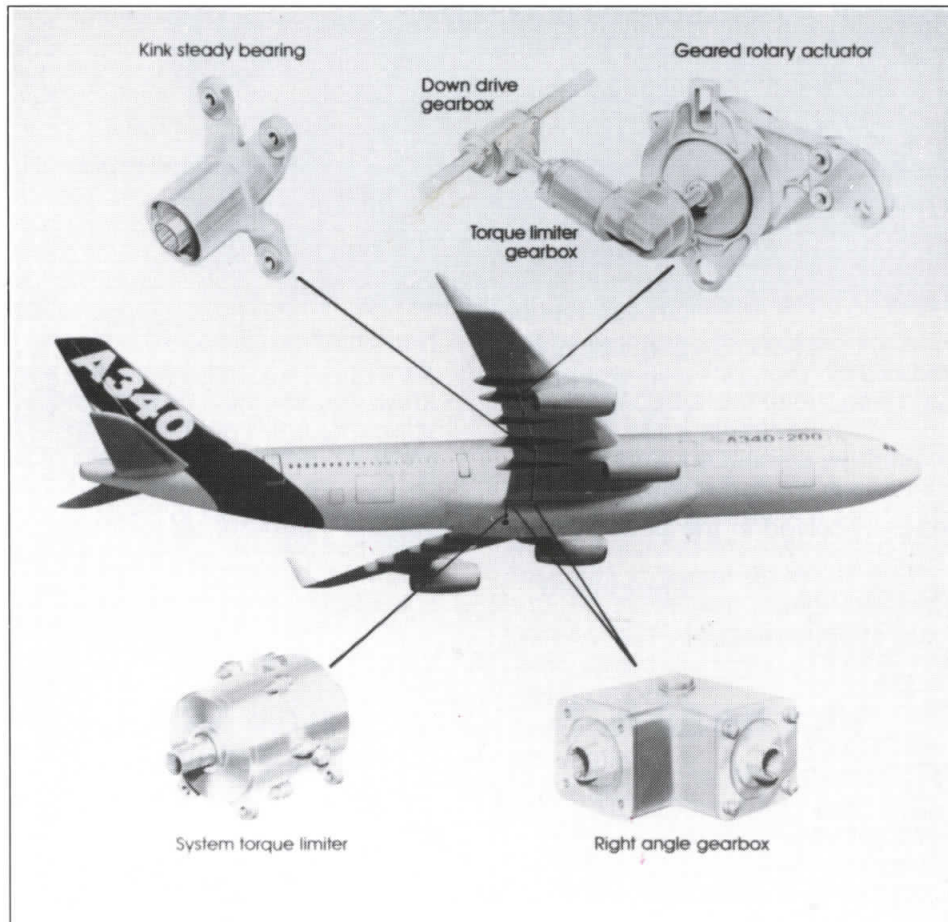


NEWSLETTER



Airbus A330/340 flap actuation and transmission system

A330/340 bid news

Dowty Rotol has been successful in winning the contracts for the main landing gear and flap actuation system on the A330/340 programme. Over the next 20 years we estimate the value of the landing gear order to be worth around £300 million and the flap system £120 million. These orders establish us as the principal UK equipment supplier for the A330/340.

To contend with the tough competition we have entered into collaboration with other international companies to win the business. For the main landing gear we have teamed up with Cleveland Pneumatic Company based in Cleveland, Ohio. This arrangement brings together the leading landing gear manufacturers of Europe and the

USA. It gives us the strongest possible combination of resources to meet the technical challenges and tight timescales of the programme, which calls for the first landing gear to be delivered by August 1990.

For the flap system we are collaborating with ZF (Zahnradfabrik Friedrichshafen) of West Germany. This brings together our system engineering abilities and ZF's expertise as Europe's leading gear transmission company.

Competition for equipment on the A330/340 has been very tough. We have lost out to our competitors on a number of bids including: nose landing gear; slat actuation system; power control

Current Performance

Sales Turnover

Detailed below is the regular update on our sales turnover showing the value of our sales in the last 3 months to October 1988.

Month	Target	Achieved
August	£10,059,000	£10,050,000
September	£11,501,000	£11,760,000
October	£11,709,000	£11,524,000
3 Months Total	£33,269,000	£33,334,000
7 Months Total	£73,207,000	£74,721,000

The figures illustrate that we have managed to maintain the position reached in July of being £1.5 million ahead of our target.

Order Book

Month	Orders Received	Total Outstanding
August	£ 6,148,000	£207,840,000
September	£10,398,000	£206,478,000
October	£29,790,000	£224,744,000

Major Orders

The major orders received in the period August to October 1988 are as follows:-

Project	Equipment	Value of Order
A330/340	Landing Gear	£12,069,000
A320	Landing Gear, Hydraulics, Ram Air Turbine	£ 3,963,000
Super Sherpa	Landing Gear, Hydraulics	£ 3,459,000
Fokker 100	Landing Gear, Hydraulics	£ 3,242,000
Fokker 50	Propellers, Hydraulics and Flap Systems	£ 2,622,000
BAe 146	Landing Gear, Flap Systems	£ 1,643,000
Bell LCAC	Propellers	£ 941,600
Tornado	Hydraulics	£ 741,000
CN 235	Flap Systems	£ 456,698

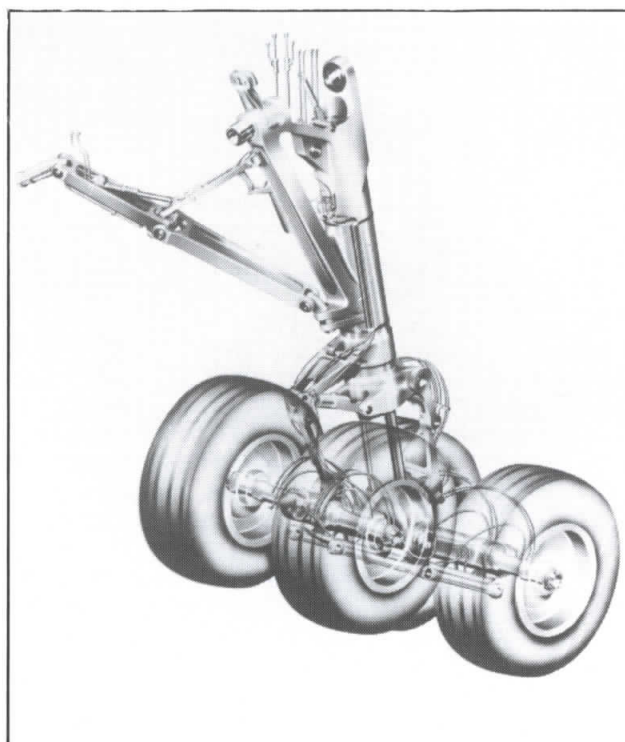
A330/340 bid news continued

unit for the flap/slat actuation system; and the trimmable horizontal stabilizer actuator.

We are still awaiting the outcome of several other A330/340 bids including — landing gear door actuators for the main, nose and centreline gears; uplocks for the main and nose gears; nose wheel steering gear and control system; landing gear selector valve and manifold assembly; and the cargo loading system hydraulic damper. In addition we are due to submit a bid shortly for the ram air turbine. For the smaller items competition is fierce and we would not expect to win them all.

The orders won on Airbus A330/340 and the potential increase in delivery rates for A320 are excellent news for our future prospects. However, to meet the very demanding engineering programmes and delivery schedules will require a concerted effort from the company. With the competition for new orders, prices have to be kept as low as possible and we have to reduce our costs to be profitable.

Airbus A330/340 main landing gear



B.E.S.T. team in support

Pictured left to right are:

Andy Stevens,
David Fletcher,
Ash Sharma,
Alan Porter,
Peter Geuley,
Steve Hunt,
and John Roderick



Pictured (above) is the recently established Business Evaluation Systems Task (B.E.S.T.) Team. The team has members drawn from various parts of the company and reports to Alan Porter, Projects Director with Andy Stevens, Executive Director (Works), acting as his deputy.

The objective of the team is to understand and analyse why and how we carry out our activities. They are removed from the day to day problems of running the business and have the time to take a step back and analyse the way we operate. They

will be working with people throughout the company to ensure that they fully understand our systems and procedures and to suggest changes which will make us more effective.

At present the team is working with the Product Support Division but will eventually cover all parts of the company. This is a long term project which will take around three years to complete. The task is essential to assist us in becoming more effective and enhance our ability to win orders in an increasingly competitive marketplace.

Rugby win for No. 1 Assembly

Congratulations to No. 1 Assembly, winners of the Inter-Departmental Rugby competition final played on 6 October. In a tight game fought out in cold



windy conditions, No. 1 Assembly beat the Experimental Department by seven points to three.

Wayne Mansfield scored the only try of the game and Mike Bayliss scored the remaining points for No. 1 Assembly with a penalty. Mark Teague replied for Experimental with a penalty.

The picture shows Paul Bedney, captain of the winning side, receiving the Inter-Departmental Trophy from Manufacturing Manager, Gary Wakefield.

DOWTY RUGBY CLUB are looking for new players. They have a full fixture list and good facilities. If you are interested please contact Phil Payne on 4244.

Prize draw winner takes flight

Margaret Lewis from Repair Inspection, was the lucky winner of a free flying lesson in our Open Day prize draw.

On 27 October Margaret was met at Staverton Airport by her instructor Jonathan Smith. The lesson was in a 2 seater Cessna 152 and before take off Margaret was given 20 minutes instruction on aeroplane controls and safety. Instructor Jonathan then took off and during the half hour flight Margaret was taught basic flying techniques, using the control column to bank and climb.

We are pleased to report that Margaret

thoroughly enjoyed her first taste of flying. The picture below shows Margaret and Jonathan before take off.





On the sports field a continuous programme of events entertained the large numbers of people who were determined not to let rain dampen their enthusiasm.

Particularly impressive was the low level fly past by a Fokker 50 which flew over from Holland especially for the day. The presence felt was a Sea Harrier. Aerobatic displays were provided by a Pitts special bi-plane, the Zlin display and the winged Stearman display.

In the arena, impressive performances were provided by the Royal Gloucestershire Hussars un-armed combat team, a team, the Berry Hill Band and the City of Gloucester Youth Marching Band.

Also very popular was the ox roast, right down to the carcass which was finished off by the dog show entrants.

Day



Around 10,000 employees and their families and friends braved the weather at the recent Open Day when the company opened its doors, marking 50 years since the original premises were built on this site.

The factory was 'humming' with the crowds of guests eager to see where mums, dads, sons and daughters work and keen to observe the many demonstrations taking place around the site.

VIP's on the day included Douglas French MP with his family, the Mayor of Cheltenham, Maureen Stafford, the Mayor of Tewkesbury Borough, Councillor Randell and Mrs. Randell, Dowty Group Chief Executive, Tony Thatcher and Deputy Chief Executive, Bruce Ralph.



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y. Also making its
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log axing display



MRPS — Where are we now?

Two years ago all employees were shown a video introducing MRPS (Manufacturing Resource Planning System). It provided a brief introduction to a major new system being introduced into the Production Control area. We've interviewed Tim Davis, Executive Director Production, to see how the introduction of MRPS has progressed.

Q Can you just remind us — what is MRPS?

TBD *MRPS is a very sophisticated computer based system designed to assist us with Production Planning and Control. When it's finally implemented it will affect virtually everybody in one form or another whose work is connected to production activities.*

Q I believe introducing MRPS is a long term project, what time period are we looking at?

TBD *MRPS is a very complex system. It was impossible to put it all in at once so we've had to introduce it in stages. We started about 4 years ago. First we looked at different systems which were available before deciding which one to use. Having decided, we then went through a period of familiarisation followed by development, to ensure it met our specific needs. Then 2 years ago we commenced implementing the first phase.*

Q It's now 2 years since we saw the video announcing MRPS, what's happened since then?

TBD *I consider we've had a number of major achievements during this period.*

*We've set up our **Inventory Control** file. That means all our production parts and raw materials are now held on the computer — that's about 125,000 part numbers. All movements of parts and materials are logged through this file.*

*Associated with this is a **Part Record** file. This contains detailed information necessary for planning purposes on each of those 125,000 parts. Each part record contains approximately 40 pieces of information.*

*We've created a **Bill of Material** file. This tells us what parts are needed to make a unit or assembly. It 'links' raw material to each component, each component to its sub-assembly, each sub-assembly to its main assembly and each main assembly to its unit. In total giving us around 300,000 individual links.*

*Attached to MRPS is a system know as **VAPS**, standing for, 'Vendor Analysis and Purchasing System'. It's used by our Purchasing Office when ordering and controlling supplies purchased from other companies. This has also been implemented.*

*Our most recent achievement has been the implementation of a major part in Production Planning, the **Material Requirements Planning** phase. It was the crunch point in our implementation plan. MRPS would either stand or fall on this part working satisfactorily.*

Q And was this successful?

TBD *We were very pleased with it. We had a few minor problems, but basically it operated very well. I'm sure we'll see the benefits of this in the near future.*

Q What does this Material Requirements Planning phase do?



Tim Davis — Executive Director, Production

TBD *Under this part of the system when the Production Department receives a customer or stock order from the Sales Department, MRPS calculates what detail parts are required, how many and when. It automatically compares these requirements with stock on hand and quantities on order. If parts are to be made MRPS raises an order for those parts and calculates when each part should be started and when it should be delivered to Stores.*

We run this part of the system every 2 weeks. Each part number where a schedule or quantity change is required goes through a self checking routine on the computer run and produces a nett requirement.

When doing this it aims to ensure that batch quantities allow economic production. It also aims for deliveries to be made 'just-in-time' to meet production and customer needs. This

approach ensures that stocks and work-in-progress are held to a minimum.

Q So you're well underway with implementation?

TBD Yes, the situation now is that MRPS tells us **what** is required, **when** it's required and **how** many. Paperwork required to manufacture parts and assemblies on our shops and to buy parts from outside is also produced by MRPS at the appropriate time.

We also have computer terminals located in Production Planning, Stock Control, Buying, Progress, Goods Inwards and other areas. As events happen necessary information is entered through the terminal giving us an up-to-date picture of the latest situation.

Q What about the future?

TBD We've introduced the main changes in the administration side, the emphasis now is moving to Shop Floor control. We anticipate this phase of integration taking another 1-2 years.

First, we are currently developing a **Master Production Scheduling** system. This will enable us to calculate machine and production capacities required for any given production programme and compare these with capacities currently available. It will give us advance warning of potential overload or underload situations.

Secondly, we are also looking at a **Shop Floor Control System**. We already have a computer based system know as SLAP (Shop Load and Progress System). It provides a lot of useful control information giving us the latest position on any batch of work in the Machine Shop and daily machine load lists, but it's old and doesn't link in easily to MRPS.

-So we are looking to modernise this with a system which is 'on-line'. This means information such as operations starting and finishing, and changes in the production plan will be fed back into MRPS through terminals as they occur.

Last year we introduced a system of progressing to 'due date' using our existing SLAP programme. We have made substantial inroads into our back-log of late deliveries working to 'due date' and our new Shop Floor Control System will improve this. It sounds simple, but it's a major change.

Q Will the Machine Shop notice any difference from these changes?

TBD Shop Progress have already seen a difference by progressing to due date. Later, we anticipate machinists will notice less batches of work being held in marshalling areas or by individual machines. It may give the impression that work is running down, but that will not be the case, it will be because we are planning and controlling more effectively through MRPS.

Q What general differences are we likely to see being created by MRPS?

TBD First of all let's consider what individuals will see. It will take time, but as the system becomes more effective individuals will experience less frustrations. There will be fewer 'bottlenecks' in manufacturing areas, less shortage of parts and there will be a smoother workflow. We will have an up-to-date database shared by all departments giving better control information.

From the Company point of view we'll have an improved Production Planning and Control system including Shop Loading and Progress. There will be an improved Management Control information system having a central database which will be used by Production, Sales and Accounts Departments. Paperwork will be considerably reduced and there will be shorter time delays in attaining feedback as events happen. And, of course, we'll have less money tied up in stock and work-in-progress.

Q A system such as MRPS is a big investment for any Company. Why is it necessary for Dowty Rotal to introduce such a system?



TBD You're right. It's costing us over £1.5 million, but just consider the complexity of our manufacturing. At any one time we can have around 4,500 batches of work on the shop floor. This represents 90,000 individual components and 3,500,000 operations! Planning and control of this activity requires a sophisticated computer system.

Also our stock and work-in-progress value is around £50 million. We are already making significant reductions in stock and lead times which means less work-in-progress. The payback will save the implementation costs several times over each year.

We are now one of the leaders in the application of MRPS systems. We have a system that will stand us in good stead for a decade at least. MRPS is vital to Dowty Rotal's long term survival.

Appointments



Bob Folley — Executive Director PSD.

Bob Folley started his career as a Dowty Group Student Apprentice. After holding several posts in the Contracts and Commercial departments he was appointed Commercial Manager, Product Support Division in 1985. Bob is married with 3 children and lives in Churchdown.



Richard Willcox — Executive Director Commercial.

Richard Willcox joined Dowty Rotol as a Technical Sales Engineer in 1970. In 1978 he was appointed Product Manager — Propellers and in 1986 he became Sales and Marketing Manager. Richard is married with a son and a daughter.

Retirements

Fred Humphries retired early on 28 October 1988, after 48 years service which began in August 1940 when he joined the Company as a Clerk in Despatch. Fred moved to the Accounts Department in April 1949 and held a number of positions, finishing his career as Fixed Asset Co-ordinator. The picture (right) shows Fred with a group of colleagues celebrating his retirement at the Sports and Social Club.



Paddy O'Reilly from the Plating Shop retired early on 26 August 1988, after 32 years service. The picture shows Processing Manager, John Millington, presenting Paddy with a model of an F.50 propeller. Other gifts for Paddy included a "ghetto blaster", battery re-charger, and a walking stick!

