

# WIA & Messier-Dowty

Have successfully completed T-50 Landing Gear systems development

lying the Flag

The T50 Golden Eagle had its public debut during October, when it appeared at the Seoul Air show and carried out an exciting flying display to the general public. M-D took the opportunity to be present and fly the M-D flag in partnership with WIA. WIA is the company in Korea that manufactures the landing gear for T50 under licence from M-D. The first production aircraft will be handed over to the Republic of Korea Air force

this month. Prior to that it is undergoing evaluation and testing in Dubai for the UAE Air Force, and has completed flying demonstrations at the Dubai Air Show. We expect that the aircraft will visit Farnborough next year.



A nose and main gear were shipped to Korea from the test department for the display on WIA stand. As it can be seen from the photographs WIA were proud to be associated with M-D on the landing gear for T50.

We have now delivered 17 ship sets of gear as sub assemblies out of a batch of 25 to WIA who will assemble, test and deliver to the final customer KAI. We expect a PO in the very near future for a further 69 ship sets. Roger Dewson, T50 Program

CONTENTS	
A Message from Matthew Sexton	2
HS&E Update	3
The Bid Process	4/5
Sporting Stars	6
A Day in the Life of Alex Nicol	7
Training Update	8/9
Howzat!	10
Call Me Biggles	11
In Memory	12

Your articles.

Your pictures.

Your magazine.

T-50 Landing Gear Systems



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# Message from Matthew Sexton... (V.P. Engineering)

On reflecting upon the 23 years or so that I have spent with the company, I am amazed by the advances that have been made in the technology we use to design our landing gear.

When I joined the company in 1982, one of the first projects I was involved in was the BAe 146 which was undergoing fatigue testing at the time. I was always fascinated by the main landing gear with its large aluminum alloy main fitting and the ability to fold itself up as it retracts inward into the fuselage with only the smallest of clearances between each of the components. This landing gear was designed entirely on a drawing board using pencil and paper, an unbelievable achievement by the designers of the time. As a young Stress Engineer, I well remember having to transpose the fatigue life calculations onto our new Digital VAX computer. These calculations had previously all been done by hand and had taken nearly two years to do!

In the mid 1980's we succeeded in winning the Airbus A320 Main Landing Gear. If my recollection is correct, this was the first time we had made a large main fitting from a single ultra high tensile steel forging; early manufacturing being conducted using a wooden pattern to profile up to five components at a time in an newly enlarged no 2 shop. Although drawing boards were still the order of the day, around this time we made a major investment in our first real CAD system know as Graftek. This gave us the ability to create 2D drawings electronically. It also required some very large computer terminals by today's standards and a new building to house them. Also, the A320 was one of the first projects on which we used a technique as Finite Element Analysis. rudimentary at the time, we were able to visualise the stress patterns in the major components for the first time.

In the latter 1980's early design studies for the proposed Airbus A330/A340 aircraft had shown that a novel solution was required to maximise take-off performance. This led to the use of controlled articulation, adapted from the design used for the Avro Vulcan and Arrow aircraft which Dowty designed in the 1950's and a shortening mechanism for stowage of the landing gear into the fuselage. This proved a very complex design challenge, which required a lot of mental gymnastics even to visualise the problem. However, we were able to make early use of two new design tools: Catia and ADAMS. Catia gave us the ability to design in 3D for the first time and ADAMS enabled us to calculate and visualise the loading during retraction and extension of



the landing gear. This made the task a lot easier, although by no means easy. Also, during the later part of this project we took delivery of our very first 486 P.C.'s with windows software. Because of the cost these were shared between one to six Engineers. A far cry from where we are today, with a P.C. on virtually every desk.

Today, our current design challenges are the Boeing B787 and the A400 landing gear. For these aircraft a low weight and increased corrosion capability is essential. For the B787 this has lead to the use of composites for the first time, the twin braces of the main landing gear being manufactured using this material. The current and future use of composites is driving a large investment in new design and manufacturing technologies both here and in France. For both programs we will take advantage of new design tools. The design is being undertaken using Catia V5 which gives us the capability to provide data directly to manufacturing, quality and customer services. For fatigue life calculations, we are using a new product called nCode which allows us to visualise all the fatigue critical areas of the landing gear.

So what will be our future challenges? Well that's difficult to predict. However, with computer power roughly doubling every two years, the possibilities are limitless. I do know that the company is totally committed to developing our design technology and if the last 23 years are anything to go by we will definitely see some amazing advances.



### **NBAA** Convention

Ade Challonder & Chris Evans at the recent National Business Aviation Association ( NBAA ) Convention in Orlando, representing the Regional & Business Aircraft BU and Gloucester's IPT. Messier-Dowty's Commuter participation in this annual show reflects its long-standing involvement in the aircraft sector. Exhibits business included Dassault Falcon Jet 7X main gear, Bombardier's Challenger CL300 nose gear and Global G5000 main gear and Raytheon's Hawker Horizon nose

Peter Hall, Public Relations

## **Occupational Health Department**

### **STRESS**

Following the companywide survey we did on stress in the Autumn of 2004, we held discussions with several focus groups during 2005. A Company Stress Policy has now being written and approved and is available on the Intranet. (You can find it under Human Resources – Procedures).

Under the 'Westfield' Company Health Plan, you can access the 24-hour telephone advice line and request counselling. Occupational Health will be arranging some Stress Awareness sessions for Managers and Stress Management sessions for employees in the near future.

Meanwhile, if you want to discuss any concerns you have about stress at work, or at home please contact us.

### **BLOOD PRESSURE AWARENESS WEEK**

As part of a National campaign, in September we held several open sessions in the restaurant and the Occupational Health Department to take employees Blood Pressure. Nearly 200 employees had their Blood Pressure checked and most were considered 'normal'. Only a few employees are currently having their Blood Pressure monitored on a regular basis. You can come and have your Blood Pressure taken at any time, or collect a leaflet about what you can do to reduce the risk of developing high Blood Pressure from the Occupational Health Department.

### **NOISE AWARENESS**

TOP THAT NOISE! European Week for Safety and Health at Work ran from 24<sup>th</sup>-28<sup>th</sup> October and focused on noise in the workplace. The new Control of Noise at Work Regulations 2005 comes into force in 2006.

The regulations will help to prevent occupational noise-induced hearing loss and supporting guidance will be available, containing simple practical measures that employers can take to reduce exposure to noise. Occupational Health will be arranging noise awareness sessions for all employees early in the New Year. In the meantime if you have any concerns about noise at work, or would like to arrange to have your hearing tested, please contact us.



CAROLINE MOBLEY – EXT 1941 ANGELA GREY – EXT 1951

## Health, Safety and the Environment

### MAKING CONTINUOUS IMPROVEMENT

Like other organisational standards, such as our Quality standard ISO9001, our Environmental Management Standard, ISO14001, requires us to set ourselves targets and objectives across the business for continuous improvement. During 2006 we are setting the following targets here at Gloucester: -

- Reduce our consumption of electricity, water and gas each by 5%.
- Reduce our use of Trichloroethylene by 30% before the end of 2006 and eliminate use totally by October 2007.
- Reduce the volume of general waste we produce by 5% and increase the amount of waste we recycle by the same amount.



Every month, during a Health Safety and Environmental induction program with new employees, they are asked to suggest improvements that they think could help Messier-Dowty improve it's environmental performance. They have suggested items such as:-

- Turn off printers, lights, machines & other electrical equipment when not needed.
- Report a dripping tap.
- Turn down the heating instead of opening the window.
- Close the doors & keep in the heat
- Make notes on scrap paper instead of starting with a new sheet

We are asking each department/workshop/team to look around their workplace and identify & put into place local campaigns that they can put into place to help achieve these improvements. These improvements can be communicated on local notice boards for all to see and get involved with. Please think about what improvements you can make. If you need any help talk to your team or Manager or contact the HS&E team. Progress will be reported on notice boards & via monthly cascades.

All these savings will go towards making our environment a better place to live.

Thank You.

Kim Toomer, H,S&E

#### THE BID PROCESS

### Airbus Business Unit - Marketing

The Aerospace market continues to evolve into 'smaller, higher value programs' and therefore, as a team when we bid for new business, the stakes (and the risks) are higher.

Using the Program Lifecycle, adopted as our baseline for program management principles, Marketing manage an 'opportunity' through to selection by the customer. In parallel, as the opportunity becomes more firm, and when we are formally proposing an offer to a Customer, a Program Manager is nominated in order to work with Marketing to ensure the appropriate input to support the development activity is shared and also to ensure a smooth transition into the BU where we are successful.

As a Marketing team, we continually analyse and assess the market in which we operate, as well as keeping in constant touch with our customers. Each new program opportunity has an 'opportunity analysis' process at an early stage, where the opportunity' is presented to the Committee with a recommendation to 'proceed or not to proceed'.

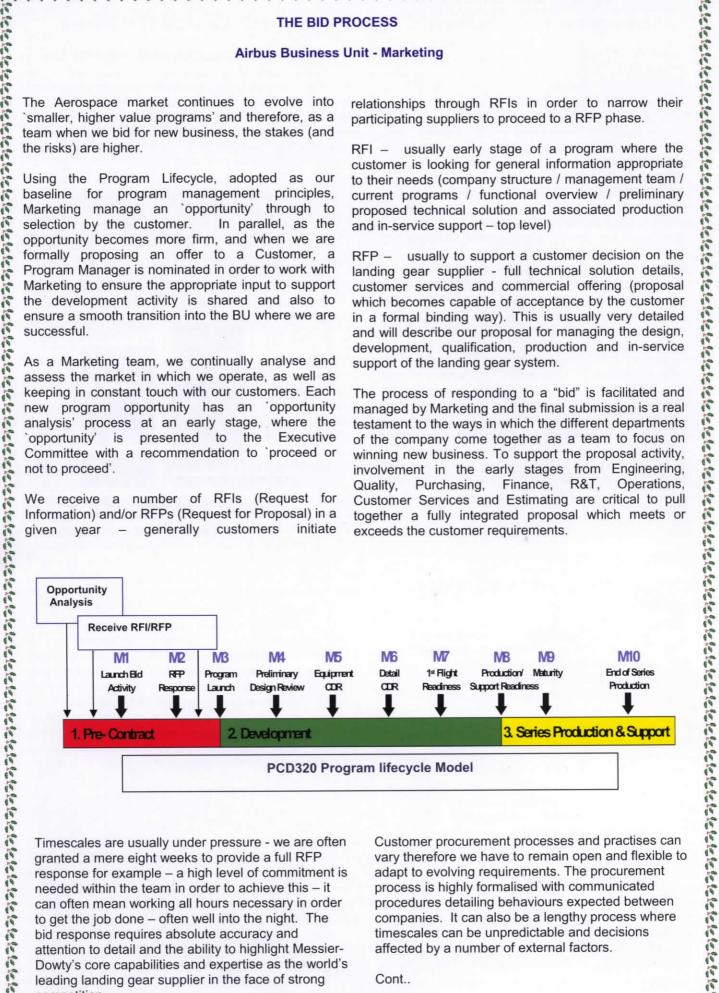
We receive a number of RFIs (Request for Information) and/or RFPs (Request for Proposal) in a generally customers given vear initiate

relationships through RFIs in order to narrow their participating suppliers to proceed to a RFP phase.

RFI - usually early stage of a program where the customer is looking for general information appropriate to their needs (company structure / management team / current programs / functional overview / preliminary proposed technical solution and associated production and in-service support - top level)

RFP - usually to support a customer decision on the landing gear supplier - full technical solution details, customer services and commercial offering (proposal which becomes capable of acceptance by the customer in a formal binding way). This is usually very detailed and will describe our proposal for managing the design, development, qualification, production and in-service support of the landing gear system.

The process of responding to a "bid" is facilitated and managed by Marketing and the final submission is a real testament to the ways in which the different departments of the company come together as a team to focus on winning new business. To support the proposal activity, involvement in the early stages from Engineering, Operations, Purchasing, Finance, R&T, Customer Services and Estimating are critical to pull together a fully integrated proposal which meets or exceeds the customer requirements.



Timescales are usually under pressure - we are often granted a mere eight weeks to provide a full RFP response for example - a high level of commitment is needed within the team in order to achieve this - it can often mean working all hours necessary in order to get the job done - often well into the night. The bid response requires absolute accuracy and attention to detail and the ability to highlight Messier-Dowty's core capabilities and expertise as the world's leading landing gear supplier in the face of strong competition.

Customer procurement processes and practises can vary therefore we have to remain open and flexible to adapt to evolving requirements. The procurement process is highly formalised with communicated procedures detailing behaviours expected between companies. It can also be a lengthy process where timescales can be unpredictable and decisions affected by a number of external factors.

Cont..



Above: A400M



Above: A350 MLG

#### Cont...

Since October last year, having won and launched in programs the A400M landing gear system, we have been working the early stages of the A350 program with Airbus.

In January, we were invited to tender for the landing gear and were given the appropriate RFP (Request For Proposal) documentation. The final contract negotiations for this Program are in progress. For the next Landing Matters issue we will communicate a biography of the A350 bid process for this particular opportunity for Messier-Dowty.

If there are any questions which you would like answered or any further detail on this article please ask Sian Smith or Rebecca Davis of the Marketing team on ext: 1665/1260.



Above: A350

# **Boeing 787 Deep Dive Review**

essier-Dowty Limited hosted a review team from Boeing on 24th & 25th October. The Boeing team consisted of personnel from Design, Procurement, Estimating, Manufacturing, and Programs who spent both days reviewing the Messier-Dowty Production Readiness plans and activities. As a result of the review the Boeing team were very complementary of Messier-Dowty's approach, and whilst agreeing the program was challenging that it was under control.

Pat Thomas, Purchasing Executive



### CHRIS HAWKES — a.k.a Bomber





# Winner of the New Era National 600cc Club Championship

For those who don't know him, it may be difficult to

imagine the passion that drives Chris Hawkes to the tarmac of a motorcycle circuit. Working at Messier Dowty since 1991, he began as a technical apprentice and is currently working in Airbus Assembly as Team Leader Contract Control. Chris has made a big step in his performance as a motorcycle road racer this year.

Ascension in road racing has been quick

He started road racing on a Yamaha FZR400 in 2000 with the North Gloucestershire Road Racing Club. In 2001, he moved up to compete in the New Era national series on the bigger circuits and in 2002, won the Formula 400 title. It was then time for him to try a different class, and in 2003 he started riding a 600cc Yamaha R6 & managed to win the New Era National 600cc Club Championship in 2005. Bomber had a



lucky escape when he crashed on a hairpin at approx. 100mph and was knocked out for 10 minutes earlier this year. We wish him luck as he races in the new Era Suberclub championship next year.

Thomas Bouchez, HR

## **Dowty Golf Society 2005**

Open views from Dewstow Golf Club, Caerwent, the venue of the final match of 2005 for Dowty Golf Society.



Dowty Golf Society was blessed with clear blue skies for each of its five matches in 2005. Every match was played at a different course in the region, with a variety of terrains, giving everyone an equal chance to demonstrate their golf and anger management skills. We roamed the hills of Gloucestershire, Herefordshire, Monmouthshire and Bristol. from the simply breathtaking scenery of The Herefordshire to the stunning views from the Dewstow, giving credence to Mark Twain's famous quote, "Golf is a good walk spoiled"! During the after-dinner speeches of the final match, the out-going Captain, Peter Bennett, reminded everyone of his joke-telling ability, and then gave out prizes for the day, mostly to Andy Matthews, but for the overall series, to Steve Adams. He also thanked Roger Goldby, Max Gough and Andy Baxter for their invaluable help throughout the year.

Membership of the Dowty Golf Society is free, and every match is highly subsidised, making it excellent value as well a great day out on a Friday. For membership information, please contact Max Gough in the first instance.

Steve Adams, I.S.

## Supporting the community

Gloucestershire Youth Cricket Team with coach Alan Daughtrey (Technical Team Leader Airbus Single Aisle). Note the new Messier-Dowty sign on the grace stand.



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### SPONSORSHIP/DONATION REQUEST

In January 2006 I shall be attempting to climb Mount Kilimanjaro in Tanzania, East Africa, in order to raise money for the charity SCOPE. I would like to ask you kindly to sponsor me in this endeavour, and to thus help improve the quality of life of individuals with Cerebral Palsy. If you would like to donate, please contact me via e-mail or telephone.

Dan Godzisz ext. 1940

# A Day In The Life Of... Alex Nicol – Stores Administrator in Customer Services Spares

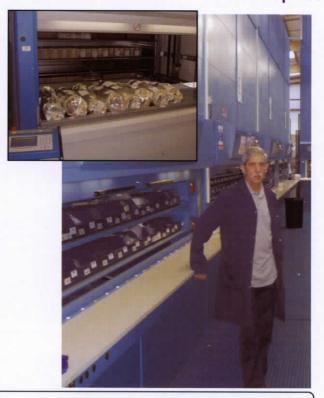
Alex joined the company and started his career in Customer Services Spares Dept in September 1989 and has been here ever since. He has certainly seen many changes in the process including people, locations of the Spares Department and the process of shipping out the customer spares requirements.

When Alex joined the department, the major programmes for Spares were F27, F28 and Avro 748. Whilst Airbus is the current dominant programme the commuters programme still remains buoyant.

### Facts / Figures about the department:

Approximately 27,000 part numbers are stored in three locations at Gloucester ranging from split pins to complete landing gears.

- Both MD-SA and MD Ltd parts are stocked at Gloucester.
- Around 6,000 order lines are processed every month.
- Around 60 shipments are made every day.



"Gone are the days of everything being on paper when we worked from the manual stock control card system, we are now working in the modern computer era and most transactions are taking place through bar codes and electronic scanner system. The lines of racks are also being replaced with state of the art carousels and shuttle storage systems".

### How the Department works?

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Orders are received via the Global network of Customer Support Centres based in Singapore, Washington, Velizy and Gloucester from Airlines and repair stations. Customers include all of the major Airline companies for example Air France, Lufthansa, Virgin, Easyjet, Singapore Airlines etc.

Orders are entered through the new Solar computer system which was introduced into the business in October 2004. Each order is picked using a bar code gun and passed through to inspection. The inspection process generates the airworthiness certificates with a computer generated digitised

signature developed with the CAA and we are the first company in the UK to use it. The shipping team then pack the orders in line with the customer requirements often using door to door couriers with more than 50% going to Asia and America.

"AOG" A term we often hear about, when customers have an Aircraft On Ground we must respond and we are contracted to process the order within four hours 24 hrs a day 365 days a year. We can and have been called in the middle of the night to pick and ship a pair of A340 gears to anywhere in the world. We can have up to 500 AOGs a month so we are constantly kept on our toes meeting our customers needs!

Thomas Bouchez, H.R.

### Silver at Salon Culinaire 2005 for Messier Dowty.

An annual event to search for the best performers in the catering business took place at Cheltenham Racecourse this month, with Chris and Ann entering from our Eurest Team.

Ann who has been based at Messier-Dowty Ltd for several years, picked up the silver medal when she served up a fantastic fruit flan. Salon provides a challenge to Catering staff at all levels and we are really proud that we not only took part but produced a silver winner. Ann receives a silver medal / certificate and her skills and talent have definitely set a precedence for the future competitors. Well done Ann and Chris - going for Gold next year.

Anne Danter, Eurest Catering

We look forward to experiencing the Teams Christmas lunch on Wednesday 14th and Thursday 15th December 2005.

Editorial committee: Heidi Beal, Peter Hall, Thomas Bouchez, Sarah Powell, Pank Patel, Steve Adams, Mike Lichters, Paul Harrison, Christine Clark, Pete Willis

# 



From left to right: Ben, Ben, Nathan, Chris, Ricky, Lewis, Luke

A warm welcome to the new apprentices who started in August this year. Their first year is spent at Gloscat's Engineering Technology Centre in Hempsted, Gloucester, where they are given an introduction to basic machining/fitting skills, electrical and welding appreciation, and knowledge of machines & processes before they return to Messier-Dowty for the remainder of their apprenticeship. We look forward to them joining us on site in the summer of 2006.



# The EEF Apprentice of the Year Competition for the South West England - 2005

Congratulations go to......

James Barnes (on the right) who won 2<sup>nd</sup> prize in the 2<sup>nd</sup> Year Apprentice (Gloucestershire) category

Martin Broady (on the left) who won 1st prize in the 4th Year Apprentice (Gloucestershire) category

Martin goes on to attend the "Overall Winners" ceremony at the Winter Gardens in Weston on 8th December.

We wish him lots of luck!

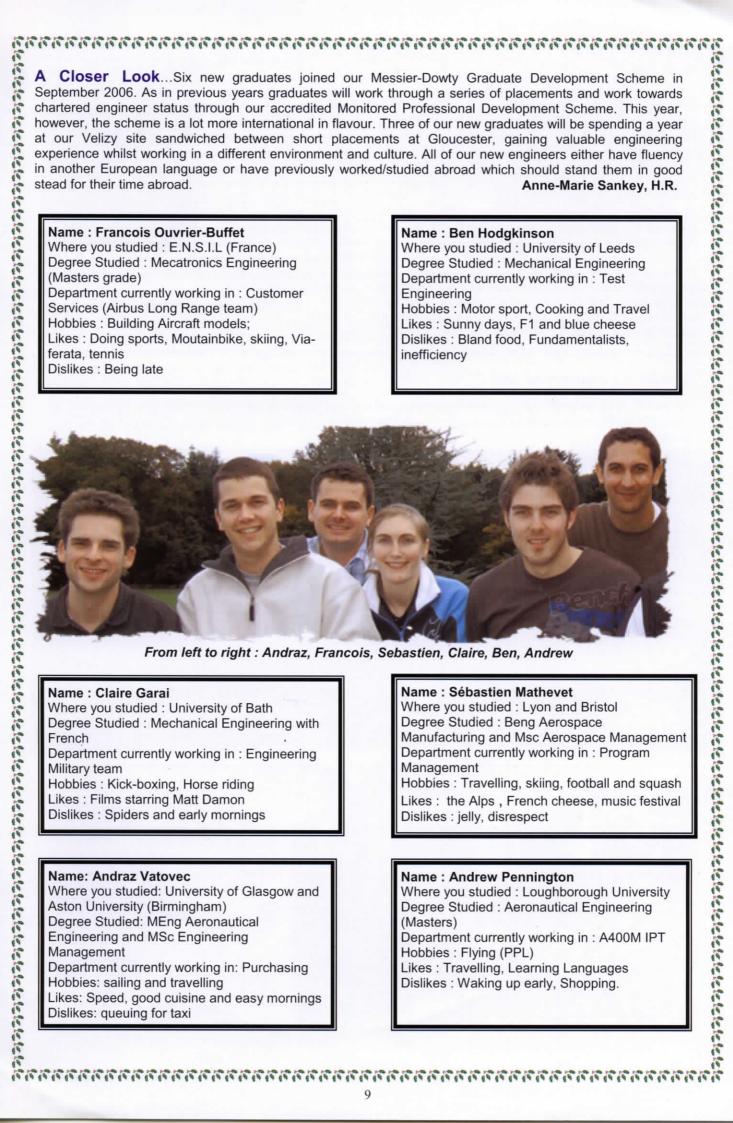
# **Recruitment of Graduate Engineers**

The focus this year has been on attracting engineers from top UK universities with language skills and experience of work/study abroad. To support this, we have already begun 'doing the milkround' by actively promoting our international graduate scheme at several university careers fairs to attract suitable candidates for 2006.

The picture on the right shows Thomas Bouchez and Oliver May at a careers fair at the University of Bath.

Anne-Marie Sankey, H.R.





## Tight lines!

Messier-Dowty Gloucester were invited by 'Sandvik -Coromant' a Machine Cutting tool Supplier to enter a Team of 5 Match Anglers, along with another 19 Teams from in and around the Midlands, to their annual Fishing Competition, which is held at Earlswood Lakes, Wythall near Birmingham on Sat June 11th. The Messier-Dowty team consisted of Nigel Jones, Steve Sadler Capt.), Steve Griffiths, Mark Wasley,& Ian McAllan. Two were allocated the Bream/ Roach Lake and the other Three the Carp Lake.

This was the first time the team had entered this competition and finished a credible 3rd place overall at their very first attempt, which was a fantastic achievement. They also had an Individual Winner on the Bream lake in Nigel Jones (picture), who had 28.5

lb of skimmers and Bream.

The tally for a very day enjoyable Steve Sadler who weighed in 49lbs of carp, Steve Griffiths had 24lbs of carp, Mark Wasley had 14lbs of carp and lan McAllan weighed in 2.6 lb of skimmers. Of course after in the bar there was the usual banter over a



pint about what could have been, and the usual ones that got away "!

Mike Lichters, Processing

## Howzat for a great day out!

On the 5th August 2005, 38 long serving employees enjoyed a day at the Cheltenham Cricket Festival to celebrate 20 years of service. The weather was kind and all enjoyed a buffet lunch... followed by several toasts!





### An act of kindness..

On Friday 11th November, Matthew Sexton, Max Gough and Julia Payne visited Milestone School, Longford Lane, Gloucester. On behalf of the Engineering department, they presented 75 cinema generously donated engineering teams who received them as 'runners-up' prizes in the Groups Creativity Contest.

The photo shows the presentation of the vouchers by Matthew Sexton to Mrs Lyn Dance, accompanied by Julia Payne, Max Gough and children from Milestones.

### MY FLIGHT - "CALL ME BIGGLES"

e – who never wins anything – has won a flying lesson in the open day draw. Will I have the nerve to take it?
I pluck up the courage to phone for a time and am told they can fit me in on the following

Sunday, (no time to change my mind).

The dreaded day dawns and it is rather overcast, so it may be cancelled... but unfortunately no such luck.

I meet my pilot Duncan and he gives me all the safety instructions (it wasn't until later that I realised we were not wearing parachutes and he didn't mention what to do if we had to make an emergency landing, so he must have been very confident that nothing was going to happen). He was very patient with me as I was very nervous, especially taking off.

It was a 4-seater plane and I had never experienced anything quite like it before. Soon we are airborne and it's great, so quiet (I can only hear the pilot because of the ear protectors). We are travelling at over 100 miles per hour, when he hands me the controls and says "right now its your turn". (to which I replied "you have obviously never seen me on a



bicycle"). I decided to give it a go and thoroughly enjoyed myself — apart from when I accidentally pulled back on the stick and the plane started to rise (but he said that was preferable to plunging down!!). The time went so quickly and we did a lovely landing — nothing whatsoever to do with me of course. It was a truly remarkable experience and one that I will never forget.

Christine Clarke, Reception

નિયાની કાર્યાની કાર



### Farewell... Ron Saunders

After 27 years of loyal service, Ron Saunders retired from the company on 11th October 2005.

Ron, a Process Operator within Airbus Assembly, made an invaluable contribution to the team by means of part marking, ensuring the concessions were up-to-date and all the other tasks that were completed on a daily basis. Before leaving, he passed on much of his knowledge to Alan Powell, his successor.

We wish him a long, healthy retirement.

Andy Wilks presenting Ron's wife, with a bouquet of flowers

# Congratulations to....

Clare and Alex Ball celebrating the birth of Sophie Louise, born on Sept 1st 2005 weighing 6lb exactly.

Julian and Emma Rivers celebrating the birth of Alyssa, born on 7th June 2005 weighing 7lb 12.

Wayne and Anita Hall celebrating the birth of Oliver Rowan, born on 8th October 2005 weighing 7lbn 1.

Lyndon Saunders and Tammy Williams celebrating the birth of Amber Louise, born on 13th Nov 2005 weighing 6lb 14.

Andy Dick and Glenaleigh Pirie celebrating the birth of Ayden, born on 5th Nov 2005 weighing 8lb 1oz.

## Business-related challenge for county sixth formers

Organised by the Gloucestershire Education Business Partnership in conjunction with the University of Gloucestershire, the event was set up to prepare students for the cut and thrust of the business world.



The event was sponsored by DAIR and supported by Messier-Dowty amongst other local businesses. Participating schools included Cheltenham Ladies College, Bournside, Pates and Brockworth. Messier-Dowty had four representatives at the event - Neil Kenyon, Karen Jones, David Johnson and Dave Rowlatt.

The Messier-Dowty representatives were asked to act as a part of a panel of judges and award points to the teams.

The venue was at the Cheltenham Campus and was attended by over 80 sixth form students. The event went off extremely well with prizes being awarded to the best performing teams.

As the event was such a success Hillary Weaver of the Education Business Partnership has asked Messier-Dowty to support this event on an annual basis.

Neil Kenyon, Processing

## These boots were made for walking...

huge THANK YOU to all of you who were kind enough to sponsor me on my walk over the Malverns on 9th July. I managed to raise £400 which was presented to the Pain Clinic Trust Fund at Gloucester Royal Hospital. Ros Jenkins, H.R.



### Golf Day in memory of one of life's true Gentleman

On 23/10/05 a golf day was held at Brickhampton as a tribute to Malcom Thick who sadly passed away on 23<sup>rd</sup> August. Malcolm was a very popular member of the Large Landing Team and was employed there, as a machinist, since completing his apprenticeship with the Dowty Group. He used to play golf most Wednesday mornings with a few work colleagues after working a nightshift. Malcolm had a love for boats and also loved sea fishing, which he did whilst staying, most weekends, at his caravan in Watchet.

The day was well supported by his friends and family, and his wife, Liz, who walked all 18 holes. A fitting moment was when Malcolm's son Luke won the trophy. Malcolm would have been so proud of him. Paul Mumford who was once Malcolm's apprentice also won a shield for the best score on the day. Outside of work, Malcolm was one of life's truly likeable people, a gentle giant who always had time for others. Malcolm was one of life's true gentlemen and will be sadly missed by all of us who were lucky enough to have called him a friend. Haydon Edwards, Large Landing Gear

