Aircraft by G. Tomlinson (British Aerospace)

Wednesday 29th November 1989

Safety Critical Hardware Design and the Viper Micro-processor by Dr. C. H. Pygott (RSRE)

Thursday 7th December 1989

Aircraft Simulators by P. Spence (Rediffusion Simulation)

The lectures are in the Dowty Cinema, Arle Court, starting at 7.30 p.m. Visitors are welcome.

Each year the Branch organises a series of lectures, technical visits and social events for members. The programme is aimed to appeal to a wide range of interests, from specialist engineers to those with a keen interest in aircraft and aviation generally.

Lectures cover various aspects of Civil and Military aviation and include topics on design, manufacture, maintenance and operation. The talks, presented by leading professionals in the industry and members of the Services, often cover projects in which Dowty Rotol is directly involved as a major equipment supplier.

If you are interested in what happens to the equipment we produce when it gets into service, why not come along to some of the lectures. To find out more call Mike Chance on 1711 or Mike Lander on 1834.



# Your Questions Answered

Detailed below are answers to some of the questions of general interest which were put forward in response to the Newsletter summarising this year's employee briefings.

**Q** Since our forecast for this year's Return On Capital Employed was made the Mining Division has been sold by the Dowty Group. Presumably some of the money from this sale will be invested in Dowty Rotol. How will this affect our forecast for 1989/90?

**A** *There is no guarantee that any of the funds from the sale of the Mining Division will be invested in Dowty Rotol. The Dowty Group invests the money it has available where it believes the best return can be achieved. This can include the acquisition of new companies such as the recent purchase of CASE. The sale of the Mining Division has no affect upon Dowty Rotol's 1989/90 forecasts.*

**Q** At the start of the 3 year plan it was stated that the number of employees would be reduced by 300 over 3 years by natural wastage. This figure stands at 260 after 2 years of the plan but how much of this reduction is because people have left in key areas and cannot be replaced due to restrictive wage structures?

**A** *In general the reduction in the number of employees has occurred in the areas where the company wanted to achieve reductions. It has been necessary for there to be some internal movement of employees to achieve reductions in the right areas. However, a lot of these moves have occurred through employees applying for internal transfers and many of these have involved a promotion opportunity for the individuals concerned.*

*We did not plan to reduce the number of direct employees and, in fact, this figure has remained about the same during the first two years of the plan.*

**Q** In the latest issue of Dowty World a graph was shown comparing the Dowty Group's share price over the last 12 months with the general index for Mechanical Engineering. Why was it that this graph showed a much more optimistic picture than the Return On Capital Employed comparisons shown at Dowty Rotol's employee briefings?

**A** *The two comparisons deal with different measures over different time periods. The Dowty World graph showed the share price of the Dowty Group over a 1 year period. The graph in the employee briefings showed Return on Capital Employed over a 6 year period for both the Dowty Group and Dowty Rotol. Share price over a 12 month period is not a good measure of performance as share prices can fluctuate for a whole variety of reasons. The key measure of our performance at Dowty Rotol is our R.O.C.E. and not the Dowty Group's share price.*

*At the employee briefings questions were asked about whether the companies we compared ourselves with gave an accurate picture. These companies were chosen because, as aerospace component suppliers, they are the ones with which the City tends to compare our performance.*

*However, where information is available, we shall try to widen the number of companies with whom we compare ourselves in future briefings.*

**Q** Has the company considered the use of an attendance bonus so that employees who come to work regularly can earn more than those who have time of sick?

**A** *Your concern about absenteeism at Dowty Rotol is understandable. Our levels of absenteeism are above the national average and the worst in the Dowty Group. However, it should not be necessary to introduce an attendance bonus since it is part of all our employment contracts to attend when we are fit to do so.*

*As part of this year's pay deals we have excluded SFPD from some periods of sickness absence. Although some employees may see this as a backward step it has to be viewed in the context of the very good sick pay scheme we have and the fact that the high levels of absenteeism at Dowty Rotol reflect badly on all of us.*

**Q** Is it possible for employees to be given the option of being paid the profit sharing bonus in shares with some tax advantages?

**A** *We did consider this possibility for the payment from last year's profit sharing scheme but could not find a way which would give tax benefits to employees and be administratively feasible. We shall review the position again to see if there is a way of offering shares instead of cash in a manner which is beneficial from a taxation viewpoint.*

**Q** If MRP is so efficient why is it that when certain spares are required by airline operators none are available?

**A** *It is clearly important that we satisfy our customer's requirements and the MRP system is able to bring these together and tell us what we need to do to achieve them.*

*The problems which arise tend to be because people override the system or because orders are incorrectly placed. It is the provisioning of the spares which presents the problem and not the MRP system itself.*

**Q** Given that our 3 year plan target for 1989/90 is 24% Return On Capital Employed, is it not negative thinking to have a forecast of only 22.2%?

**A** *The forecast of 22.2% is our realistic assessment of what we can achieve in the current financial year. The target of 24% was set 2 years ago and since that time the aerospace industry has become more competitive making the target more difficult to achieve. However, given the performance of some of our competitors, you are right to point out that we need to set our sights higher in the future.*



## EFA Bids Submitted

Earlier this year many departments were involved in hectic activity to submit our bids for work on the Eurofighter project.

Eurofighter is a new fighter aircraft being developed in partnership between the British, German, Italian, and Spanish Governments. The first flight is due in November 1991 and mainstream production will begin in 1993/94. To improve the chance of our bids being successful we have collaborated with other companies from the partner countries.

Competition on Eurofighter is very tough in terms of price, technical performance and contractual conditions. We have lost the bids on some of the minor items of equipment to our competitors but are still awaiting the outcome of our bids on the major items, (Landing Gear, Accessory Gearboxes, Leading Edge System).

In total, approaching 1,000 volumes had to be produced for all the bids. For the landing gear bid alone, 800 sets were printed. These stood 130 feet high and



weighed 2.3 tons or the equivalent of 6½ main and nose landing gear sets!

The photograph shows John

Poole and Alex Nash with the initial priority customer sets about to be delivered by charter flight from Starverton Airport.

The Paris Airshow took place in June with Dowty Rotol having a major presence on the Dowty Group stand. The highlight of the stand, on its first public showing, was the Airbus A330/340 main landing gear towering 5 metres above the stand.

The fullscale mock-up of the main gear generated a lot of interest and discussion with stand visitors, press and public alike.

Exhibiting in the Canadian Pavilion, Dowty Canada was displaying its success on the A330/340 with the centreline landing gear.

In addition Dowty Rotol was showing a number of other products for the first time including the rotary actuator for the A330/340 flap actuation system and the hydraulic power pack for the HAL Advanced Light Helicopter.

Other equipment displayed by Dowty Rotol under the overall stand theme of "Partners in International Programmes" included EAP landing gear and secondary power system gearbox; A320 RAT, main gear door actuator and uplock; UDF fan blade and the Fokker 50 propeller. However, not only did our equipment provide a focal point on the Group Stand but we also put on a good show on the Allison Gas Turbine Stand where our most recent six bladed composite propeller for the Allison T406 propulsion system was the main feature.

*The photograph shows the Group Stand with the two main features being the A330/340 main gear and F50 propeller.*

## Paris Airshow



## Charity Motor Show

For the second year running the Dowty Motor Club held its charity show on the Dowty Rotol sports ground. This year's show, on 15th July, was in aid of the Cheltenham Special Care Baby Unit at St Pauls Hospital.

In complete contrast to last year, which suffered heavy rain all afternoon, the weather was ideal. Around 500 vehicles were on display ranging from a 1927 Renault to the latest models of cars on the trade stands. One make clubs were there in force, typical being Granada, Riley and Kharman Ghia. American cars were represented in a splendid display by the Mid West American Auto Club.

In addition to cars there were displays of motor bikes, choppers

and karts. The emergency services were on show with vehicles from Gloucester Fire Brigade, St. Johns Ambulance and Gloucestershire Police. The heavy-weights on view included a 70 ton mobile crane from Grayston White Sparrow and an airfield fire and rescue vehicle provided by Simon Gloster Saro.

Gate collection and car parking was in the capable hands of Officers and Cadets from No 2232 Dowty Squadron of the ATC, and Clearacres loaned a four wheeled motorcycle to enable the show organiser, Adrian Richards, to travel around the ground. In excess of 400 people attended the show and proceeds will be donated to the Special Baby Care Unit.

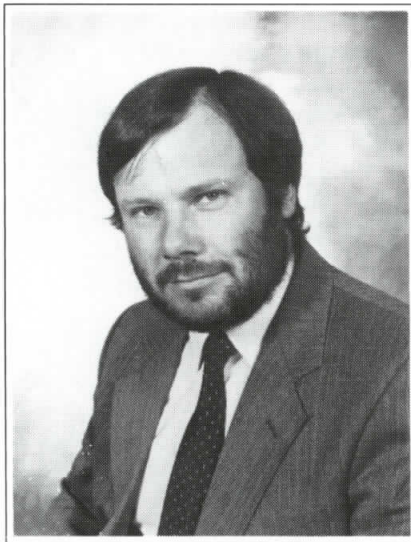
## Inter Dept. Cricket

Thirty teams entered this year's competition, which enjoyed the best weather for many years. In the cup knockout the finalists were Repair 'A' and NCCCC from No. 1 Shop.

NCCCC batted first and scored 99 for 6 in their eighteen overs. In a thrilling finish Repair 'A' started their final over also at 99 for 6 but 4 bytes off the third ball ensured their victory.

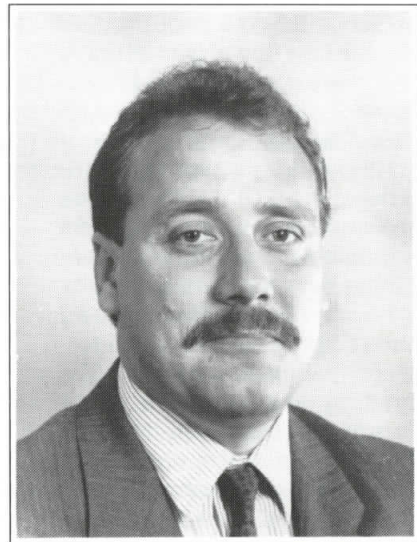


## Appointments



### **Dr. David Wood — Executive Director Projects**

David Wood joined Dowty Rotol in 1984 as a Project Engineer — Finite Element Analysis and was appointed Assistant Chief Engineer — Technology in 1986. Prior to joining Dowty Rotol he was with Rolls Royce PLC in Bristol. David is married with 2 children and lives near Stroud.



### **David Waring — Executive Director Works**

David Waring, an ex Dowty Group Apprentice, gained a BSc at Aston University and prior to joining Dowty Rotol worked as Production Engineering Manager with Dowty Fuel Systems Atworth division. David is married and currently lives near Melksham.

## Retirements



Fred Windo and Ken Dunkley both retired from the Grinding Shop in June after a remarkable 91 years service between them at Dowty Rotol.

Fred was a father figure to many of the younger people in the shop and was considered to be a brilliant engineer in his own right. He was presented with a Bownam and Turner Grinding Head.

Ken was originally a gear man and had the reputation of being the best gear cutter in the country. He was presented with a Penny Farthing made from Boeing gears by his colleagues.

Fred and Ken are pictured with Manufacturing Manager Gary Wakefield and Neville Lodge.

Another retirement was that of Don Stevens. Don had been with the Company for almost 37 years, the majority of which was spent in the Metal Blade shop. He is pictured with his wife, Pat Stanley, Brian Searles and Gordon Grey being presented with a propeller, one of several gifts he received.

Our best wishes for the future go to the above and all other recent retirees.

