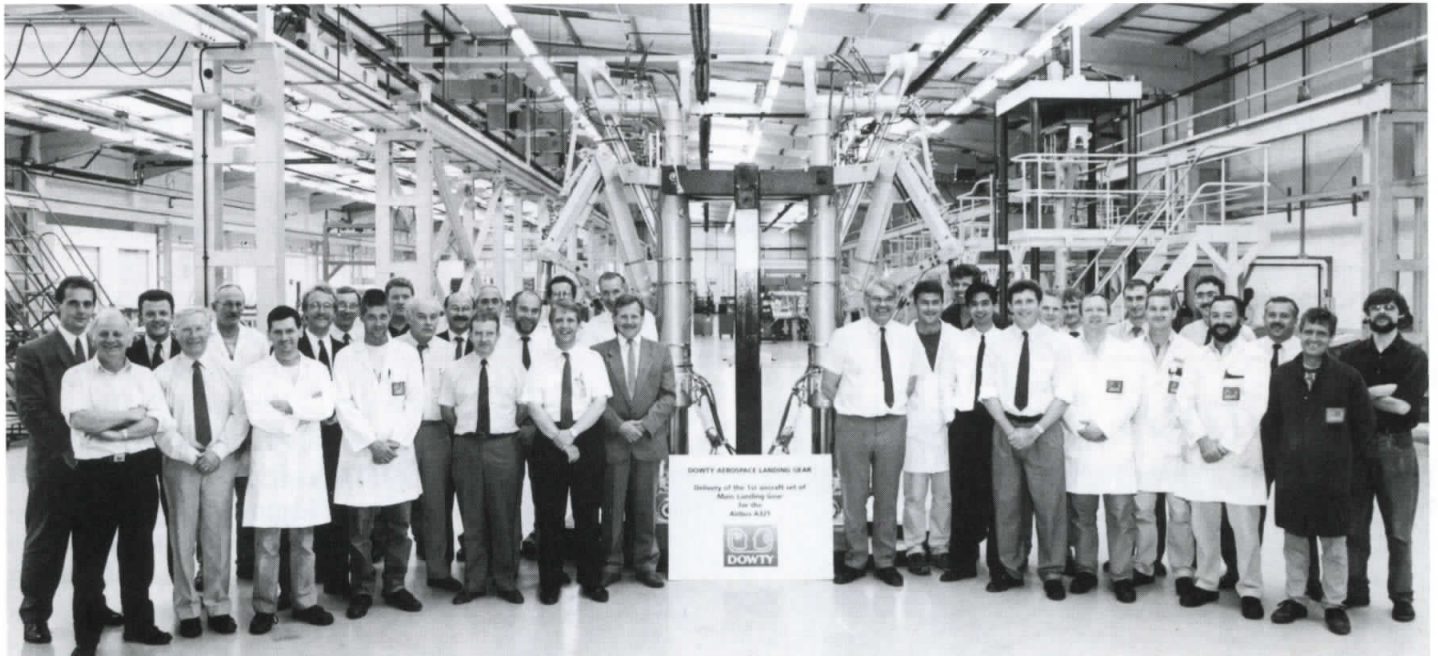


Landing Gear *Link*



The House Magazine of
Dowty Aerospace Landing Gear, Gloucester
Issue 2, September 1992

A321 Deliveries Commence



In June we achieved another milestone in our involvement with the family of Airbus aircraft with the early delivery of the first set of A321 main gears.

It was a notable achievement for the team involved against a very tight timescale.

The Airbus family of aircraft continues to grow. Our delivery of the first set of A321 main gears to Deutsche Airbus in Hamburg coincided with the commercial go ahead by Airbus for the new A319 aircraft. Having agreed the technical definition of the new aircraft, Airbus now must secure a satisfactory launch base of some 40 orders before the aircraft has full produc-

tion go ahead which is expected to be later this year.

The A321 (186 seats) and A319 (124 seats) are derivatives of the 150 seater A320. Together these three form Airbus Industrie's family of single aisle, twin engined aircraft. (see pictures on page 2).

Although the A321 Main Landing Gear is similar in appearance to A320, strengthening of the major components was necessary to take the increase in weight of the aircraft. This task was aided by the use of 3D modelling plus the use of 'Kinematics' tracing the path of the gear during retraction.

Advances in machining technology since A320 enabled the crea-

tion of 3D cutter paths to profile the torque links virtually to finished size in one operation.

The use of advanced technology coupled with the efforts of all those involved in the programme ensured that we were able to deliver the first gears on schedule.

Also featured in this edition of **LINK**:-

- Page 2. Financial update.
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Link up with **LINK**.
- Page 4. The future of Eurofighter.
- Page 5. New bonus scheme introduced.
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Employee conferences set for October.

Financial Update

SALES

Sales achieved in the first four months of this financial year were 99% of our target. Meeting the sales target over the next few months will become increasingly difficult as we start to feel the effect of cutbacks on some of our major programmes

	TARGET	ACHIEVED
April 1992	£6,189,000	£6,085,000
May 1992	£7,183,000	£7,210,000
June 1992	£7,308,000	£7,208,000
July 1992	£6,645,000	£6,558,000
April to July 1992	£27,325,000	£27,061,000

PROFIT

Our profit is significantly below target for the period April to July 1992. This is a result of a shortfall in spares sales and the high level of non-production time we experienced in manufacturing areas.

INVENTORY DAYS

Elsewhere in *LINK* our new bonus scheme is outlined. One of the measures in the scheme is Inventory Days and listed below are our targets and results from April to July. Remember that we want to keep

our inventory down - so the lower our Inventory Days, the better our performance.

	TARGET	ACHIEVED	RESULT
April 1992	182 days	179.0 days	1.7% better than target
May 1992	182 days	174.3 days	4.2% better than target
June 1992	177 days	170.3 days	3.8% better than target
July 1992	174 days	164.4 days	5.5% better than target

So we've managed to beat our target each month so far this year with the best result coming in July.

ORDER INTAKE

The main orders received between April and July this year are as follows.

PROGRAMME	ORDER VALUE
A330/340	£23,200,000
AV8B	£1,312,000
Fokker 100	£1,128,000
A310	£790,000
Harrier	£315,000
Jaguar	£150,000
Tornado	£90,000

The Airbus Family (continued from page 1)



Left: A321 - Final assembly of the first Airbus A321 began at the Hamburg factory of Deutsche Airbus in June, the first Airbus aircraft to be assembled in Germany.



Right: The new A319 aircraft.

More Than A Match

On Friday 24th July, a team of our employees won a national 7 a-side football competition organised by British Aerospace Regional Aircraft at Woodford.

The tournament was arranged for British Aerospace's U.K. suppliers. Twelve teams from all over England met in Chester to take part in the competition.

In the first round our team finished top of their group, beating local rivals, Smiths, as well as G.E.C. from London. They beat Lentern Aircraft Ltd from Essex, one of our suppliers, 5-0 in the semi-finals to move into the final round.

In the final they played host team, British Aerospace 'Dynamo', Woodford, and successfully completed the competition with a 1-0 win.

However our team were not content with just winning the competition shield. Paul Walsh, Production Chaser, won the prize for Top Goal Scorer and Tony Hickey, CACC Co-ordinator, our reserve and photographer, took the booby prize! Tony volunteered to make the numbers up in another team and unfortunately let in the highest number of goals. But it was all worthwhile, as Paul and Tony won an all expenses paid trip to a game at Old Trafford.

Andy Stevens, Director and General Manager said with pride, "It was an excellent competition bringing together customers and suppliers which can only help future relationships. The team were superb ambassadors for the company throughout their participation. Winning the competition was an added bonus".

The winner's shield can be seen on display in the reception area.



Above our team - (from left to right) Back row: Ken Jervis (Team Manager), Gary Musto, Wayne Hams (Captain), Ian Weaver, Marcus McKie, Paul Walsh, Front row: Tony Hickey (photographer), Colin Greenway, Howard Westcarr, Billy Knowles, Phil Pbellps. Left Captain, Wayne Hams, receiving the winners shield from Peter Summerfield, Operations Director, BAe 146/ATP.

Link Up With LINK

The Landing Gear **LINK** is your magazine. We welcome your contributions. If you're a budding journalist why not write an article for **LINK**. It could be about an activity going on in your department which would be of general interest to other people. Or about something you or other employees have achieved either at work or outside in the social or sporting arena.

If you don't have a literary bent we still welcome your suggestions about articles for future issues or any ideas you have for improving **LINK**.

We also intend to start a letters column. So if you've got a point of view about any features covered in **LINK** or about what's going on in our business drop us a line.

The contact point for articles, ideas or letters is Rachel Norfolk, Human Resources Department, Extension 1297.

The Future Of The Eurofighter

We have all read about the German Government's decision to pull out of Eurofighter and the question on everyone's mind is what effect will this have on DALG.

LINK asked Martin Beirne, DALG's EFA Programme Manager for his views on the situation and the possible outcome.

At what point in the programme have the Germans pulled out?

Not a straight forward question to answer as on the political front the German Defence Minister, Herr Rohne, has stated they want out of the programme now!, ie the development phase. However no apparent moves to date have occurred to sustain this position, (maybe because it is understood that it would cost Germany as much to withdraw as to remain in the development phase of the project).

Meanwhile on the industrial front, our direct customer MBB (acting on behalf of Eurofighter) are actively continuing with the programme.

The current German political stance will have significant implications on the shape, size and future of the programme. For starters the Eurofighter partners (MBB, BAe, ALN and CASA) have recently been tasked to come up with proposals to achieve a 30% price reduction as a basis for the continuation of the EFA project as a four nation programme. This has to

take into account reduced aircraft quantities and revised national workshare percentages.

This task has to be completed by mid October. The 4 government ministers will be meeting in Holland in early November to make a final decision.

So the development phase will continue to schedule?

The development phase remains unaffected by the German issue - but not the schedule.

1st flight was originally scheduled for April 1992 and is currently running 8 months behind schedule with the first flight now expected end of November 1992 from MBB flight test centre at Manching.

Assuming the Germans eventually withdraw from the production phase do you think the programme will continue with the 3 remaining partner countries?

A 3 nation programme is understood to be financially viable, but we know if the Germans eventually pull out they will try to take the Spanish and Italians with them. I believe our fate will lie in the hands of the UK Government in their ability to convince Italy and Spain to support the programme.

Do you think a new partner will join in?

More recent press reports talk of

Saudi Arabia becoming a partner. I would not like to hazard a guess what the outcome may or may not be.

Assuming the programme continues with the 3 partners, will the quantity of aircraft required be reduced?

Yes, even if Germany stay in the programme A/C quantities are lower than that originally planned. The task Eurofighter are currently undertaking (ie 30% price reduction) is based on the following national requirements:-

Aircraft	
UK	250
Germany	140
Italy	130
Spain	82
Totalling	602 aircraft

Nonetheless, removal of the German requirement still represents a significant aircraft programme.

What effect will this have on DALG's share of the business?

Currently DALG's workshare on the landing gear equipment is 33%. This was calculated on a 750 aircraft programme.

Once definitive aircraft requirements are established between the nations the workshares will be recalculated.

Assuming the UK requirement of 250 aircraft remains unchanged, then

New Bonus Scheme Introduced

A new bonus scheme has been introduced to replace SFPD which first started in 1979. With the split up of DAG each business unit has designed a scheme suitable for its own circumstances.

The DALG scheme is summarised below

OUTLINE

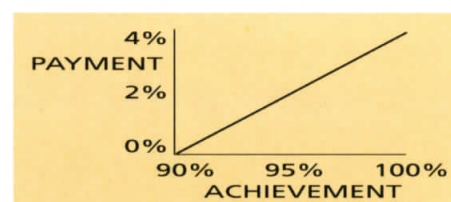
The scheme is based upon how we perform each month, compared to our target, on two measures - SALES and INVENTORY DAYS. This produces a percentage payment which is then applied to basic salaries.

The targets used for the scheme are real business targets upon which all our financial forecasts are based.

SALES

Each month we have a target for the value of the sales we despatch to customers during the month.

If we achieve the target the bonus scheme produces a payment of 4%. If we achieve less than the target the payment reduces down to a zero payment if we only achieve 90% of the target. The scale is shown on the graph below.



In June we achieved £7.208 million sales compared to our target of £7.308 million. This amounted to 98.63% of target and produced a payment of 3.45%

INVENTORY DAYS

Inventory days is a measure which relates the value of our inventory (stocks and work-in-progress) to the volume of our sales. It tells us how many days worth of sales the value of our inventory is equivalent to. We want to keep our inventory as low as possible because it represents money tied up in the business - the lower our inventory, the better our performance.

We have a target for inventory days at the end of each month. The pay-

in theory our overall business position should be unaffected in that our workshare will increase but against a reduced volume.

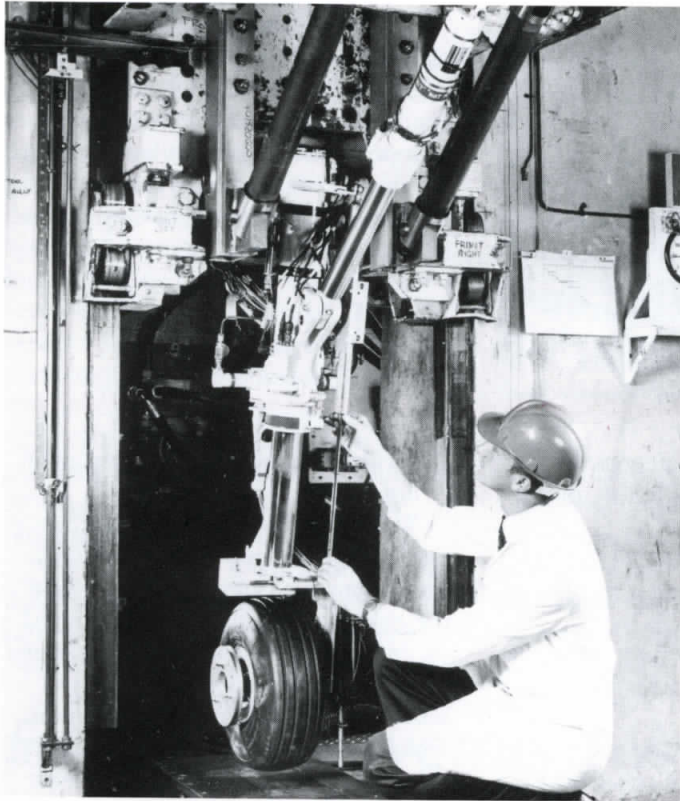
So business as usual for the EFA development work?

Indeed it is, having delivered 8 of the 9 sets of MLG struts ordered our attention is focussed on the Develop-

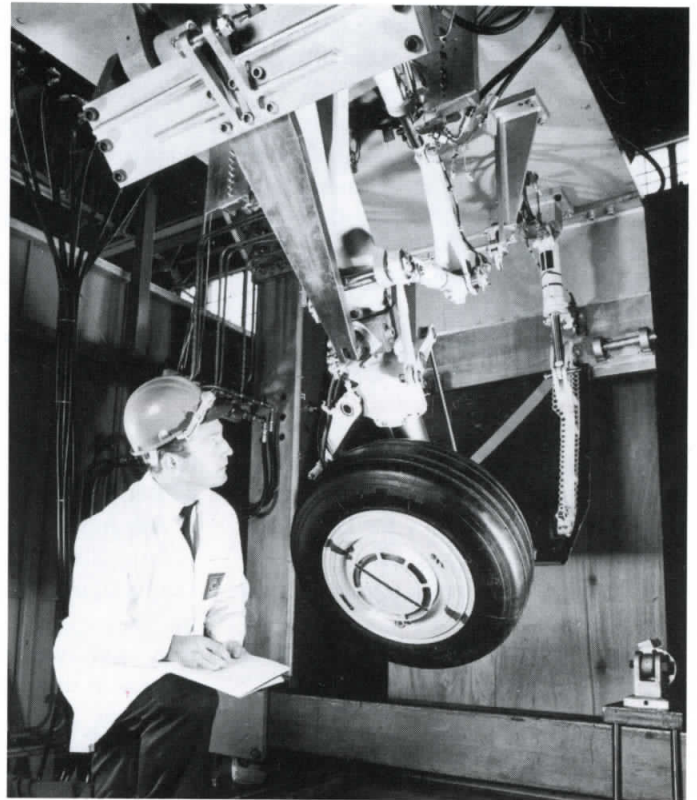
ment department where EFA represents a significant workload. Our workshare responsibilities include:-

- Main and Nose Gear Drop Testing.
- Main and Nose Gear Strength Testing.
- Main Gear System Testing.

1st flight test are complete on the Drop and Strength programmes, efforts are now concentrated on completion of MLG System tests.



Drop testing the EFA Nose Gear



System testing the EFA Main Gear

ment is related to how our actual result compares with the target on the scale shown below

Achievement	Payment
10% better than target	5%
Target	2.5%
10% worse than target	0%

At the end of June our inventory was 170.32 days compared with the target of 177 days. This was 3.77% better than the target and produced a payment of 3.44%.

PAYMENT METHOD

The percentage payments arising from the SALES and INVENTORY DAYS calculations are added together

to give a total percentage payment. For June the total payment achieved was 3.45%+3.44%=6.89%.

The bonus payments from the scheme are calculated monthly but can only be worked out after the end of the month.

For employees who are paid monthly the bonus is paid one month in arrears e.g. the payment for June's performance was paid in July.

For employees who are paid weekly payment starts in the middle of the following month and is paid for either four or five weeks e.g. the payment from June's performance of 6.89% was paid each week for the five weeks ending 16th July, 23rd July, 30th July,

6th August and 13th August.

GUARANTEED PAYMENT

For the first 12 months of the scheme there is a guaranteed minimum payment of 3%.

PROFIT SHARING

The scheme has also a profit sharing element which is calculated annually. If we exceed our annual Trading Profit target there is a lump sum payment to each employee based upon a scale with a maximum payment of £450.

Keeping The Customer Satisfied

When we buy a television set or a car we expect it to be reliable and good value for money. We don't want the bother of having to take it back if it doesn't work properly. If we do have problems we are likely to take our future custom elsewhere and advise our friends to do the same.

It's no different when we sell landing gear. If our customers aren't satisfied with what they have bought we run the risk of losing their business.

In the last 12 months we have improved our service to customers and our response to them when there are problems. But we still have a long way to go to be recognised as the best.

So what are the main sources of

customer complaints?

30% are due to assembly problems.

20% require engineering modifications.

13% are caused by our suppliers.

5% are due to machining or processing problems.

20% are a combination of the above reasons.

Over the last few months we have improved our data collection to make sure that we record all our customers' complaints however trivial. What can we do to reduce the level of complaints and increase customer satisfaction?

- We need to make sure that each complaint is fully investigated and prompt action taken to stop it

happening again.

- We already have Business Improvement Teams looking at customer complaint issues and we need to give them every support.
- Many complaints are simply caused by a "lack of attention to detail". We need to take care, whatever our job is, to make sure we do things right first time.

Remember what may seem trivial to us could stop an aircraft being built or an aircraft from flying its aircraft. This results in a high cost to us and a loss of reputation. If customers do not get the quality of service they expect they have always the option of taking their business elsewhere.

Safety Matters

Safety is something which everyone on this site has a responsibility to promote. A Safety Policy for DALG has recently been published on noticeboards after being agreed by our Safety Committee.

The committee meets every 6 weeks and has the following members:-
Chairperson

- Doug Knott (Director of Human Resources)

Employee Representatives

- Doug Winman (Medium Landing Gear)
- Cyril Ravenhill (Estimating)
- Dennis Neale (Human Resources)
- Pete Hale (Medium Landing Gear)
- Michael Green (Large Landing Gear)
- Norman Hunt (Development)

Management Representatives

- John Herring (Facilities Manager)
- Alan McKay (Process Manager)
- Alan Davies (Production Manager - LLG)
- Barbara Owen (Employee Relations Manager)

Specialists

- Ken Amphlett (Safety Officer)
- Angela Grey (Occupational Health Sister)
- Sid Reed (Materials Engineer)

The aim of the Safety Committee is to monitor and review our safety policy, develop and maintain an

interest in health and safety amongst all employees and look at the impact of any new legislation.

Since the launch of DALG the Safety Committee has discussed a number of issues.

- A working party has been set up to look at introducing a no-smoking policy.
- Different types of safety glass have been examined. New styles which are felt to be more effective and user friendly are being tried out in selected areas.
- Measures of performance have been established based upon monthly statistics showing the number of

accidents at work and the resultant time lost.

We asked Ken Amphlett, our Safety Officer, for his views about some of the actions we can all take to reduce the risk of accidents at work. He told us, "Safety can be improved by people thinking about the consequences of what they do and applying common sense. Simple actions like wearing the protective equipment provided, such as safety glasses, will help to reduce the risk of injury. In addition all chemicals and oils should be handled with care and the instructions for use must be followed".



Members of the Safety Committee at a recent meeting

Teamwork In Action

Over the past three months, a team from No.1 Assembly has been meeting regularly with the task of reducing customer complaints on 1992 units in Medium Landing Gear Assembly.

The team is made up of a group of volunteers. They saw the invitation to join this business improvement team as their opportunity to influence changes which need to be made to help DALG become the world's leading landing gear supplier.

The team's first task was to identify issues within No.1 Assembly which they believed caused customer complaints. Using data from the Quality Assurance Department, the team revised their original listing on the basis of actual customer complaints received. A prioritised list of 12 critical issues which could cause customer complaints was the outcome.

The team then proceeded to identify "root causes" behind each issue, and is currently looking at potential solutions which will prevent these problems recurring in the future.

The team hopes it will soon be in a position to share its findings and proposals with all their colleagues in No.1 Assembly.



Some team members at work

So, what is it like to be involved in a business improvement team? Dave Thompson and Steve Howells of No.1 Assembly told **LINK**, "Some people have been surprised to discover that we really do have some good ideas to offer. However, it has been great for

the team to have a say in the running of the business and to realise that people are prepared to listen and support us. Everyone involved has learned something through this project".

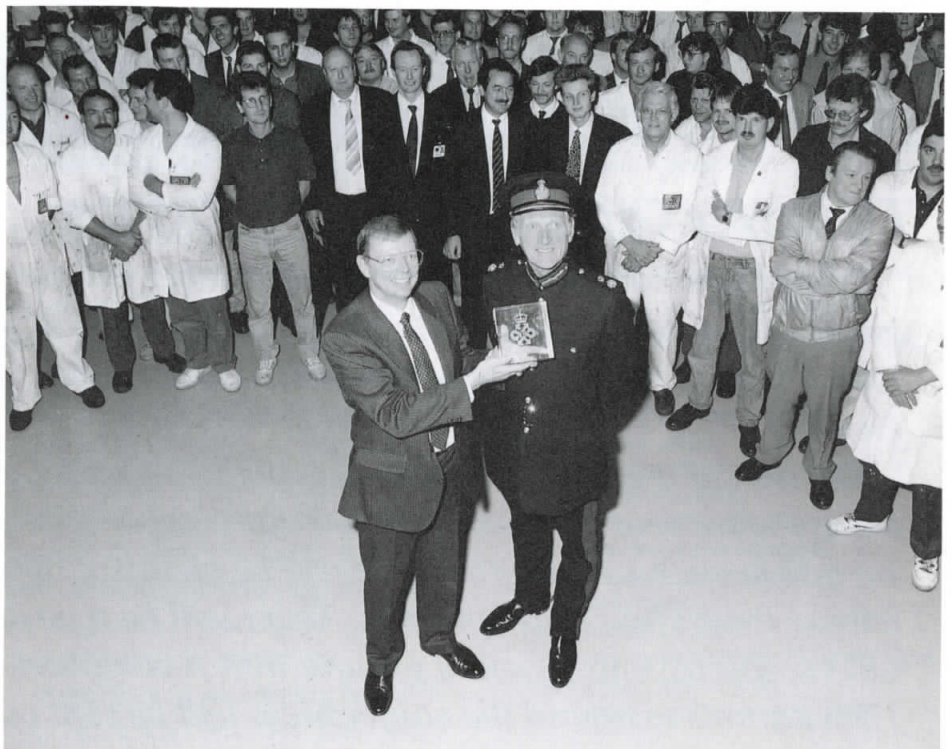
Export Achievement Wins 7th Queen's Award

On the 3rd July at a special ceremony held at DALG Her Majesty's Lord Lieutenant for Gloucestershire Mr. H.W.G. Elwes presented Graham Lockyer on behalf of DAG with the Grant of Appointment for the Queen's Award for Export Achievement. This seventh Queen's Award recognises the company's outstanding achievement in the sale of products in overseas markets.

The ceremony was attended by the County Secretary, The Mayor of Tewkesbury, the Deputy Mayor of Cheltenham, the Sheriff of Gloucester, Paul Marland MP, Geoffrey Clifton-Brown MP, Nigel Jones MP, Sir Charles Irving and Sid Taylor (Chief Executive Dowty Group).

Although the company is now structured in separate business units, this particular award relates to Dowty Aerospace Gloucester's export performance and represents a substantial and sustained growth of 14% on average per year since the mid 1980's. The award relates to all products including landing gear, propellers, hydraulics, geared systems, high lift systems and ram air turbines.

This latest Queen's Award brings to 18 the total won by Dowty. The combined total for the newly enlarged TI Group is 36. Our goal now is to win DALG's first Queen's Award.



Training Policy Launched

Providing a high standard of training is a key element in improving our business performance. Before the launch of DALG a team of designate Managers was set up to produce a Training Policy and Procedure. This has now been completed and a summary published on noticeboards.

We spoke to Training Manager, Roger Goldby, and asked him about the policy.

What does our Training Policy set out to achieve?

It re-affirms our commitment to training and outlines the responsibility for identifying and meeting training needs.

Each Manager is responsible for identifying the skill requirements for jobs in their area. A discussion then takes place with employees to establish whether or not there are any areas where further training is needed. If so then a plan needs to be drawn up to decide when and how the training will be given.

How do we meet our training needs?

About 80% of our training needs can be met by on-the-job training using the skills and knowledge of people within the business. However the people carrying out the training need to be given the necessary skills. We are doing this by running "Instructional Techniques" workshops. The training also needs to be properly planned so that people have the opportunity, within a short timescale, to put into practice what they have learned.

The remaining 20% of our training needs are met by sending people on external courses which are booked through the Training Department.

Once people have been trained for their jobs is there any need to review training in the future?

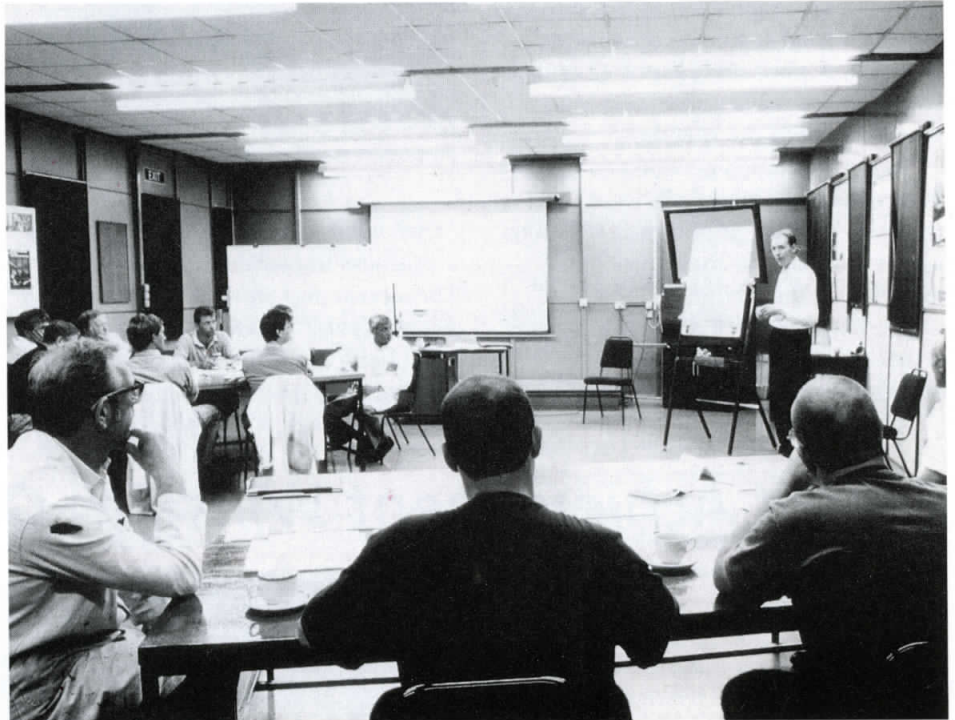
Yes. This is not a one-off exercise. Changes in job content, technology, processes, products and working practices mean that there is an ongoing need to review areas for further training.

What training has been provided to support the development of teamwork within Landing Gear?

Since the launch of Landing Gear over 300 people have attended workshops on teambuilding and/or problem solving techniques.

Does the company provide any support for people who want to take evening classes?

Yes. We sympathetically consider requests for support from people who want to take relevant evening or correspondence courses and the support takes the form of paying for course fees. Requests for support should be made to Managers who discuss the request with the Training Department.



Employee Conferences Set For October

Dates have now been fixed in mid-October for our "Change to Win" conferences. All employees will be invited to attend one of the five all-day conferences which will be held on site in our Restaurant on 8th, 12th, 13th, 14th and 15th October.

The aim of the conferences is to provide a greater insight into what our customers want and how we can beat our competitors. Although 200 people will be invited to each conference there will be plenty of opportunity for people to contribute their ideas and opinions. There will be a varied programme including videos, discussions in small groups, and a computer based response system.

Invitations to attend the conferences will be sent out at the end of September.