

DOWTY ROTOL

NEWSLETTER

Issue 7
June 1987



A320 Rolls Out

The picture above shows the "roll out" earlier this year of the A320. The dramatic event which is the airliners equivalent to a world premiere was accompanied by a laser light show, stage mist and film of the planets crossing the heavens! Airbus board chairman Dr. Franz-Josef Strauss hosted the occasion which was also attended by the Prince and Princess of Wales.

Eight days later the No. 1 A320-100 made its maiden flight from Toulouse signalling the start of a 1,200 hour flight test programme.

The Dowty Rotol equipment has performed well. The only criticism on the landing gear is the ride quality during taxiing which will be improved by minor modifications to the shock absorber. The ram air turbine was deployed in the first flight and has been through a number of tests successfully.

As anticipated in the last newsletter the Company has now received further orders on this project bringing the total number of landing gear on order to over 100 aircraft sets.

Current performance

Sales Turnover

Detailed below is the regular update on our sales turnover showing the value of sales in the last quarter compared with our targets.

Month	Target	Achieved
January 1987	£9,821,000	£9,976,000
February 1987	£10,313,000	£10,524,000
March 1987	£10,878,000	£11,834,000
3 months total	£31,012,000	£32,334,000
12 months total	£112,790,000	£113,830,000

As can be seen from the above we managed to achieve over £1.3 million worth of sales above our target for the last quarter. This meant that we were able to reach and slightly surpass our original sales target of £112.8 million for the 1986/87 financial year.

Listed below is a breakdown of our turnover for 1986/87 showing the split between production, repairs and spares.

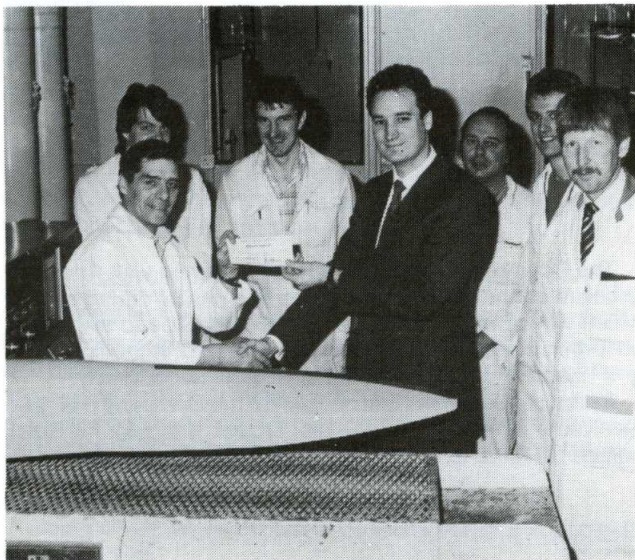
Production	£ millions	
Tornado	18,618	
AV8B	13,277	
BAe 146	7,602	
Harrier	3,551	
A310	2,692	
SF340	2,632	
F.50	2,050	
Marine	1,979	
SD360	1,860	
Jetstream	1,363	
Bell	1,323	
F28	1,238	
Others	10,346	
Total production	£68,531	60%
Repairs	10,017	9%
Spares	32,796	29%
Development	2,281	
Tooling and Test Rigs	0,205	
Dowty Rotal Total	£113,830	

Order Book

Month	Orders Received	Total Outstanding
January 1987	£17,636,000	£165,745,000
February 1987	£15,120,000	£170,341,000
March 1987	£19,584,000	£178,091,000

The major orders received in the last quarter are as follows:

Project	Equipment	Value of Order Received
Airbus A320	Landing gear and hydraulics	£12,000,725
Panavia Tornado	Landing gear and hydraulics	£9,086,803
British Aerospace 146	Landing gear and flap system	£3,237,964
Saab SF340	Propellers and hydraulics	£3,001,742
British Aerospace Advanced Turboprop	Landing gear and hydraulics	£2,008,318
Grumman Tracker Shorts SD360	Propellers and Landing gear and hydraulics	£1,851,210
Airbus A310	Landing gear	£1,641,744
British Aerospace Harrier	Landing gear and hydraulics	£1,415,120
Fokker 50	Propellers, flap system and hydraulics	£728,805
Submarine Type 2400	Hydraulics	£558,394
		£515,081



Len's idea pays off

Len Jotham of the Composite Blade Shop recently submitted a suggestion to improve the way in which metal leading-edge guards are bonded to composite propeller blades.

He observed that the existing fixing method often resulted in air voids being trapped between the guard and the surface of the blade. His solution to the problem was to place a strip of tacky tape between the guard and the pressure strips which are used to hold the guard in place. This enables the pressure to be evenly distributed as the guard is bonded into place.

Len is pictured being presented with a cheque for £250.00 by Andy Stevens, Executive Director — Works, on 1st April, 1987.

Boeing check us out

A senior management team from Boeing, Seattle, recently visited us to assess our capability to design and manufacture large landing gear.

With the Boeing 7J7 programme on the horizon we are pleased to report that they left satisfied that Dowty Rotol could

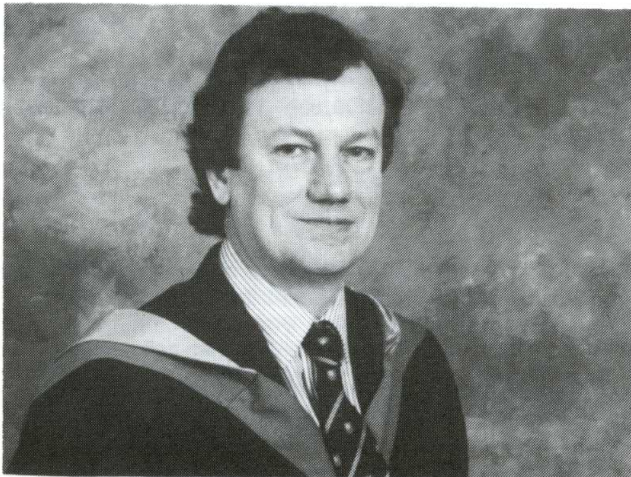
be a reliable supplier for the large landing gear they will need for this project.

However, a subsequent routine quality audit by Boeing produced a different result as is described in the article "Quality Is Your Business".



John Palmer explains the technicalities of A320 landing gear design to the Boeing team during their tour of the landing gear assembly shop.

The group includes, left to right: John Arline (Boeing), Don Young, Julian Lee (DAC), John Palmer, Gary Wakefield, Andy Stevens, Barry Eberhardt (Boeing), Larry Hall (Boeing).



Open University success

Our congratulations to Colin Maher, who was awarded an Open University Bachelor of Arts degree in December last year. Colin is a Systems Co-ordinator in the Product Support Division and started this course of study in 1981.

His achievement has required a great deal of dedication and hard work as well as support from his family. Colin's degree is related to computing and because this is the main area of his job the Company has provided financial support for the course and summer schools.

Colin is now continuing his studies to upgrade his qualification to BA Honours.



A close shave

Foolhardy John Dix, a Storekeeper in the Raw Materials Store, recently agreed to have his head shaved in response to a challenge from his work mates.

The "deed" took place on Friday, 6th March, 1987, during the lunch hour at Rotol's social club. The Chairman of the Stroud Meningitis Appeal, to whom the monies raised would be presented, came along to witness the event along with many employees who came to lend their support.

The lady with the razor, Avril, began work on John's hair and in no time at all it was a case of "Hair today — gone tomorrow." As if a free haircut wasn't enough, John's friends arranged for a Kissogram girl to soften his ordeal.

Finally, the cheque for £550 and monies collected during the lunch hour (£47) were presented to the Chairman of the Stroud Meningitis Appeal, who was delighted with the generous support and goodwill shown for this local charity.

Presentations have recently been made to employees about our results last year and our future plans. A Stop Press newsletter was also issued which invited you to submit questions. We publish below the answers to a representative cross section of the questions we received.

Q Are the recent presentations a "one-off" or will they be a regular feature in the future?

A *It is intended to carry out similar presentations at least once a year to keep employees up to date with the Company's results and future plans.*

Q What effect will the government's decision on A330/A340 funding have on the three year plan?

A *The government has decided to fund British Aerospace on the A330/A340 project. If British Aerospace had not received this support it would have been more difficult for British equipment suppliers, like ourselves, to obtain any of this business. However, Dowty Rotol does not receive any of the government funding.*

Q How much does scrap cost us and what is the size of the team dealing with this problem?

A *Scrap and rectification costs us £4.5 million per year. Whilst there are specialists working on this problem the important point is that quality results from the actions of all employees through their normal daily tasks.*

Q What will happen if the three year plan does not work?

A *If we are unable to continue the improvement on our return on capital employed we shall find it increasingly difficult to obtain funds for the investments we need to make. We have to compete for funds within the Dowty Group and the return expected by the Dowty Group is conditioned by what the market expects.*

If we cannot obtain the funds we need to invest in future projects we shall eventually see a reduction in our order book when current projects such as Tornado and AV8B start to fall off.

Q Why don't we reduce the level of investment to improve the return on capital employed?

A *A very significant improvement to the return on capital employed could easily be achieved by stopping future investment in development and fixed assets. Ceasing investment in new projects would have the inevitable consequence that by the mid-1990s the output of the Company would be falling rapidly with an associated fall in employment.*

Q What will be the Company's level of investment in the next three years?

A *The Company intends to continue investment at levels similar to those of the past few years. This is therefore likely to be in the order of:-*

Development — £6m

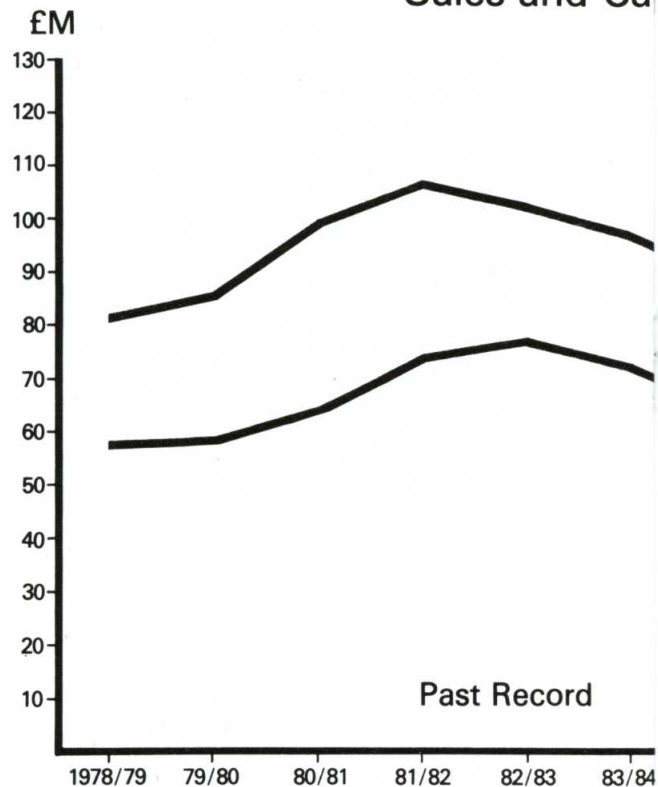
Tooling etc. — £5m

Plant — £7m

Q Is the Company going to offer employees any incentive to achieve the targets set such as a profit sharing scheme?

A *The Company has offered, as part of this year's pay review, to discuss the introduction of some form of profit sharing scheme. The achievement of our targets will also mean that the Company can continue to provide secure employment.*

Sales and Ca



Q In the presentations no graph was shown for the average capital employed. What causes the level of capital employed to change?

A *The chart shows the average capital employed since 1978/79 and our projections for the next three years. The chart also shows sales (adjusted for inflation) over the same period. It can be seen quite clearly that capital employed and sales are directly related.*

This is because the major element in capital employed is work in progress which fluctuates in line with sales. Investment in plant and machinery is a long term requirement and cannot be increased or decreased rapidly as the sales level changes.

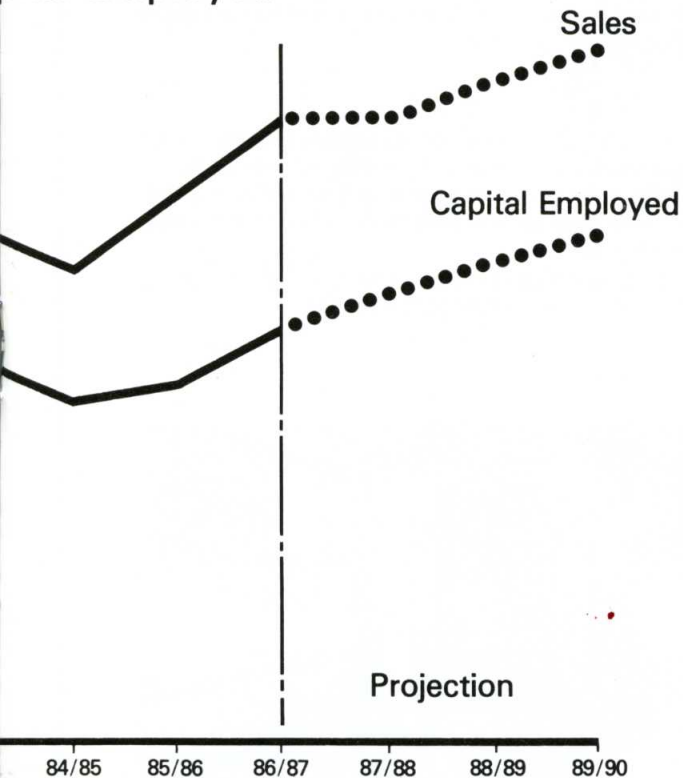
Q If this presentation is true, why not give us our wage rise without all the hullabaloo which is causing strife between our parties?

A *The Company believes that it would be irresponsible to simply carry on paying ourselves more without ensuring that we can make the improvements in our efficiency which we require to remain competitive. Companies which are efficient and profitable are far more able to provide job security and prosperity for their employees.*

The proposals for changes to working practices are not about asking employees to work harder. We are seeking to negotiate an agreement that will enable better use to be made of employees' skills and for those skills to be enhanced.

your questions answered

Capital Employed



Projection

84/85 85/86 86/87 87/88 88/89 89/90

Q Why is it that Rotol personnel can obtain better salaries by moving to other jobs rather than staying within the Company? The younger people with more foresight, drive and less ties can be seen doing this and others are trying. Surely these people are the Company's investment in its future. I feel a 3 year plan should give some review of these figures and look into adjusting the pay scales accordingly.

I do not expect to see this letter answered in a future newsletter. As with everything else I expect to see it consumed within a 3 year neglect!

A The Company's labour turnover, in percentage terms, is very low particularly when retirements are excluded. In the last 3 years we have recruited a large number of new employees. The vast majority of these have joined us from other companies and not taken a job here because they were out of work. All the available evidence points to Dowty Rotol being a popular employer in this area. Many of the young people who apply for jobs with us quote as their reason for so doing the reports they have had from friends and relatives who work here.

Q Will the reduction in numbers affect the placement of apprentices?

A No. We shall continue to place the number of apprentices we have already told the Dowty Group Training Department we need over the next 3 years.

Q Certain areas notably, but not solely, in the technical department are having difficulty meeting their work commitments with present staffing levels. Our customers

increasing insistence on getting it right first time means much more attention to detail and more, not less, staff in these areas. Does the Company not accept this?

A The Company's aim is to reduce the total number of employees by 300. This reduction will not be evenly spread throughout all areas. In some areas it may even be necessary to increase the numbers we employ.

However, the need to improve efficiency, to work effectively, and to eliminate inessential tasks and duplications of effort can be applied throughout the Company.

Q Where will the money for better training come from when there is going to be tighter budgetary controls?

A The Company is committed to devoting more resources to the training of employees. We live in a changing world and if we are to keep up with our competitors we have to spend more money on training people to use new equipment and operate new systems. Tighter budgetary control does not mean that you do not invest in your future.

Q Will the Company welcome suggestions to remove inessential tasks, duplication of effort, and improve the effectiveness of working practices?

A Yes. Managers do not have a monopoly on good ideas. It is often those people who are involved on a day to day basis with a particular operation or procedure who have the best ideas about improvements.

Q Many of the Company's products have a very long lead time and therefore require numerous operations. Won't it be difficult to reduce the work-in-progress as a result?

A To give some idea of what improvements are possible it is helpful to note that the average batch of components is "in work" for less than four hours per week. We are installing an M.R.P. system which will help with the complex production control decisions that have to be made in our type of business in order to improve lead times.

Q If this Company is the Dowty Group's "flagship" how is it that less profitable group companies present a better image with modern office blocks. Is Rotol not ashamed to show visitors the antediluvian office conditions suffered by its staff?

A In recent years the Dowty Group as a whole has produced a higher return on capital employed than Dowty Rotol. Whilst the Company would like to build a new office block we do not have a bottomless purse and we have to decide upon priorities. It is pointless having new office blocks if you have not invested in the plant and equipment you need to obtain new projects. In addition to this we do have to compete for funds and the better our profitability the more likelihood we have of being able to borrow the money we need.

Q Why waste time and money on these "newsletters". After all, employees were given the information verbally at hour long meetings. Isn't this just more waste and loss of production?

A We believe that employees have a right to know how the Company they work for is performing and what its plans are for the future. Changes in the fortunes of a company can have significant effects on the lives of its employees. The verbal presentations on the 3 year plan contained a lot of information and we felt it was useful to summarise the main points in a written document.

Improving communications can mean some loss of production but we feel that our employees are worth the effort.

Quality is your business

Introduction

Everyone of us contributes to the quality of our products even if it is in different ways and through different tasks. Our quality image has to be excellent in this type of business and unfortunately the results of some recent customer audits, in particular Boeing Aircraft Company and Messerschmitt Bolkow Blohm (MBB), have not left our customers satisfied. We must rectify our faults and convince our customers that quality is No. 1 at Dowty Rotol.

There are a number of areas where improvements are needed and through a series of articles, of which this is the first, Mike Blanch, Quality Manager, will explain what is wrong and what must be done. The first and most significant single area is the one of calibration control.

What is Calibration?

It is a check on our measuring equipment against a standard or master which in itself has been checked against national or international standards. This is necessary so that the equipment we make can be matched with that made by other companies in any part of the world.

Why Calibration?

It is easy to regard calibration as something required by the Inspection Department, a nuisance which holds up production or test programmes. So why bother with it? The reason is that calibration is the only way we can make sure that our products are correct and match what our customers want and are paying for.

Who is Responsible?

We tend to think of the Inspection Department as having sole responsibility for calibration. Although they operate the recall and calibration programme for much of our equipment they cannot take full responsibility. Why wait until an Inspector walks around the test rig and complains because the pressure gauge does not have a sticker on it? It is too late by then.

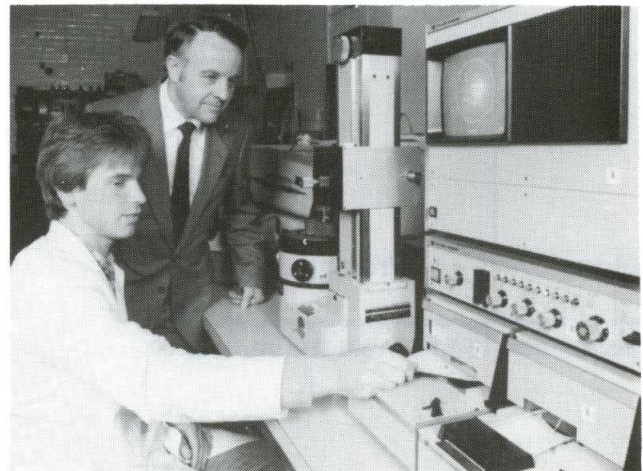
Once a piece of measuring equipment has been calibrated a date is set when a further calibration check has to be carried out. This is to ensure that the equipment still meets the required standard.

How can you tell if equipment is calibrated?

All plug gauges should be colour coded and the monthly colour displayed in the shops. Other measuring instruments should have a label showing the next calibration date and a stamp or signature showing that they have been calibrated. Any equipment that is out of calibration should be brought to the attention of your supervisor.

It is important that we show our customers that we can get fundamentals such as calibration right if we are to maintain our reputation for making quality products. If we fail in this task then in the final analysis our customers will just simply stop doing business with us.

PLEASE REMEMBER QUALITY IS A MATTER FOR ALL OF US AND NOT SOMEBODY ELSE'S PROBLEM.



Mike Blanch (Quality Manager) looks on as Inspector, Ian Woodley, calibrates a ring gauge on a talyrd 200 measuring system.

Putting down roots

Dowty Rotol and Gloucestershire County Council have recently collaborated in a tree planting conservation scheme. The object of such schemes is to preserve trees, plants and animals native to Britain. The local authority supplies and plants the trees according to a plan worked out with a Company, farmer, or other landowner and the cost is shared equally.

Planting took place on our land in November and December last year and involved a total of 1,200 trees. There are many

different species all native to the British Isles including oak, ash, field maple, wild cherry, alder, willow and poplar. The trees are planted around the perimeter of the sports fields and in the areas adjoining D.P.C. and Hatherley Lane.

The trees are all fairly small at the moment but in years to come they will provide attractive surroundings for our sporting activities. All those who have shivered in the elements whilst supporting our sports teams can look forward to protection from the trees in the years ahead.

Dowty Aviation Services — Singapore

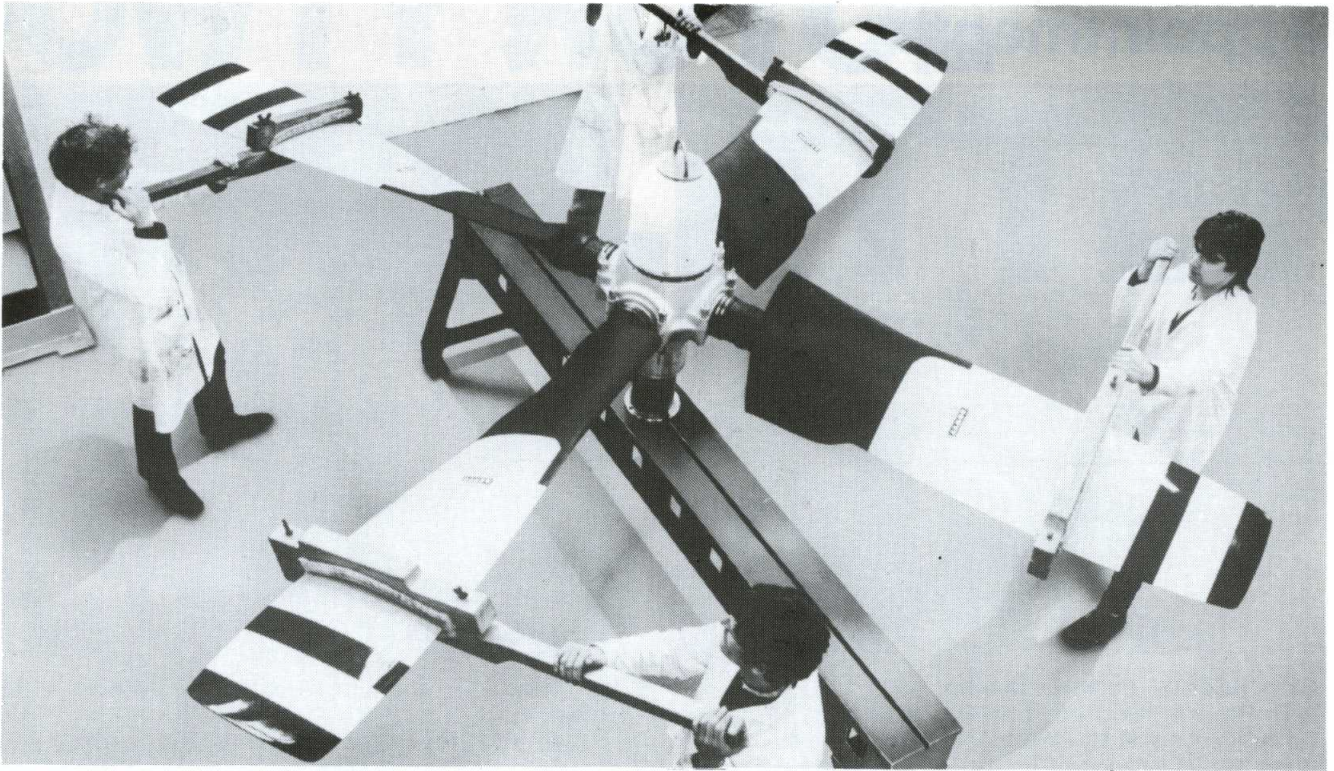
In April, 1987, Dowty Aviation Services — Singapore (DAS) purchased the assets and business of Heli-Orient and FAS-Orient from the Inchcape Group. Both the companies are based in Singapore.

The acquisition, which effectively quadruples the size of DAS, means that Dowty will be one of the largest aircraft repair and overhaul facilities in Asia. Both the companies acquired are in related lines enabling DAS to offer a more comprehensive service overnight.

Heli-Orient provides aviation sales and maintenance services mainly for Bell helicopters. It's wholly owned

subsidiary, FAS Orient, specialises in maintenance, repair and overhaul of flight controls and components for helicopters and commercial airlines.

Managing Director, Mr. David Young, said "from small beginnings in September, 1984, Dowty Aviation Services has in two and a half years experienced rapid and sustained growth. The acquisition fits in nicely with a three year contract that DAS has just secured from the Civil Aviation Administration of China to maintain and overhaul its aircraft. It means that DAS will be able to offer a total capability for the fleet of aircraft."



C-130 update

In a previous issue of the Newsletter we reported that we had won the contract to overhaul propellers on the RAF C-130 aircraft, more commonly known as the Hercules. This was the first non-Dowty design contract won under the new MOD Competitive Tendering policy. The propeller was manufactured by Hamilton Standard, an American company who are one of our original equipment competitors. The overhaul contract was previously held by Field Aircraft who compete with us in the repair and overhaul market.

Given this background the contract has not been without its difficulties. To illustrate this we publish below some extracts from the diary of John Lawrence, Repair Controller.

April 1985 "Good News" said the voice on the other end of the telephone. "We have won the C-130 contract, starting date 1st April 1986." Good news indeed, but just what was it that we had won! The nearest most people, including myself, had got to a C-130 propeller was watching a Hercules landing at Staverton. Still, not to worry, April 1986 is a long way off.

May 1985 Visit to RAF Lyneham (the Hercules base) with the usual "air of authority." Any complacency soon dispelled. The nightmare begins. It is nothing like a Dowty propeller. What a diabolical design for a controller.

June 1985 What is the minimum equipment we need and where can we get it from? Manuals and process specifications are supposed to be supplied by MOD but it appears that the only copies are held by Fields. As we have taken this contract off them they are not too keen to help. The one thing we do know is that we require a very expensive test rig which is manufactured by Hamilton Standard. They have also expressed a policy of non co-operation with Dowty Rotol.

Through our US sister company, DAC, we locate an equipment firm (E and S of North Carolina). They assure us they will manufacture the rig at the right price, 250,000 US dollars, and deliver by the end of December. Sleep comes easier but not for long.

September 1985 Unofficial copies of manuals are obtained and tooling becomes the priority. We ask for and receive assistance from apprentices to reverse engineer and manu-

The latest in weight training equipment? No — its the setting of blade angles on C-130 propellers.

facture tools and fixtures. All they have are pictures and a loan propeller but what a fine job they are doing with great enthusiasm.

December 1985 How is the rig proceeding? Panic Stations. E and S have sub-contracted the manufacture to Hamilton Standard (our competitors).

January 1986 Still no rig. Hamilton Standard have problems or they have discovered the rig is for Dowty Rotol and are not going to supply.

February 1986 At last the rig is completed. It has to be shipped through the Panama Canal (Hamilton Standard are based in California) and this will take a month.

March 1986 The rig arrives.

April 1986 The rig is installed but does not work. Wrong voltage etc., etc., etc.

June 1986 Rig still not working. After many sleepless nights on the telephone to California a Hamilton Standard representative arrives. He returns to the USA but the rig is still not working.

September 1986 Good news at last. The rig functions correctly. The bad news is that an invoice arrives from Hamilton Standard for 11,000 US dollars for their representatives services. Apparently there is no warranty agreement.

March 1987 Despite the problem of no spares and the fact that the manuals arrived ten months late most of the difficulties have been overcome and production has become routine.

To date 25 propellers, 9 controllers and 27 spinners have been overhauled and despatched. We would have delivered more but for that rig which broke down again twice. A credit note has been received for 11,000 US dollars from E and S to cover their failure over the rig warranty. We are not yet in profit on this contract but next time you see a Hercules in flight spare a thought for those in Repair and the apprentices who have done a great job to keep it flying.

Appointments



Barry Halsall — Financial Director.

Dr. Barry Halsall joined Dowty Rotol in February. He gained his qualifications at the University of Durham and then joined Plessey as a Management trainee. In 1975 he was appointed Financial Director of NEI Clark Chapman Cranes, and in 1979 he joined Lucas Aerospace Fabrication Division as Finance Manager.

He is married with two children and now lives in Ashchurch, Tewkesbury.



Les George — Executive Director — Production Engineering

Les George joined Dowty Rotol in March, having previously worked for Rolls Royce, Derby, where he began his career as an apprentice.

He is married with two teenage children.

Retirements

Since our last issue, there have been numerous retirements three of which we highlight below:

Steve Goddard, Senior Executive Director — Industrial Engineering, retired on 15th April.

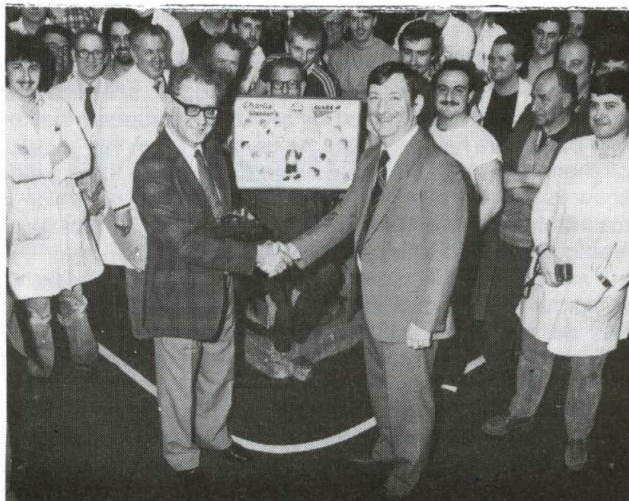
At his retirement presentation Mr. Goddard was thanked by Managing Director, Jim Lightfoot for his service to the Company, and is pictured right receiving a silver wine bottle coaster as a memento.



Bert Johncock, Foreman in the Maintenance Department, retired on 3rd April. As part of Bert's retirement celebration, Fred Winter and other colleagues arranged for a twenty minute flight in a Tiger Moth aircraft from Staverton Airport — on probably the windiest day on record! Bert commented after the celebrations "Certainly the best send off I could have wished for. Without doubt a day to remember."

Charlie Webber retired from the Tool Room on 17th April, having completed 44 years service with the Company. Charlie, who hails originally from Truro, first joined us in 1942 and has been in the Toolroom throughout his service.

Charlie is pictured right at his retirement presentation being presented with a brass model pipe by Gordon Pearce, Toolroom Manager.



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