



# U.S. Navy tests GMAv Flight Control System for F-14 Tomcat



*F-14 test aircraft fitted with GMAv's Digital Flight Control System (DFCS).*

On the 14 July 1995 a F-14D test aircraft fitted with a GMAv Digital Flight Control System (DFCS) made a highly successful one and a half hour first flight at the Naval Air Warfare Center, Patuxent River. Designed in the late 1960s and fitted with an analogue Automatic Flight Control System (AFCS), the F-14 has undesirable flying qualities - primarily in the high Angle of Attack (AOA)

and approach/landing portions of the flight envelope. These characteristics have led to a number of out-of-control flight incidents and several aircraft losses.

The DFCS, developed by GMAv's Flight Systems Division, is a form, fit, function replacement for the analogue system. The new system enables additional control laws to be implemented

which considerably improve aircraft safety.

An extensive System Integration and Test Programme has been performed both at Rochester and Patuxent River (PAX) prior to flight trials. At PAX this included many hours flying the DFCS in the F-14 simulator which provided very high confidence in the system before the flight test phase began.

The first flight in July marked the beginning of a six month flight test programme, during which DFCS performance will be assessed within the aircraft in all flight conditions.

Extensive instrumentation on the test aircraft, designated "230", together with data from the DFCS, enables a vast number of parameters to be monitored in real time during the flight. The data is transmitted to the Real-time Telemetry Processing Station (RTPS) during each the Engineering Flight Test Team.

A typical team consists of fourteen engineers from the Navy, GMAv and Northrop Grumman, who monitor the data throughout the flight. They are able to make instant assessments on the flying qualities and any abnormalities which may cause concern.

*A Day in the Life of An F-14DFCS Flight Test Pilot - See Page 3.*

## MD's Christmas Message

1995 has been another challenging year for the defence and aerospace industry world-wide. The Company, however, has had notable successes in achieving milestones in major programmes and the winning of new business:

- \* The Boeing 777, with our flight control computers, went into service.
- \* Continued success on the Tornado Mid-life Update programme and winning contracts on the Jaguar Urgent Operational Requirement.
- \* Receiving preferred supplier status for Power Systems Division and Displays Systems Group Rochester from McDonnell Douglas, and for Display Systems Group Edinburgh from BAe.
- \* The first flight of an USN F-14 with a new flight control system supplied by Flight Systems Division.
- \* The first production delivery of a Blue Kestrel Radar to the Merlin programme.

These were just some of the achievements in a busy and productive year.

There were disappointments, however, most notably not winning the UK Attack Helicopter competition. But we have a good order book going into 1996 and we must now focus on a number of major programmes, namely moving towards production on EF2000 equipment and our bid for the UK Replacement Maritime Patrol Aircraft.

We are one of the world's largest avionics companies, and I am sure that we can build on our achievements of 1995 to improve our position in the world market.

I thank you all for your hard work and perseverance during 1995 and I wish you and your families a very Happy Christmas and best wishes for 1996.

*Saul Lanyado*

*Saul Lanyado  
Managing Director  
GEC-Marconi Avionics Limited*

## AEW FOR SEA KING MK 7

GEC-Marconi has more than 37 years of experience in the design, integration and support of Airborne Early Warning (AEW) radar systems and, as a result, its Avionics business has teamed with Westland Helicopters Limited and GEC-Marconi Naval Systems to bid for the Royal Navy Sea King AEW Mk7 programme.

The GEC-Marconi Avionics AEW system will upgrade the Sea King AEW Mk 2 to the improved AEW Mk 7 standard.

The introduction of a modern medium prf pulse doppler radar with a more powerful transmitter, will provide long range look down target detection through sea and land

clutter, transforming the Sea King AEW into a formidable system.

The system incorporates other important features which greatly enhance the Sea King mission performance. These include improved data handling, a new man-machine interface incorporating the latest techniques to increase operator efficiency and comfort, JTIDS, and a state-of-the-art navigation upgrade.

A project which will see many GEC-Marconi Companies working together as a team, the AEW is an all - UK programme with potential export benefits into the 21st Century.



*Sea King helicopter (above HMS Invincible), with AEW system that will greatly enhance mission performance.*

## Obituary

**William Hector (Bill) Alexander  
OBE, BSc, Hon FIQA**

*Sadly, 'Bill' Alexander, former Deputy Managing Director of GEC-Marconi, has died.*

Bill was born in 1926. He graduated from the University of Edinburgh and started work for the GEC Group in 1954, joining the Aviation Division of Elliott Brothers (London) Ltd. at Borehamwood. Following Elliott's merger with English Electric and the subsequent takeover by GEC, Bill was appointed in 1970 Executive Director of the newly formed Marconi-Elliott Avionics Systems Ltd.

In 1986 Bill became Managing Director of GEC

Avionics and, in 1987, reached the pinnacle of his career with his appointment as the Deputy Managing Director of GEC-Marconi.

Recognition of Bill's many achievements came with the Order of the British Empire, awarded in The Queen's Birthday Honours List of 1981 for his contribution to the avionics industry. He served on numerous industrial bodies and, in his spare time, actively supported local organisations.

Condolences are offered to Bill's family at their sad loss.



# GEC THOMSON DASA AIRBORNE RADAR (GTDAR) OFFICIALLY FOUNDED

## Tri-lateral AMSAR Programme Expands

The joint venture grouping GEC Thomson Airborne Radar (GTAR), originally formed by Thomson-CSF and GEC-Marconi Avionics, has been expanded by the inclusion of Daimler-Benz Aerospace (DASA). This grouping is now officially registered as GEC Thomson DASA Airborne Radar (GTDAR).

This co-operation between the United Kingdom, France and Germany has both industrial and political significance.

The future of the European defence industry lies in co-operation. The aim is to share the cost, especially R&D, and to create European Groupings capable of competing on a worldwide basis.

The AMSAR Programme allows participating countries to co-operate in the development of miniaturised gallium arsenide transmitter technology essential for the active array antenna. The development in co-operation of this "cutting edge technology" removes the obstacle of cost and widens the market for modules, antennas and radars produced.

GEC and Thomson first joined forces to create GEC Airborne Radar (GTAR) in May 1991, after negotiations between the two companies and commercial negotiations between French and British governments had taken place. Co-operation between the three leading European Airborne Radar companies became possible after the German government formally signed the Anglo-French-German General Memorandum of Understanding (GMOU) and the German

parliament approved funding for the project.

Now named GEC Thomson Daimler-Benz Aerospace Airborne Radar (GTDAR), work under the co-operation agreement is now equally divided between Edinburgh (UK), Elancourt (near Paris), and Ulm (Germany). The GTDAR office is based in the Thomson-CSF facility at Elancourt in France, with the technical teams working back in their home bases.

Defence co-operation allows each participating country to maintain a competitive defence industry and, ultimately, leads Europe to become a more independent power with the development of a common security and foreign policy. The AMSAR programme, in providing the next generation of airborne radars, is a key element of the future fighter aircraft programme in Europe.

*The joint Project Teams in Edinburgh for the first in a series of Tri-lateral Project Meetings.*



## Tornado Radar Delivered On Time After 3 Year Break In Production

GMAV's Support Division at South Gyle, Edinburgh, has delivered, on time, the first of 48 Tornado Nose Radars destined for the Royal Saudi Air Force (RSAF). The radars are for the second batch of Tornado GR1 aircraft which Saudi Arabia ordered from British Aerospace, under the A1 Yamamah II Agreement.

A commendable achievement, this on-schedule delivery follows a three-year break in Tornado Radar production after completion - on time - of 182 previous orders.

This high value contract was placed in July 1993 and will

run until July 1997. Support Division, the UK Design Authority for the radar, is to assemble and test 36 radars, each of which comprises nine Line Replaceable Units (LRUs); one LRU is manufactured at South Gyle and two more come from GEC-Marconi Sensors in Basildon. The remaining LRUs are built by an international consortium of five different companies.

The first of the new batch of aircraft will be delivered to Saudi Arabia in 1996 and Support Division will continue to support the radar in-service; as it does for both the RSAF's existing Tornado fleet and those of the RAF.

With some 700 LRUs and 183 radars-worth of experience behind it, Support Division is confident that it will continue to meet the demands of the customer throughout the service of the Tornado.

*The Tornado Nose Radar production team at South Gyle.*



## DSGR RECEIVES McDONNELL DOUGLAS PREFERRED SUPPLIER AWARD

In December 1993 DSGR committed to participating in the McDonnell Douglas Aerospace (MDA) Preferred Supplier Scheme. As part of their continuous improvement policy MDA had undertaken to significantly reduce their supplier base by using only "best value" world class suppliers and subcontractors.

In order to ensure that only the preferred suppliers were used MDA introduced a certification scheme with Levels, of Gold, Silver and Bronze. To achieve the status of 'Preferred Supplier' meant participating in a three-part assessment scheme. Part One was an assessment of DSGR's Statistical Process Control (SPC) system; Part Two, a self-assessment of its entire business activity and, finally, a formal assessment by a team of people from MDA. In addition to this scheme DSGR had to demonstrate its ability to deliver products on time and to the required quality as well as its responsiveness to customer needs.



*Trevor Knight (DSGR) receives the Award from Pam Willis, McDonnell Douglas representative.*

In March 1994, having completed the lengthy self assessment process and obtained the Bronze Award for SPC, the team of six Assessors from MDA arrived. After an in-depth look at all DSGR's business processes, MDA categorized the Group as "Upper Bronze". Tantalisingly close to Silver, and despite much heated but

friendly exchange, MDA would not change category to Silver. Having obtained Bronze status for the business processes and SPC, the only problem DSGR now faced was delivery. This delivery performance was based on the C-17 Head up Display programme which was, to say the least, problematic. Despite enormous efforts from the Engineering, Production and QA Departments, the ability to manufacture and deliver a reliable HUD eluded the Group. At times the technical problems looked almost insurmountable, with new failures occurring as fast as previous ones were fixed.

However, the tenacity of the entire C-17 team was a force to be reckoned with! The power of real teamwork won the day and by February 1995 deliveries were back on schedule, the quality rating had risen from 39% to 96% and responsiveness to the Customer had never waned. In August 1995 the official presentation of a Bronze plaque was made by MDA and now the Gold award is back in DSGR's sights.

The greatest lesson to be learned from this exercise is that, by challenging a focused and motivated team, they can achieve the impossible.

## Silver Award for Titchfield

The McDonnell Douglas Corporation (MDC) confirmed in October that GEC-Marconi Aerospace at Titchfield has achieved the overall Silver Level in their Preferred Supplier Certification Status Scheme.

Achievement of this overall level required Silver Level attainment in Business Processes, Quality and Delivery performance.

A formal presentation ceremony will take place at Titchfield, on a date to be arranged.

*FSD Success - See Page 6*

## 25 Years Service - Brian Tucker

Joining the Company as a Physics Graduate directly from Queen's University, Belfast, Brian Tucker entered GEC Avionics on 1st September 1970 as a Systems Engineer.

During the 1970s Brian worked in the Flight Controls Division on a variety of projects, developing lasting relationships with customers in Aerospatiale, McDonnell Douglas and Boeing.

By 1984 he had become Divisional Manager of the Controls Division and five years later was appointed Assistant Managing Director with responsibilities for Flight Controls, Maritime Systems and the Support Divisions at Rochester.

In October 1990 Brian became Managing Director of GEC Avionics; a position he held until the formation of GEC-Marconi Avionics in January 1993. More recently as Director and General Manager of Displays and New Ventures, Brian led the considerable Company activity in the Venom bid for the UK Attack Helicopter.



*Brian Tucker.*

During his 25 Years Service presentation ceremony John Colston complimented Brian on his considerable skills in "selling the capabilities of the Company" and wished Brian every success in his new role as Managing Director of GEC-Marconi Aerospace Systems.

Among the large attendance for Brian's presentation was David Clewes, the Manager and mentor to whom Brian reported during the 1980s.

Brian received a camera in recognition of his service, before taking a well-earned holiday with his wife Yvonne.

# A Day in the Life of an F-14 DFCS Flight Test Pilot

by Paul Lee, GMAv Flight Test Engineer.

"The day starts at 7:30 am with the aircrew and test engineers' briefing for the day's flight. There are three Pilots assigned to the programme and each takes it in turn to fly the test aircraft, chase, or support from the Real-time Telemetry Processing Station (RTPS).

The early hour is reflected by the ample supply of coffee and doughnuts being consumed, nobody wants to test on an empty stomach! The Test Conductor controls the activity in RTPS and, in normal circumstances, is the only person in the Test Team who talks to the aircrew during the flight. He starts the brief by describing the aims of the day's flight and then takes the aircrew through the Flight Cards. These give the critical parameter details for each test event and ensure that, for each manoeuvre, the Flight Test Team know what they are looking for. Weather conditions, maintenance issues,

and any flight limitations are also briefed.

Today, 20 September 1995, it's Flight 9 and this is the first of the high Angle Of Attack (AOA) exercises. This is an exciting phase of the programme since it is the build up to flying the F-14 DFCS into areas of the flight envelope which could result in a flat spin and possible aircraft loss for any standard F-14.

Getting the test underway requires the co-ordinated effort of many people; Navy Maintenance are responsible for getting the F-14s ready, the full-time staff of the RTPS prepare the room for the test and ensure the ground computers are on line, and flight areas are requested and clearances are obtained from Air Traffic Control.

When Maintenance give the go-ahead the aircrew 'walk' to the aircraft while the test team drives to the

RTPS, sited in an area of the base overlooking Chesapeake Bay.

In the RTPS we take up our stations. Throughout the flight it is GMAv's responsibility to monitor the DFCS status. The computer screen shows the DFCS caution lights, acronyms and current functional mode. A second screen gives the huge array of data which is available from the Built in Test (BIT) and Redundancy Management Failure Identification Tables. Headsets worn in RTPS allow the Engineers to hear the communication between Test Conductor and Aircrew and between Test Conductor and Engineers. Whilst on the ground the aircrew perform a series of control surface movement and systems checks which are monitored in the cockpit and in RTPS. When the team is happy "230" is cleared for take off.

Flight 9 lasted two and a half hours and concentrated

on high AOA and stall exercises. The chase aircraft followed these manoeuvres, observing and commenting when necessary. The increased response of the DFCS meant that the chase aircraft (fitted with the standard AFCS) found it difficult to keep with "230" to monitor and video.

The results from this first high alpha flight were very encouraging. The aircraft performed well with the expected control improvements over the AFCS. From their birds eye view, the crew of the chase aircraft were impressed by how "230" was handling, whilst they were just trying to head straight and level.

The next flight will continue with high AOA testing and these flight cards will now be practised on the simulator before the next flight scheduled for tomorrow [21 September].

## DANISH RADAR UPGRADE SUCCESS



Seaspray-equipped Lynx of the Royal Danish Navy, on patrol.

GMAv's Support Division at South Gyle has recently delivered the final Digital Scan Converter (DSC) modification kit to the Royal Danish Air Force (RDAF), for their Seaspray Mk 1 radar upgrade programme.

The kits are fitted to the Seasprays' signal processors, thereby incorporating digital technology as a replacement for the existing analogue converter. The radars are installed in the Royal Danish Navy's fleet of Lynx helicopters.

The modification requires no changes to the aircraft wiring and presents a television - type display which can be frozen on a particular scan. Other advantages include the ability to display alphanumeric characters and the provision of a one nautical mile range, to aid recovery on board ship.

The completion of the contract, on schedule and within budget, took nineteen months. Two further contracts for the supply of DSC kits have been signed and work is underway.

## BLUE KESTREL RADAR PRODUCTION DELIVERIES COMMENCED

The Blue Kestrel Team in Edinburgh's Radar Systems Division gathered in August, to celebrate delivery of the first production radar to Loral ASIC, the Prime Contractor for the Merlin helicopter. The Merlin Programme, which runs until the end of the century, will supply the Royal Navy with helicopter surveillance radars well into the 21st century.

Ian Bell, the Project Manager, took the opportunity to express the Company's thanks to the group for this achievement. "This is a very special day for Surveillance Radar Group, made possible by the tremendous level of competence and commitment shown by all who had contributed to the programme. The Blue Kestrel radar is one of the first major avionics sensors to have been delivered for the Merlin production programme. This was made possible by a team effort of which all should be proud".

During October Peter Shultz, Managing Director of Loral ASIC, visited GMAv's Crewe Toll facility and toured the new dedicated production area where the radars are being assembled. During the tour he spoke to many of the Blue Kestrel team members and made a point of communicating Loral's satisfaction with RSD's programme performance. He specially mentioned the open and supportive approach to problem solving which Loral encountered when working with RSD.



The Blue Kestrel Team formally hand over the first production radar to Loral ASIC.

At this time of writing, five production systems have been delivered. Colin Sharp, Manager of Surveillance Radar Group, said: "These important deliveries reinforce Radar Systems Division's position as a major supplier of airborne radar".

Commencing production deliveries of Blue Kestrel is only the first stage of a long term relationship with Loral ASIC on the Merlin Programme. In the coming months further orders for spares and support are expected as Merlin goes forward into service with the Royal Navy. Beyond that, the prospect for Blue Kestrel looks positive with a potential further buy for the Royal Navy and other export sales.

## HARP OON



GMAv's Oil & Gas Group at Nailsea has successfully completed a McDonnell Douglas order for 201 Power Converters for the Harpoon missile.

Whilst Nailsea is totally focused on an expanding Oil

and Gas Subsea Control business, its retained expertise in magnetics and filter technology led to them being awarded the Harpoon contract by the Instrument Systems Group in January last year.

Completion follows the delivery of all units between October 1994 and October 1995; on time, on cost and with zero rejects. Bryn Jones, Manufacturing Manager says the success of this programme was primarily due to



Allan Cook.

Allan Cook has been appointed as Divisional Managing Director of Radar Systems, with effect from 7th August 1995.

A former Ferranti International Engineer, Allan's most recent appointment was as Managing Director and Executive Vice President, Hughes Europe.

His qualifications include a BSc(Hons) Electronic Engineering, DMS in Business Studies, Full Technological Certificate in Electrical Engineering and a Member of the Institute of Directors.

Allan has been married to Kath. for 25 years and has two daughters, Sarah (22) and Victoria (18). His off-duty interests include squash, running, music, people and travel.

**The dedication and co-operation of this team led to successful order completion.**

the dedication and co-operation of the manufacturing team involved. With minimal supervision, they took ownership of the job and ensured that manufacturing and delivery schedules were maintained.



# FOCUS ON ATLANTA



**GEC-Marconi Avionics Inc. provides a gateway into the US military and commercial marketplace for GEC companies and their products.**

The main facility is located in Atlanta, Georgia - a major US transportation and financial hub. Established in the 1960s to support such programmes as the C-5, the Company has developed a nationwide network of field support and marketing offices, all supported from Atlanta.

Management information services, accounting, administration, engineering, integrated logistics support, business development, benefits, payroll, shipping, public relations, travel management, and training are all areas where the Company provides state-of-the-art support.

GEC-Marconi Avionics Inc. has provided US-based support for GEC's UK companies/divisions for more than three decades.

## THE GLOBAL CONFERENCE ROOM IS GROWING

In response to an initiative by GEC-Marconi, for the wider use of Videoconferencing to enhance communications, GEC-Marconi Avionics Inc. in Atlanta now has a Videoconferencing Suite up and running. Employing the very latest Focus technology from GPT, the Suite will enable greater face-to-face dialogue between the US and the UK to take place.

Other sites in the US are being established. GEC-Marconi Dynamics in Westlake, California is also on-line, whilst other locations under consideration are Seattle, Washington; Santa Monica, California; San Diego, California; and Washington DC.

In many instances utilization of these Suites will enable meetings to be scheduled with only local travel to a Videoconferencing site being required, as opposed to international travel. This will represent a tremendous saving in travel costs, time away from the office, and 'dead' travel time.

Note: To arrange conferences at the Atlanta Suite, contact the Atlanta MIS Department on GNet +450 4761 (public phone number (770) 263-4761).

**Vince DiLoreto, Director Programmes, and Mark Stephenson, Director MIS, putting the new Atlanta suite through its paces.**



## Defence Advisors Visit Atlanta

In October, Sir Nicholas Hill-Norton and Sir Donald Hall visited GMAv Inc.'s Atlanta facility. Sir Donald, who is retiring as GEC-Marconi's Senior Defence Advisor, and Sir Nicholas, who is joining the Group as Defence Advisor, visited Atlanta as part of their tour of GEC-Marconi operations in the United States.

Sir Donald and Sir Nicholas are seen in the accompanying photograph discussing Atlanta's extremely successful Continuous Improvement Programme with GMAv Inc.'s Vice President of Operations, Hank Kalbach.

## KEEPING THE ENTERTAINMENT "ON-LINE"

GEC-Marconi InFlight Systems (GMIS) based in Bellevue, Washington (USA) and Portsmouth (UK) supplies inflight entertainment systems to airlines, and the critical responsibility for supporting the hundreds of systems now in service is carried out by GEC-Marconi Avionics Inc.

**Chicago O'Hare Line Station Engineers with the Boeing 777, of which they take such proud care.**



**The O'Hare team keep watch over many screens. (L-r) Pat Kelly, Mike Serafini, Emmett Harris and Ken Kothera.**



Since the end of 1994, GMAv Inc. has been establishing a global first line support operation covering the world's major airports. The initial operations have been set up to support the United Airlines' Boeing 777 fleet. US airports already on-line

include Dulles, Denver, Newark, and Chicago. In Europe, in partnership with GMAv's Rochester Product Support Division, three line stations have so far been established; Frankfurt, London, and Paris. Within the next six months Los Angeles

the cleaning and turnaround crews who are preparing the aircraft for its next flight. Faulty equipment has to be diagnosed and repaired in a matter of minutes, and the engineers not only have to be skilled at maintaining the equipment, but also understand the art of diplomacy when working amongst many other people in the passenger cabin environment.

Equipment that cannot be returned to its correct working condition is replaced and the removed unit sent to GMAv Inc.'s Redmond Support Facility, near Seattle, Washington. Located near the Boeing plant, this facility has the responsibility for repairing and returning the systems to service.

and San Francisco will come on-line, with several more international locations opening soon thereafter.

Each passenger's individual screen must be kept working at all times. Maintaining the GMIS equipment means that the GMAv service engineers have to compete with

With system updates expected by this year's end - leading to interactive games and telephone service - and the numbers of both aircraft and flights increasing, the first line maintenance crews in their GMAv uniforms will become a more familiar sight at airports around the world.



**One of the maintenance test sets at the Redmond Support Facility, Seattle.**



**The team based in Redmond, responsible for repairing the equipment that keeps passengers entertained.**



# C-130J Rollout

## RAF's NEW HERCULES PREPARES FOR FIRST FLIGHT

On 18 October the Royal Air Force's latest aircraft, the C-130J-30, was shown to the public for the first time. The ceremony, held at the Lockheed Martin plant in Marietta, Georgia, was attended by senior RAF officials. Air Marshal Sir John Allison, Chief of Staff/Deputy Commander in Chief Headquarters Strike Command, accepted the aircraft. The new 'state-of-the-art' Hercules was escorted from its hangar by members of the Halton, Waddington and St. Athan Pipes and Drums of the Royal Air Force.

Scheduled for the first flight at the end of 1995, the next generation Hercules will complete a 12 month flight test programme before deliveries to the RAF begin at the end of 1996.

The second aircraft off the production line was rolled out two days later, on October 20, the first of two aircraft ordered by the US Air Force for their Trials and Evaluation programme.

GEC has been selected to supply major avionics systems for the new C-130J - the Central Air Data Computer,



Data Transfer System, and Digital Map Units. These systems will be fully integrated within the 1553 databus avionics architecture of the new C-130J.

Total sales of 400 to 700 C-130Js worldwide are expected over the next 10 to 15 years, many of them in Europe. The six UK companies competed in international competition bringing 3,500 high-tech jobs and revenue of £2.3Bn to the UK.

Involvement in the international Hercules programme could reap long-term revenue of £7Bn for the UK, plus vital access to global markets for other UK aerospace products.

"The partnerships we have forged with the UK on the C-130J project paves the way for long-term co-operation on other programmes as well", said Lockheed Martin's European President, Ian Stopps. "They have demonstrated world beating technical skills to win major business for their industry well into the 21st century."

Major British components on the new Hercules include Dowty's all composite six-bladed propellers, Westland nacelles, Lucas engine fuel controls, GEC's digital map display and computers, IPECO crew seats and many other airframe and engine parts.



C-130J: seen by the public for the first time on 18 October.

# DOING IT BETTER

Last year the Operations Group at GMAV Inc. in Atlanta established a mission to improve effectiveness and efficiency. Entitled "How can we do better?" the Group used Breakthrough, Brainstorming and Flow Charting techniques to achieve their goal.

Process Improvement Teams within the Group set out to determine ways to improve effectiveness and efficiency. Each team established an accurate, detailed flow of its processes, and these were analyzed to determine the steps that could be eliminated, combined, or improved. Similarly, flow charts showing physical movement of personnel, hardware and/or documentation were used to highlight inefficiencies.

One of the first successes was the establishment of a new Circuit Card Assembly (CCA) Preparation Room. Following the relocation of a new wave solder machine to an area adjacent to the CCA assembly area (to improve the flow), the assembly team designed the new Preparation Room, and implemented the

changes. The result is fewer operations (52 to 35), fewer decision points (14 to 3) and a 70% reduction in distance travelled.

Similar process analysis is taking place within the Purchasing, Production Control, Production Engineering, Material Control, Quality Assurance, Test, and Repair Departments. The Test and Repair Teams recently implemented new layouts which have reduced distances travelled by approximately 30%. These improvements in flow reap tangible results, with CCAs now being produced in less than five days (an 80% reduction), with turnaround time for repair assets at less

than thirty days (a greater than 50% reduction).

The philosophy and success of Process Improvement Teams centres on individual participation, responsibility, empowerment, and ownership. By establishing metrics, the teams set baselines of performance. By monitoring progress, Atlanta's continuous improvement initiative is being validated.

*CCA assembly process improvement team, (l-r) Mike Curtis, Sinus Gloster, Billy Lowe, Song Herrington, Mattie Tolbert, Rita Wood.*



## GEC RECEIVES MAJOR SUPPORT CONTRACT

### Test Programmes for United States Air Force Gunships

GEC-Marconi Avionics, Inc. has been awarded a contract for the supply of Test Programme Sets (TPS) for the AC-130U Gunship's All Light Level TV (ALLTV) system,

The ALLTV is a turreted multi-sensor target location/ weapon aiming system used on USAF Special Operations Forces Gunships. The TPS will provide the USAF maintenance crews with deployable intermediate level automatic fault finding and diagnostic capability for the ALLTV. The multi-million dollar contract, is for engineering

development, four production sets of TPS, and a comprehensive Integrated Logistics Support package. The programme will be performed over a period of three years, and will be completed with the assistance of GEC-Marconi Sensors Ltd, manufacturer of the ALLTV turret, and GMAV's Support Division.

GEC-Marconi Avionics Inc. is a supplier of support equipment and services for a wide range of systems currently in US Air Force, Navy, and Army service. The Company is also developing a global first line support operation for equipment in commercial airline service.

## ROCHESTER'S PROCUREMENT AUDITS

Two United States Government audit teams, led by Steve Shea and Dick Cohen, undertook audits of the Rochester Procurement organisation.

As a result they recommended that system approval for GMAV (Rochester) to purchase against US Government Contracts be given.

Les Prettyjohn, GMAV's Procurement Manager at Rochester, is seen in the accompanying photograph receiving the congratulations of Lynn Schornak, United States Government Contracting Officer based at the Rochester facility.



## Support Division (Rochester) Completes 777 Delivery

Following the integration of test equipment, for the production testing of the GEC-Marconi InFlight Entertainment system at Broad Oak Works during 1995, the programme has moved into the support phase.

Support Division (Rochester) has successfully completed the first of two support equipments for the Cabin File Server (CFS) and Double disc Drive Unit (DDU) (parts of the 2700IK Interactive Video System) to be operated by both United Airlines and British Airways - part of an overall test capability being provided by Support Division in both Rochester and Donibristle.

A second system will enter service at Rochester later this year in support of British Airways' 777 InFlight Entertainment system operations in Europe.

A network of support engineers has been installed around the airports where United Airlines' and British Airways' 777s are operating.



# GAME ON!

July saw the gripping finals to the GEC European Business Game 1994-95. GMAV Rochester was represented by a team from Flight Systems Group Production who came third overall, with less than five points separating the top three teams.

Captained by Paula Kenney, Production Project Manager, the FSGP team comprised Ross Bell, (Materials Controller), Tim Bevan, (Senior Estimator), and Tony Henwood, (Production Project Leader). The Team Advisor and Mentor was Lee Tribe, (Purchasing Manager), who also attended the Finals.

A computer - based challenge, The European Business Game is organised by the GEC Management College at Dunchurch. In the 1994-95 Game, 31

teams of up to five "Directors" managed simulated manufacturing companies for a notional trading period of over a year. They had to agree sales prices, research investment, target production and similar details and then fax their decisions monthly to the Dunchurch computer.

Points were calculated according to the success of these decisions in relation to those made by the other teams. They were summarised in a total points score, based on the ratio of profit

made to capital employed, which is one of GEC's primary measures of business success. At the end of the first seven decisions, the five teams with the highest points went into the Final, played off over a weekend at Dunchurch.

Unfortunately for this year's finalists, the weekend (30 June to 2 July) saw temperatures soaring to 30°C in the shade outside! That was nothing compared to the temperatures inside, especially when FSGP's shrewd bargaining in the Pay and Conditions stage forced the other teams into a re-negotiation.

The Team's Sponsor Fred Wickham, Assistant General Manager of FSGP, attended the prize giving ceremony and presented them with engraved pens. Apart from practising their team work and commercial decision making, the Team declared they had learnt 'loads' about making money!

**Flight Systems Production Business Game Team and supporters**  
(l to r) Tim Bevan, Ross Bell, Paula Kenney, Tony Henwood, Lee Tribe and Fred Wickham.



## GEC-MARCONI AEROSPACE 1995 VENDOR AWARDS

Following-on from last year's successful introduction of an annual Vendor of the Year Award, this year's winners were presented with their Awards in June.

Selection was based on suppliers' overall consistent performance during the last twelve months.

Having established the building blocks in 1993, Titchfield's dynamic Vendor Performance Rating System has received only minor adjustments to the criteria originally laid down. Empha-

sis is placed upon quality and delivery. As most suppliers are progressively raising their standards, this year's selection was made more difficult than in 1994. This resulted in an effective closing of the vendor rating gap which originally existed across the Company's supplier base.

Suppliers are grouped by commodity type to enable awards to be made across the purchasing spectrum. From a short list produced, via the Vendor Rating System, the 1995 winners are Lipco Engineering Ltd (Machining),

Haworth Castings Ltd (primarily Avery Hardoll), Farnell Electrical Components Ltd (Proprietary) and Orion Components Ltd (category-Other).

Before the presentation ceremony the successful companies were given a comprehensive works tour and lunch hosted by Nick Franks, Divisional Managing Director.

**The accompanying photograph shows the four winners with Directors and members of the Purchasing Department.**



## Flight Systems Division achieve BAe Preferred Supplier status

GMAV's Flight Systems Division has achieved a Bronze rating for the Business Assessment section of the BAe (MDA) Preferred Supplier Process.

The award was made after a business review at Rochester during July 1995. The review, which covered all aspects of the FSD business, was performed by a team of ten assessors from BAe, led by Mark Greenhalgh.

The business assessment is the first step to becoming a Preferred Supplier to BAe and reflects the high standards and commitment to Continuous Improvement within the Division.



FSD is already a Bronze Level Supplier to McDonnell Douglas and recently achieved the Silver Delivery/Quality rating as a first step to being upgraded to a Silver Level Supplier.

**Mark Greenhalgh, BAe (right) presenting a framed picture to Keith Snelling, Flight Systems Division following the successful completion of the business assessment.**

## GEC-MARCONI HELPS ROYAL MAIL LAUNCH NEW STAMPS



**(L-r) John le Marie, William McKenna and Clair Morton pose in Donibristle EMC Test Centre's anechoic chamber, with facsimiles of the Marconi and Sir Rowland Hill stamps.**

On September 5th, staff from Support Division's Donibristle site helped launch the Royal Mail's new stamps, honouring pioneers of communication. Portraits of Guglielmo Marconi and Sir Rowland Hill, the 'inventor' of the postage stamp, featured on the new issues.

A photocall was held in the anechoic chamber of Donibristle's EMC Test Centre, where GMAV employees John le Marie and Clair Morton helped postman William McKenna, (who was dressed in 1860s uniform) display giant enlargements of the stamps.

## Pioneering Acoustic Tester Success

GMAV's Test Systems at Donibristle has recently completed a \$600,000 contract to supply a turnkey acoustic dry test system to Westinghouse Oceanics, Maryland, USA. The Company has applied their pioneering technology to meet the requirements of the Westinghouse production line of high power, low frequency transducers for the US Naval Department (NAVSEA), Washington.

Underwater acoustic transducers have previously been tested whilst submerged in water. However, GMAV's unique system, which simulates the acoustic characteristics of water, enables testing to take place at the production site, without the need to visit specialised water test facilities. As a result, manufacturing throughput times and costs are significantly reduced and the technology can also be applied to the evaluation of torpedo and sonar arrays.



Jeff Lucente, of Westinghouse, has managed the introduction of this unique production test capability and acknowledges the significant cost and technical advantages afforded to his Company, in terms of throughput and enhanced test capabilities.

**Programme Manager Jeff Lucente of Westinghouse (right) and Norman Middleton of GMAV mark the successful completion of the turnkey Acoustic Dry Test Contract.**

# Avery Hardoll Orders

## HYDRANT PIT BOX ORDER FOR MALAYSIA

Avery Hardoll Fluid Management's new Environmental Hydrant Pit Box (GBMY5000) has been ordered for the new Kuala Lumpur International Airport at Sepang. This latest order for 244 units follows orders from Stansted, Brisbane, Rome and Milan Airports.

Introduced in December 1994, the GBMY5000 was

designed with environmental protection very much in mind. The Pit Box provides positive sealing against fuel spillages in the pit whilst, at the same time, absorbing both lateral and vertical movement caused by ground settling after installation.

## LAUNCH OF NEW METER RANGE

Avery Hardoll Fluid Management, a world leader in positive displacement flow meter technology, has also

announced the introduction of their new range of Bulk-meters. Designated the CM SERIES, these units are ideally suited to any electronic meter controller or may be supplied with mechanical calibration and registration. This new range of Bulk-meters is the first step in an ambitious plan to expand and develop the Avery Hardoll product range to meet the changing demands of the worldwide metering market.

## Army Takes Delivery of 100th GEC-Marconi Avionics' Test System

Brigadier Liam Curran, Director of Equipment Support 3 for the British Army, recently visited GMAV's Support Division facility at Donibristle, where he took delivery of the 100th Clansman Radio Test System. The presentation was made by General Manager Dave Croft.

The Test System, part of an order for 240, is fully ruggedised and can be vehicle-

mounted for deployment wherever the Army operates. One system is able to support a complete set of seven Clansman radios plus ancillary equipment.

Trusted by Army ground personnel, the Test System is a very flexible automatic test equipment and forms the mainstay of support for Army battlefield radio communications.

Brigadier Curran spent the day at Donibristle and was

given a guided tour of the production facilities. He was particularly impressed by the effort and commitment being made to meet the demanding delivery timescale of 21 months for all 240 systems.

Scheduled for the autumn 1995, the final delivery will mark the end of one of the largest volume deliveries of Automatic Test Equipment to the UK Armed Services.



Brigadier Liam Curran with General Manager Dave Croft (facing camera) on his tour of Test Systems at Donibristle.

## GEC China Scholarship Scheme

Madame Hou Man recently visited the UK as a guest of GEC-Marconi and during her visit spent several weeks learning about GMAV's products and capability with a view to establishing future business links.

Working as a Senior Engineer for the Chinese Aero - Information Centre (CAIC), Madame Hou has been selected by Bob Thomas, Managing Director, GEC-

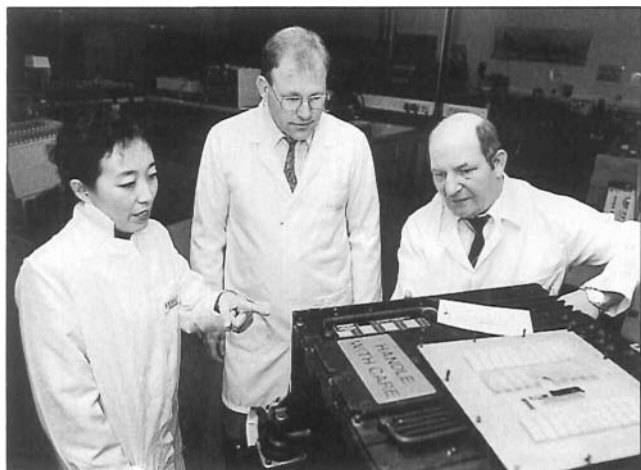
Marconi China, and Simon Keith, GEC-Marconi Regional Marketing Director - Asia Pacific, as being someone who could influence these business links. During her stay she visited GMAV's Rochester, Edinburgh, Milton Keynes and Titchfield sites, and also to GEC-Marconi Sensors at Basildon.

The GEC China Scholarship Scheme was established

in 1991 after a meeting between Lord Weinstock and Chinese Ambassador Ji Chao Zhu. It provides 8-12 scholarships a year for Chinese Managers from GEC customers and potential customers to visit the UK for 3 months to see our products, capabilities, working methods and to establish Business links.

This is part of GEC's long term marketing strategy for China and is supported at the highest levels of GEC, GEC-Alsthom, GEC-Marconi and GPT with both Lord Prior and Peter Gershon taking a personal interest. GEC-Marconi HQ has been involved in the selection of both Madame Hou and the Chinese organisation for which she works.

Paul Dennis (centre), and Nick Nicholson describe the Position and Azimuth Determining System (PADS) to Mme Hou at Support Division, South Gyle.



## FOXHUNTER ESTABLISHED IN ITALY

As part of an MoD agreement to lease twenty four RAF Tornado aircraft to the Italian Air Force, Radar Systems Division at Milton Keynes has established a full Foxhunter system testing facility at Gioia del Colle in Italy.

The accompanying photograph shows Bill Morgan (Milton Keynes), with Captain Cavaliere and other members of the Italian Air Force who will maintain Foxhunter, in front of the containerised test solution.

Also present are the MoD's Italian Tornado Lease Project Team, representatives from the RAF Support Management Branch and GEC's installation team. When a building is made available, Milton Keynes' engineers will re-site this test facility and set up additional units.

A Field Site Representative is now available to assist in the programme and establish training courses.

Currently, two aircraft have been delivered on the lease programme to Gioia del Colle with a further ten due by December 1995. The next twelve aircraft will be delivered to the Italian Air Force, based at Cameri (near Milan), by the end of December 1996, where Milton Keynes engineers will set up further Foxhunter test facilities.



## Visit to DSG(E)

Mr Yoon Jong-Ho, Second Assistant Minister of Defence, Republic of Korea recently visited Display Systems Group, Edinburgh whilst in the UK. On behalf of GEC-Marconi the Group hosted the visit at their South Gyle site.



The accompanying photograph shows, Yoon Jong-Ho (front centre) with John Lamie, Acting General Manager at DSG(E) seated (to his left) and Mike Sweeney (to his right).

## GMAV COURTS ELOISE

ELOISE is a co-operative programme by Marconi SpA, Italy; Dassault Electronique, France; Carl Zeiss, Germany and GMAV, UK - all world leaders in design, production and support of military electro-optic, laser radar and avionic systems - to produce a helicopter borne laser radar modular Obstacle Warning System (OWS).

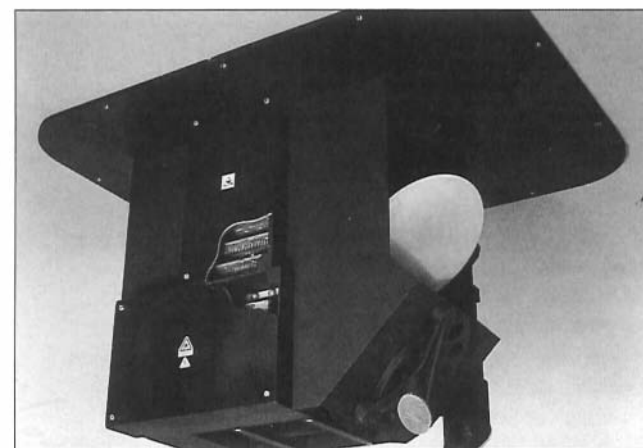
It has been developed to meet the functional and technical requirements for a helicopter borne sensor to improve safety during training and operational flying, and to give the aircrew improved confidence in poor weather conditions.

ELOISE detects obstacles around the flight trajectory and provides a timely warning to allow an effective avoiding manoeuvre. In particular, it

can detect 'wires' and 'extended objects', critical during Nap of the Earth (NoE) operations. In addition, despite being an active sensor, it is stealthy.

The Consortium's initiative in developing a low cost mod-

ular approach to the OWS requirements has resulted in the flexibility to offer a base level stand alone system or to customise the system to meet individual customers' most stringent requirements.



Full-scale mock-up of ELOISE Laser Obstacle Warning System for helicopters.



## Titchfield Breaks Into Torpedo Market

GEC-Marconi Aerospace at Titchfield has won an order to manufacture the electrical alternator for the Spearfish Torpedo. Driven by a turbine engine, the alternator supplies electrical power to the Torpedo's on-board electrical systems.

The alternator comprises three separate generators built into one housing and requires a total of nine separate wound components, as illustrated in the accompanying photograph. The construction is very similar to other GEC generators designed and built at Titchfield for the Challenger tank and the BAe146/RJ series commuter aircraft.

These machines use oil, sprayed through nozzles, to cool the electrical windings -

this leads to a higher power-to-weight ratio than air cooled or conduction cooled machines. Most of the machined and wound components will be made in-house at Titchfield, fully utilising the Company's strong machine manufacturing capability.

Following the initial two years production qualification phase, the design authority will be transferred to Titchfield. The product will then be supported by a Post-Design Service contract.

Worth in excess of £4m, this make-to-print order will both help keep Titchfield busy into the next century and complement the wide range of electrical machines currently manufactured for the aerospace and defence markets.



Machine and wound components, manufactured in-house at Titchfield for the Spearfish electrical alternator.

## Jungle Experience for Sponsored Student

As a precursor to becoming a sponsored student on a BSc Mechanical Engineering Course at Southampton University, Titchfield's Nick Williams took part in the Raleigh International Expedition to Belize from February to July this year.

Having undergone and successfully completed exhaustive selection tests in the Autumn of 1993, Nick raised the necessary £3,000 for the expedition by organising car boot sales and sponsorship.

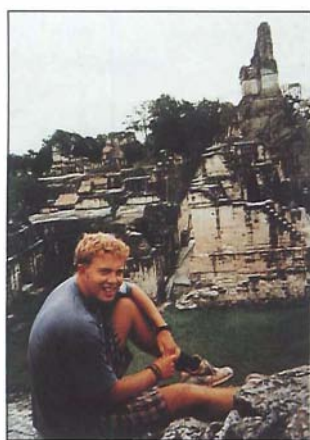
Raleigh International Expeditions are designed to build character, to develop team participation and team leadership qualities, and to provide practical help on development projects in Third World countries. The Expedition to Belize was no exception. Whilst there Nick, with 15 other like-minded young men and women, tackled four projects.

The first was to build a Health Centre, (the only brick building), in a remote village in the south of Belize, San Lucas. The second involved cutting trails and constructing a bridge

in the deepest rainforest of the Cockscomb Basin Jaguar Reserve. The final two projects focused on diving surveys and conservation of the Belize Barrier Reef.

Life on the Expedition was very basic. Everyone had to perform designated chores and Nick was no exception.

However, some leisure time was available, too, and offered the chance to ascend a mountain and view the Mayan civilisation ruins.



A moment of relaxation for Nick in the Mayan ruins.

## RAF Receives The Last Restored Hurricane Fighter LF 738 is the last of the few.

At a ceremony at Rochester Airport, on 28 June, the last of the few "gate guardian" Hurricane fighters available for restoration was handed over to the Royal Air Force. Hurricane LF 738, which has been restored to display standard at Rochester, was received on behalf of the RAF Museum by Air Chief Marshal Sir Michael Alcock, KBE, CB, Air Officer Commanding-in-Chief Logistics Command.

GMAV acted as host to distinguished guests from the RAF and the local community. Air Marshal Sir Donald Hall, RAF ret'd, of GEC-Marconi, made the presentation on behalf of Medway Aircraft Preservation Society (MAPS), which restored the aircraft. Restoration took two and a half years to complete, some 20,000 hours of effort and in excess of £18,000 of sponsorship funding.



Official Handover at Rochester Airport, to RAF Museum.

MAPS, a small non-profit organization, comprising about 40 members of the Medway Branch of the Royal Aeronautical Society, has now restored the RAF's last two Hurricane "gate guardians".

The other is on public display at RAF Manston's Battle of Britain memorial, alongside a MAPS-restored Spitfire.

It was fitting that LF 738 should be returned to the RAF

at Rochester in the year of the 50th anniversary of VE Day.

Now, as an RAF asset worth many times its cost of restoration, it will leave Rochester to go on display at RAF Cosford.

## Chinese Delegation at Milton Keynes ...

A senior delegation from the Peoples' Republic of China recently visited several GEC-Marconi sites in the UK.

After the contract award to demonstrate the performance of the Super Skyraider radar in the Chinese J-7, the delegation from AVIC Institute in the Peoples' Republic of China (PRC), led by Mr Liu Xianglin - fifth from right in the accompanying photograph - visited Milton Keynes during September to discuss the progress on the radar development programme. The Project Manager for Super Skyraider is Peter Anderson-Dixon - third from left.



Messrs Li, Chang, Wu, Zhao and Zheng, pictured at Milton Keynes' Social Club.

## ... And Chinese Thanks

Messrs Li, Chang, Wu, Zhao and Zheng of the AVIC Institute PRC are attached to RSD Milton Keynes, and collaborating with GMAV's engineers in the development of the Super Skyraider radar demonstration model.

Having settled into their work very well, with a laboratory, office area and computer network at their disposal, they

have expressed their gratitude for the help received in finding accommodation, connection to services and shopping etc. They also wish to thank the Sports and Social Club for the complimentary tickets and a splendid evening's entertainment recently when they enjoyed the 'Brothers Lee' performance at the Social Club.

## STATION COMMANDERS' COMMENDATIONS

RSD's Field Service Representative Colin Smith has left RAF Leeming to participate in the Italian Lease project. Prior to his departure Colin

was awarded the Station Commanders' Commendation at Leeming for his dedication to work, during the past five years.

At RAF Sealand, Field Service Representative Richard Bixley has also been awarded a Commendation and he has now replaced Colin at RAF Leeming.



Colin, receiving the Station Commanders' Commendation.



### PARIS - BREST - PARIS

Five GEC-Marconi Avionics employees from Edinburgh joined 2960 cyclists from all over the world, including 185 from Britain, to take part in the Audax Cycle Ride from Paris to Brest and back to Paris. First run in 1891, this Event now takes places every four years. The challenge is to complete 1200km, 750 miles, within 90 hours, including eating and sleeping, and any punctures!

To take part, four qualifying events must be completed. In Scotland, one of the qualifying events is the Daylight 600, from Edinburgh to Ardnarmurchan via Glencoe, a route which passes through some wild and rugged country.

The French countryside is gentler and more populated than Scotland, though the route climbs to a high point of 350 metres, well over a thousand feet above sea level. The Audax Club Parisien, who organise the event, provide a control point at approximately every 50 miles with good French catering and often a local bike repairman on duty. 90 hours does not allow a lot of time to stop, but cycling uses energy which must be replaced along the way.

The first man home took 43 hours. The GECmen were not as quick, but Charlie Scott arrived in 84 hours, for which he had been awarded the RR Trophy by the Cycling Club. Alistair Pugh and Rod Dalitz arrived in 86 hours, and Alan Pringle and Dave Briggs finished in 87 hours.

Will they be back in 1999? "It was an amazing and exhilarating event, with an atmosphere and international companionship I will always remember. I would love to have the chance to have another go", said Rod, and the others nodded in agreement.



The five GMAV team members.

### REG TAKES RETIREMENT LYING DOWN WHILST IAN PLAYS BOWLS!

Two retirements from Donibristle were recently marked by presentations at the site.

Reg Cottis, Technical Support Manager for Test Systems, Donibristle, retired on June 30th after 41 years service with GEC, having joined Elliott Brothers as an Engineer in 1954.

Friends and colleagues joined Reg and his wife Barbara at the presentation of a set of garden furniture by Donibristle's General Manager, Dave Croft. Reg's friends and colleagues also presented him with a crystal wine decanter and matching glasses.

Reg's plans for retirement include endeavouring to become a better organist, lots of walking and looking after his garden.

The second retirement on the same day was that of Ian Jarvie, Procurement Controller at Donibristle. Operations Manager Denis Toon presented Ian and his wife Margaret with a set of bowls, - for crown green bowling - a hobby they intend to pursue during retirement.

Reg and Barbara, Ian and Margaret are wished a long and happy retirement.



Dave Croft presents Reg with his garden furniture, watched by friends and colleagues.



Denis Toon presents Ian Jarvie with a set of crown green bowls to mark his retirement.

### CONGRATULATIONS!

**Congratulations to all at Milton Keynes who have passed exams and courses this year.**

*Diploma in Management Studies:*

**Martin Butler**  
**Ossie Connolly**  
**Chris Hardaker**  
**Mark Humphrey**  
**Raj Parmar**  
**Tony Pugh**

*Diploma in Management of Design:*

**Conroy Brown**  
**Shane Rouse**  
**Andrew Walton**

*Other Studies:*

**Paul Anfield:** Effective Management module of his Certificate in Management Studies.

**Julie Brand:** IPD Examinations, first year.

**Bob Brewer:** BTEC module in Computer Programming.

**Norman Corrin:** completed, with distinctions, a BTEC National Certificate in Computer Studies.

**John Litchfield and Angela Drury:** both completed CIMA qualifications.

**Robert Edwards:** Year 3 of a part-time BA(Hons) degree in Business Studies.

**William Fleming:** Effective Management module of his Certificate in Management Studies.

**Ajinda Gawera:** Open University module in Software Design and Pascal.

**Paul Gibbons:** Engineering Council Examinations.

**Tony Gruber:** Open University module in Software Design and Implementation in Turbo Pascal.

**Jonathan Haiselden:** Year 3 of a part-time BA(Hons) degree in Business Studies.

**Bikhu Patel:** Computer Architecture and Operating System module of his Postgraduate Diploma in Computing for Commerce and Industry.

**Gio Soave:** Open University module in Project Management.

### Mountaineering Club

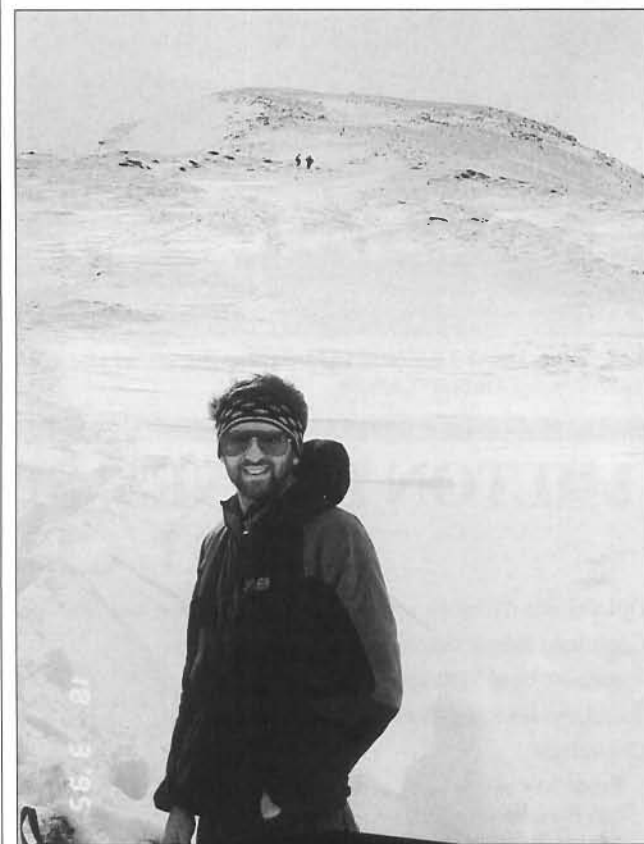
The Mountaineering Club, through this edition of VISION, wishes to illustrate - with photographs - the range of people interested in the Mountaineering Club, both young and the not quite so young!

Earlier this year the Club celebrated its fortieth anniversary. The now traditional climb of Ben Vorlich (Locheearnhead) was followed by a Dinner/Ceilidh attended by 82 people of all ages, several of whom were involved in the Club's early days.

Ben Vorlich was the first mountain to be ascended by the Club back in 1955. In those days cars were a rarity - many trips used a borrowed mini-bus or a Company land-rover. The poor roads - many single track - made trips considerably more time-consuming than today.

As can be seen in the photographs a hot drink - or, for non-drivers, a dram of something stronger - was essential on arrival at the summit.

Continued on page ii



Bob Campbell, on the final approach to Ben Vorlich.

(L-r) New 'recruit' Andrew Roscoe, John Nuttall and Club Secretary Andrew Haswell.





Continued from page i

The Dinner/Ceilidh was held in Edinburgh's Roxburghe Hotel, with members and guests having a choice of good food; followed by slide presentations on the Club's history. These were given by Bridget Hopkins (*The Early Years*) and Brian Shackleton (*More Recent Walking/Climbing Achievements*). The celebrations went on to 01.00am, with

music provided by the Forth Bridge Ceilidh Band.

The normal Club activities continue - new members of any age are welcome on its Weekend Meets. Full details are available from Andrew Haswell, (Club Secretary) Tel: Ext. 4708 or 0131-336-5092. Alternatively, if you would like to discuss the Club and its activities in detail, please telephone Keith Cocks at Crewe Toll, on Ext. 4585.



At the summit, Treasurer, Tony Kinghorn can be seen with the flask; in the foreground is Brian Shackleton - past President of the Club.



President, Mark Litterick, addressing guests at the 40th Anniversary Dinner/Ceilidh.

## MILTON KEYNES' SPORTS AND SOCIAL CLUB

### Officers and Committee

Chairman: **Roger Garrini**

Treasurer: **Paul Wilkins**

Secretary: **Richard Turner**

### Committee:

**Trish Allum**

**Ian Birkett**

**Albert Daglish**

**Terry Donovan**

**Owen Earl**

**Kevin Harris**

**Dave Lawrence**

**Andy Swan**

**Jenny Watson**

Again the Sports and Social Club has enjoyed a programme of successful events.

A Caribbean Night was held on September 1st. Held in the Clubhouse, it was a sell-out - an excellent event - with the profits benefiting the Club. Other functions included a Country and Western Evening; a Cabaret Evening with the Brother Lees; the traditional Guy Fawkes Bonfire and Disco and a Hypnotist.

Additionally, several theatre trips were organised and included Copacabana, Miss

Saigon, Grease and Starlight Express.

A series of events has been organised for Christmas and into the New Year.

These are the dates for your diaries:

### 1995

16 December

Christmas Special; Bryn Peters and dancing to Clever Little Wings. Magician - Neal Austin.

31 December

New Year Disco.

### 1996

February

'Thank-you Evening', with singer and impressionist, for those who have supported the

Club. [Admission free to those who have attended five previous events and collected vouchers].

### March

Cabaret, with the 'Rockettes' Rock and Roll Band.

### March

Comedian joins Alan Mullery for a Sports Evening.

It is hoped to host a 60s Evening in 1996, to include entertainment by a 60s group. Promoted by London agent Wally Dent, the group will be selected by a system of voting by attendees at other functions - via nomination forms located on tables.

*Please continue to support your Social Club.*

## AN INVITATION TO ALL SOCIAL CLUBS

Why not ask your Committee to organise a night out in 1996 to see one of our shows? As you can see (in the main paper) some of our guests have travelled from as far away as China to see them! Come on Social Club Secretaries, contact Jenny on our switchboard for information on forthcoming shows.

**WE HOPE TO SEE YOU IN THE NEW YEAR.**

# IT'S A KNOCKOUT!

On a glorious August afternoon staff from South Gyle and Donibristle gathered in a field in Fife to test their skills at being covered in foam, drenched with water, and slithering about on large inflatables.

Why? It was an 'It's a Knockout' Contest arranged between twelve teams from the two sites. The eight members of each team took the challenge and gave their 'all' in the name of fun.

Some claim it seemed more fun to watch than to take part, but everyone agreed that it

## Blood Donors

At a three-day Blood Donor Session, held at Crewe Toll in August, the following supporters were awarded badges:

Bronze Award (10 Donations)

**Ross Anderson**

**Fiona Arthur**

**David Crawford**

**Jillian Hogg**

**Dennis Jubb**

**Robert Miller**

**David Morrison**

**George Ramsay**

Silver Award (25 Donations)

**George Allan**

**Ronald Blane**

All donors were warmly thanked for their magnificent effort. A total of 225 employees attended the Session and 211 donated. There were 10 new donors.

*Well done!*



was a very successful event, made all the better by the high temperature and brilliant sunshine.

The winning team was captained by South Gyle's Karl Dorman and included Pauline

Cairns, Debbie Watt, Howie Stansfield, Steven Rayer, Brian Ogg, Ewan Sandison and David Jones. The winning team's prize turned out to be small beer - literally; one can of ale between them!

▲ **Karl Dorman and his winning team display their plaques at the end of a hot afternoon's tournament.**

▼ **Fun with foam!**



## Charity Raffle, MK MIND

A Raffle was held recently in aid of MK MIND and, in particular, the Farthing House Counselling Centre in Netherfield.

A total of £375 was raised by the Raffle, a kind donation of £150 from GEC-Marconi Avionics brought the final total to £475.

Many thanks to all those who supported the Raffle, especially the Milton Keynes Sports and Social Club which donated the First Prize of £50.

The cheque was handed over by Bill Morgan to Mrs June Hudson, Administration Manager of MK MIND, and Representatives from Farthing House.





## WHO NEEDS THE CHANNEL TUNNEL ?

Harry Whitford, who has worked for 18 years in MFD, took up the Swim Fit "Channel Challenge" 1995.

Between 17th - 21st September he completed four 22 mile swims held on the King George V Reservoir at Chiswick, West London. Swim Fit, sponsored by the Amateur Swimming Association of Great Britain and Northern Ireland, set up the 88 mile Gold Challenge as part of charity fund-raising for the Multiple Sclerosis Society, Childline and the Paraplegic Olympics.

Earlier in the year Harry warmed up with both 2500 and 5000 metre timed swims in the Fareham pool.

To crown a successful year, Swim Fit awarded him the Swimmer of the Year Cup.

When asked what he did to relax, Harry said that he enjoyed the pier-to-pier swim at Southsea, as well as a leisurely splash across the Solent from Southsea to Osborne House on the Isle of Wight.



**Harry Whitford, with cup and medals.**

## Apprentice of the Year



Neil O'Donnell is shown here receiving the Apprentice of the Year Award.

Neil, a Technician Apprentice who joined the Company in 1991, has just gained his HNC in Manufacturing and Design Engineering. He is currently working for the Jig and Tool Section of Industrial Engineering and hopes to join this team on the completion of his apprenticeship in the Autumn.

*Well done Neil.*

**Neil (centre) receiving his Award from Manufacturing Director Barry Capp (left). George Batho, Personnel Manager, is also pictured (right).**

"On the 24th of June I arrived at Washington Dulles Airport, for the last leg of my journey home from holiday in California, to find that I would be travelling on one of United Airlines' new Boeing 777s. Having boarded the aircraft I was pleasantly surprised to see how much more room there is in comparison to other aircraft.

As the pilot applied thrust to the two engines for take-off it was noticeably quieter than other twin-engined planes. The smoothness was striking as well, especially on take-off.

Watching the in-flight movie is made easier on the 777 as televisions (supplied by GEC-Marconi) are fitted to all seat backs, and I settled down to watch the film. However, my journey on the 777 was not uneventful. Approximately one hour into the flight the following

## FLIGHT UA 918



announcement was made: "I am sorry to inform you that, due to crew illness, the plane will be returning to Washington or diverting to New York".

Unfortunately, we had to return to Washington where, on

arrival, we were confronted by Paramedics and Fire Crews who were waiting to remove the sick crew members.

We disembarked so that service checks could be carried out to confirm that it was not a plane fault that had caused the illness. The plane was then cleared for take-off and we set off once again for London. With a total delay of some five hours I slept most of the way home, missing the film!

I would definitely recommend flying on a 777 to anyone who wants to experience modern technology combined with in-flight comfort.

United Airlines currently fly 777s from London to Washington and Chicago".

*Alaster Parry*



**In a spacious cabin United Airlines' 777 Economy Class seats are among the widest in the world.**

## Congratulations Trudy & Stuart

The wedding of Trudy Stanley and Stuart Rice was something of a special event for the Titchfield site. Trudy, now working as a Project Engineer in Industrial Engineering, was formerly a Company Sponsored Student in Mechanical Engineering. Stuart, now working as a Reliability & Logistics Engineer in Customer Support, served as a Company Technician Apprentice.

They first met in late 1991 whilst Trudy was on a training attachment to Customer Support. The romance flourished throughout both Trudy's training at Titchfield and her academic years at Brunel University. In January 1993 Stuart, ever gallant, 'popped the question' and many work colleagues and friends attended the wedding at



St John's, Locks Heath on Saturday, 16 September. They honeymooned on Lake Garda in Italy visiting, of course, the romantic cities of Venice and Florence.

Congratulations and good wishes go out to both of them. They, in turn, thank all those who contributed to their presents and to those who made their Wedding Day a memorable one.

## Christmas 1994 Remembered



**Cheque Presentation, 1994.**

At the annual Christmas Luncheon 1994 of the GEC-Marconi Aerospace Retirement Association, held at the Woodcroft Tower Hotel, Bournemouth, a cheque for £425 was handed to R. Betts, Chairman of the Association by Brian Wilkes - the then AEEU Senior Shop Steward.

The money generously given by GEC Employees in a

Raffle organised by the Union helped the welfare and other activities of the Retirement Association.

On behalf of all the retired members, the Chairman thanked all GEC employees for their kindness - hoping, no doubt, that the generosity will be repeated for Christmas 1995. **So please dig deep in those pockets!!**

## SOCIAL CLUB

### DATES FOR YOUR DIARY

Dec. 8 Dinner Dance at Thorngate Hall.  
Dec. 15 Christmas Draw and Party Night.  
[The Club will be closed Dec. 22-31]  
Dec. 31 New Year's Eve Party.

### Regular events:

Weds Keep Fit - 5-6pm.  
Thurs Quiz Night.  
Fri Meat Draw.

## Obituaries

*Deepest sympathies are extended to the families of:-*

### Dave Taylor

Dave passed away suddenly on 18 June 1995 after 27 years service with the Company. He will be missed by all his friends and colleagues at Titchfield.

### Jack Bland

Jack regrettably lost a long battle with Leukaemia on 1 July 1995 after 29 years service with the Company. His fortitude was admired by all those who knew him.

## Welcome to the Business

*The following people have joined the Company in recent months:*

*May*

**Susan Parsons** - Financial Accounting Analyst.

**Colin Wylie** - Temporary Security Officer.

*June*

**Yvette Smith** - Secretary, Industrial Engineering.

*July*

**Catherine Stewart** - Commercial Assistant.

*August*

**Jayne Briggs** - Data Control Clerk, Finance.

**Vicky Booth** - Sales Assistant, Commercial.

**Rebecca Snape** - Clerical Assistant, Customer Support.

*September*

**Dameon Walker** - Design Draughtsman, Engineering.

## RETIREEES

*The Company wishes a long and happy retirement to all retirees who left in:*

*April*

**Dave Mengham** - (Disability) Machine Shop.

*May*

**Len Harris** - Commercial.

**Molly Winkless** - Commercial.

**Peter Flynn** - Technical Publications.

*June*

**Bob McLaren** - Inspection.

**Dennis Stokes** - Engineering.

**Joyce Blackhurst** - Finance.

*July*

**John Goddard** - Marketing.

*August*

**Mick Dimmick** - Site Services.

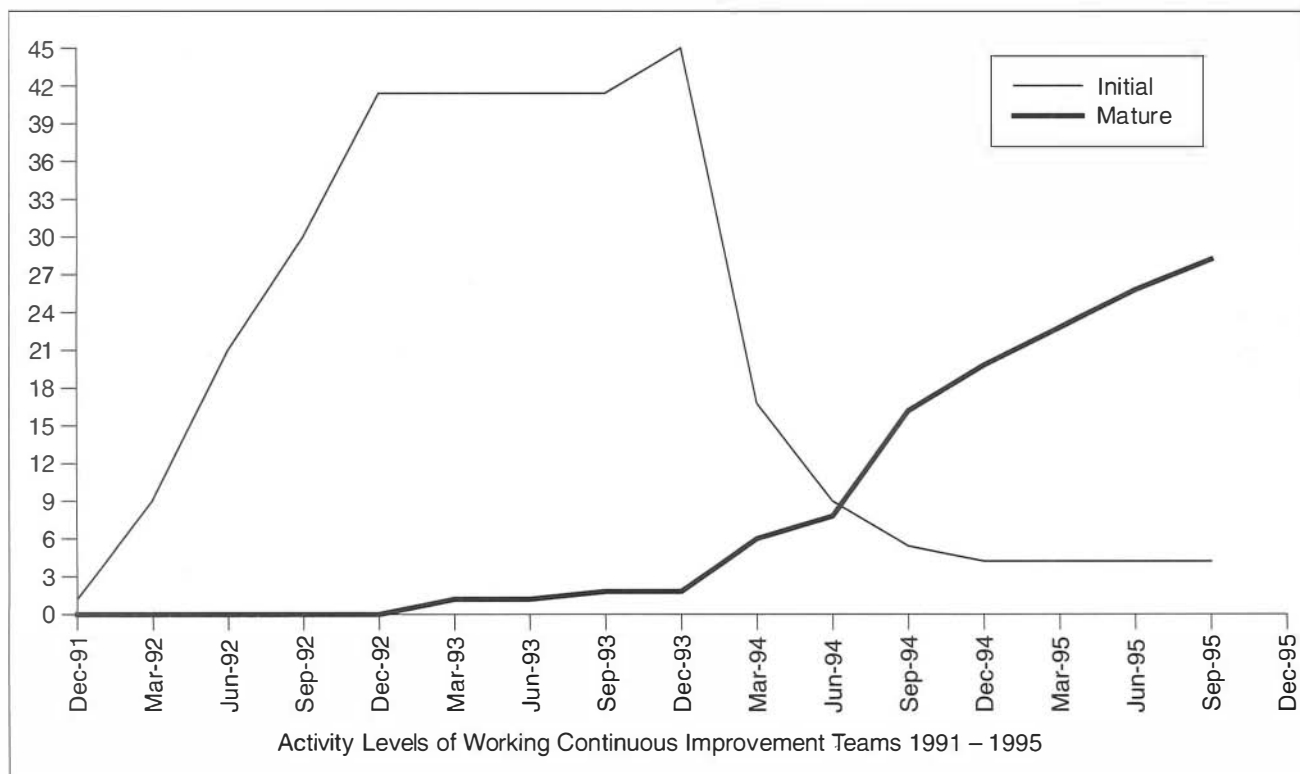
*October*

**Dennis Hawkrige** - Machine Shop.



# TEAM NEWS

## CONTINUOUS IMPROVEMENT MOVES INTO THIRD GEAR



In the last *TEAM NEWS* we provided some background on the brief history of the development of Continuous Improvement activities at Titchfield.

The message was clear that we have progressed along with more emphasis in 1995 placed on the involvement of shop floor CITs. These teams are learning, for the first time, the importance of understanding the usefulness of Continuous Improvement tools such as Cause and Effect and Brainstorming Sessions.

Some of the problems identified were inherent to the systems and were obviously going to take time to pursue. Other problems could be solved simply by the groups themselves without outside help. These type of problems tend to generate a feeling of ownership and they usually become the most rewarding for the teams.

Since establishing the Manufacturing CITs in late 1994, progress has been monitored by managers reviewing minutes of meetings and by top management attending review meetings.

The graph shows activity levels of all CITs since the initial venture into Continuous Improvement in late 1991. In March 1994 some management re-structuring took place, along with an

audit of working teams remaining at this point. These remaining teams formed the beginning of the venture into using CI at a more MATURE level of understanding.

In order to survive in the increasingly difficult and competitive world of aerospace business many companies are constantly looking for ways to improve. During the latter part of 1995 a more dynamic approach to resolving some of Titchfield's specific problems has been planned. This will result in creating a third phase of Continuous Improvement.

From new information, some of which was generated from the work of teams during 1995, new teams will be formed and progress formally reviewed by a new Review Group.

The new groups and teams were directed to form, commencing in November. Objectives have been determined from the start so that economic timescales can be established against tasks. It is envisaged that the teams will be disbanded as specified tasks are resolved.

*Future issues of TEAM NEWS will cover progress of this new initiative along with other team articles.*

## TITCHFIELD SETS ITS SIGHTS ON GOLD LEVEL SPC

**Titchfield's goal of achieving the highest level of Statistical Process Control (SPC) certification by end of 1996 is underway.**

Two new customised SPC courses held in October were designed to educate selected personnel, working in key process and monitoring areas, in preparation for major customer audits during next year. The end-1996 target is specifically related to the McDonnell Douglas Gold SPC Level. In order to satisfy this Level we have to demonstrate that a pervasive philosophy of Continuous Improvement and SPC applies in EVERY area of the Company, not just Manufacturing.

During this year we have, so far, seen more valuable contributions to the knowledge based on some of the more critical processes. From manufacturing, advances in Metal Finishing on the Hard Chrome process, (which includes the use of complex masking and tooling), are being achieved. Members of the Support Group, together with shop floor personnel, are co-operating to produce a video describing how variation is linked to measurement devices and people.

Industrial Engineering is able to monitor product performance data directly from assembly/test areas. This leads to benefits such as long term trend monitoring and has the potential for providing warning indicators, if necessary.

In the Turning and Grinding Cells, group data is used to monitor process performance on similar materials, part size and tolerance. This type of progress directly links into the true monitoring mode which helps highlight the anomalies more quickly and provides for more economical data collection tasks.

In the Pump/Canister Cell the measures of performance speak for themselves. Results are shown on large display boards - FIRST TIME PASS RATES, NUMBER OF REWORKS, TOTAL NUMBER OF UNITS BUILT, etc - together with SPC run charts, trend data and histograms. All this provides visible means of progress. A separate board has recently been introduced focusing upon Process Improvement.

Many more departments are needed to participate and support the site initiative of achieving the GOLD SPC level in the timescale laid

down. Special training sessions are planned for non-manufacturing departments but instruction will probably be undertaken using in-house expertise.

Some work has already been completed by the Personnel Department using Measures of Performance

with close process monitoring on control charts.

The accompanying photograph shows the line-up of some of the personnel who have contributed to progress during 1995, proudly displaying the recently awarded Sundstrand Aerospace SPC System Approval to Level 1.



All contributions to *TEAM NEWS* should be addressed to A. Coles, Ext. 3608.



### Clerical Trainee Induction Report

By Lisa Munden

"There I sat in Stirling Reception on the first day of my Induction Course, petrified beyond belief. I was one of the first trainees to arrive. The worst part of my first week was the initial waiting.



The first task on the agenda was to complete a puzzle. We were put in groups of six and told to construct a puzzle and learn each other's names in the shortest time. As our group began to build it became apparent that there were, in fact, two puzzles. However, no-one in any group realized that we were only supposed to build one. The winning team (not us) took over 20 minutes to build a three minute puzzle, because we didn't listen to instructions!

The second puzzle, was a complete disaster. The idea was to build a model from an original situated outside the Training Room. I was the foolish one who opted to go and view it. Every time I did, I kept forgetting where the pieces went! Both puzzles were effective ice-breakers, they certainly settled my nerves.

Safety and security was also an informative part of the Course, this talk was conducted by the very jolly Ken Castle. This was an informative talk on all the dos and don'ts of the Rochester site.

I think the Induction as a whole could win many prizes for its obscure titles. Dominoes could be one, not Dominoes in the usual sense, but Dominoes with a difference. This game of Dominoes



was to do with communication. It was played in three rounds. In Round 1, player 'A' constructed a pattern and then described it to player 'B'. Round 2 differed slightly where player 'B' could only ask about the construction. As you may have guessed, both ended up with hilarious results. Round 3 was rather more successful; player 'A' constructed a model and both players could describe/answer questions. One learning point from this is that effective communications on both sides is crucial in getting a good result.

When reading my Induction Course Manual, I noticed the word 'spy'. I wondered what it could possibly be. The main objective was to plan and construct a replica of a model in the Training Department and all numbers had to be in the correct place.



The twist to the puzzle was that each person was given an envelope saying there was a 'spy' in the team, out to spoil the exercise. In fact there were none and I was the only one in the group to be chosen as a 'spy'. Total humiliation!!!



My favourite event above all was an exercise called 'Blind Walk'. I haven't had so much fun in ages! Two teams had to build two different assault courses and each team member had to lead their opposite team partner around their course. The overall idea of this was to build on trust.

The climax to the week's events was the 'Lego Tower'. The task to build the tallest tower in the least amount of time with the smallest amount

### Christmas Toy Appeal

*Here I am again this year, collecting surplus toys for under privileged families, for all the girls and boys.*

*So look into the toy box, and also in the loft, dusty books and train sets and cuddly toys all soft.*

*Dolls' houses, Power Rangers, roller skates, a child will treasure, they'll make some kiddies' eyes shine and bring them so much pleasure.*

*A story book, a painting book, maybe with paints complete, some play-dough or some "sticky stuff" might really be a treat.*

*A Cindy doll, a Barbie doll, a teddy bear to love, some motor cars or skittles, maybe a puppet glove.*

*A football or a cricket bat that sees no light of day, where once was just forgotten, could now be used for play.*

*Some jigsaws or some board games, maybe a bike to ride, anything's acceptable, toys that's been tossed aside.*

*From 13th November, at the entrance, Hangar two, there'll be a box to put your toys, be they old or new.*

*The box will be there for a while, I hope you will remember, the final day to bring your toys is the 13th December.*

*But if you have a problem, if your in Main Site direction, call me on 4025 and I'll arrange collection.*

Many thanks. Dimps (Mrs Ling)  
Support Division (Rochester)  
Flying School



of bricks. I suppose you are thinking, "That's easy". Well, believe me, I have never felt so stressed in my life! As a result of poor Organisation our tower stood a mere 29" high, all the other towers were over 60". Never mind, it's the taking part that counts, not the winning. It's boring coming first all the time!



There were certainly some lessons to be learnt from this Induction Course and it will give me something to think about in the future. Each puzzle was designed in a cunning way. It isn't just Lego or dominoes, it's a lesson in various things from listening to instructions, to planning and organisation. I think these four days, and the things I have learnt from them, will stick in my memory for a long time to come."

### Reaper Club

The Reaper Club is flourishing with its Social Evenings always well attended. Many new members have joined this year and it is nice to see new faces and many old friends. Members were delighted to have Irvine Gray and John Goodhand as guests on July 18th when the GEC Concert Band provided the evening's entertainment.

An outing to Great Yarmouth took place on July 13th. The weather was perfect and although the journey was a little long it was enjoyed by all. On September 13th members enjoyed a trip to Bournemouth (a favourite resort for everyone). The venues for next year are now being planned.

Throughout this year Reaper Club Members have been busy raising money for the Demelza Childrens' Hospice Appeal - generously contributing to the Dickens Festival activities, and also with the buying and selling of books during the monthly social evenings.

Preparations are now in hand for the Annual Dinner and Dance which completes the 1995 programme.

### SUGGESTION SCHEME

The Staff Suggestion Scheme encourages ideas that help the growth, efficiency and prosperity of GMAV's business, and is open to all staff. Involvement in the Scheme helps to establish a climate of innovation and change.

**Employees are rewarded (nominal award £25) for suggestions that:**

- \* Reduce the cost of designing, making and maintaining the Company's products.
- \* Improve methods, quality, reliability, output etc.
- \* Increase GMAV's business.

The Suggestion Scheme integrates with Total Quality programmes and initiatives to help with the Company's continual search for improvement.

Suggestion Scheme forms and boxes are strategically positioned throughout the Rochester site - further details are available from the Personnel Department.

### 25 Years Service Presentations

**The following employees have recently received their 25 Years Service Awards.**

**Steve Fisher**



After obtaining his degree, Steve joined the Company working on PDS, followed by Boeing YC-14 analogue computing. He later moved to the Tornado project working on SPILS where he became the Project Leader of CSAS and SPILS and led the team (known as the Black Forest Gateaux boys) which entered for the Haskett Trophy.

Currently, Steve works in FSG Computing Services as Senior Computer Application Engineer.

**Mike Taylor**



Mike joined the Company, first as a Technician Apprentice. Then, as a member of the Lynx AFCS team, progressed to Development Engineer. Work followed on a series of programmes including Sea Harrier, Jurom, Jaguar FBW and EAP.

He joined CACD Logistics on its formation and, since 1989, has served as Principal Logistics Engineer. Mike has worked on virtually every programme in which the Group has been involved.

**Ian Ladd**



After graduating from Swansea University Ian joined Elliott Brothers in 1970 on the Jindivik project. He later joined the Lynx team working on the Automatic Flight Control System then, moving onto Tornado, became involved in both CSAS and SPILS. It was here that Ian was promoted from a Development/Project Engineer to Project Leader.

Ian then joined the Experimental Aircraft Programme (EAP) as Project Manager. This highly successful programme was achieved in a remarkable short timescale, with the new aircraft flying 28 times in 21 days after its first flight.

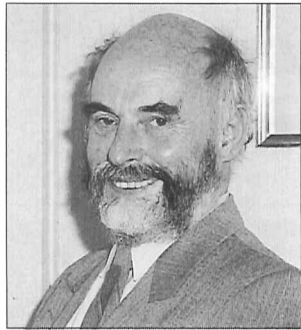
Promoted to Engineering Manager CACG in 1986 Ian became responsible for a number of programmes including the EF2000 Flight Control Computer and Control Stick.

Appointed Technical Manager CACG in 1990, and after a brief secondment to FCG as Director of Boeing 777, Ian is now Business Manager Military Systems for FSG.

Continued on page ii



John Corney



Originally employed at BAe (Brough), John came to Rochester in 1970 and, as a member of a small team, worked on proposal preparation. The award of the Yugoslav/Romanian Jurom contract to FCD came partly as a result of John's interface with the customer and he also played a significant role in helping the Company win the AM-X Contract in 1980.

In the mid 1980s John was promoted to Chief Future Systems Engineer in CACG, heading a team responsible for proposal and development of future Flight Control Systems. He is now Engineering Consultant, Future Systems (FSG).

Marion Moon



Marion's skills, formed from over 25 years technical and marketing experience, have been valuable to the Company.

After obtaining her degree in applied physics at the South Bank Polytechnic, followed by three years in teaching, Marion's career in GEC started in 1970 as Development Engineer within Flight Automatic Research Laboratory. Her work within FARL provided an essential grounding in computers and mathematical modelling which has stood Marion in good stead throughout her career.

In 1977 Marion brought her experience to AS&R where, she soon became Manager of Logistics Support Engineering. Marion's enthusiasm and ability to interface with customers was quickly acknowledged and this led to her appointment in GSD Marketing and later DSGR.

In her role as a key member of the DSG(R) Marketing Team, Marion plays a vital part not only of pursuing sales for various equipments but also controlling the Sales Enquiry Procedure and Phase Review Process. Her hobbies of horse riding/owner, travel adventure and gardening consume any surplus energy!

Frank Lovett



As a Methods Engineer, Frank joined IN Division in 1970 from Mullard to work on the Jaguar NAVWASS programme and, two years later, was drafted in to help Production Engineering with problems on the Projected Map Display.

In 1974 Frank moved to Production Control, organising the repair of environmental test failures.

Gradually this work expanded to include the repair of items returned from the field and in April 1975 Frank became a founder member of the first IND Repair Section.

By 1978 the backlog of repairs had been reduced to such an extent that the Repair Section was disbanded.

Frank returned to Methods and Planning and became heavily involved on NCS1 and Nimrod CTS, until the mid-eighties when he once again found himself looking after repairs, including the products of the old Gyro Division as well as IND. He progressed from Planning Engineer Section Leader to Repairs Supervisor, developing the Repair process. In 1992 the ADD products were brought into the Section when ADD and GSD merged.

Today, as Production Project Engineer (Repair Section), Frank continues to apply his wealth of experience to turning customer repairs around in the shortest possible timescale.

John Page



Joining GEC in 1970 John worked initially in Airborne Computing Division on the Jaguar NAVWASS.

He then moved to Maritime Aircraft Systems Division in 1973 when the Division was formed to develop the AQS 901 Acoustic Processor for Nimrod MR2 and, from 1974 to 1978, was resident engineer at Computing Devices of Canada during the development phase of the AQS 901 programme.

On returning from Canada John was involved with setting up the test equipment

## COME & KEEP FIT

For fifteen years Rochester has included Keep Fit Classes in its social calendar. Today, the Classes are alive and kicking! Many of the ladies still attend regularly and bring daughters, sisters and friends with them, along with many other employees past and present.

There are Classes - traditional **Aerobics** and **Step** - on two evenings with many members attending both evenings.

The instructor is Kim, who holds the RSA qualification for teaching exercise as well as being a member of the 'Reebok Alliance' and 'Fitness Professional' instructor organisations.

Beginners are welcome to any class. For **Aerobics**, just turn up - for **Step**, booking is required.

Day	Time	Venue	Activity	Contact
Tuesday	7pm-8pm	Conf. Room 1 & 2	Aerobics	No need to book.
Tuesday	8pm-9pm	Conf. Room 1 & 2	Step	Maureen Hesketh, Ext. 4145 or Sue Westrup, Ext. 4149
Thursday	7pm-8.15pm	Conf. Room 1 & 2	Step & Tone	Linda Kinslow, Ext. 4328 or Linda Samuels, Ext. 4001

group looking at AQS 903 support needs for the WG 34 Sea King Replacement Helicopter programme from which the Royal Navy's Merlin Helicopter programme eventually emerged.

In 1980 John transferred to Subcontractor Management within the AQS 903 Project Management Team. Between 1984 to 1990 he was Trials Controller for the AQS 903 Acoustic Processor, followed with a year in Spain working with Inisel on the Spanish P3 Orion Mission System update programme.

For the last three years he has been working on the Merlin Programme.

Since 1973 John has been an enthusiastic member of the GEC Flying Training Scheme, a pursuit which was also enjoyed by his wife, Pamela, during her own long employment with GEC-Marconi.

To mark his 25 years service John was presented with a specially commissioned painting of the French town of Honfleur, a favourite flying destination.

Keith Taylor



Having joined the Company as an Apprentice in 1970, Keith progressed to the Nimrod MkII Maritime Reconnaissance working on the Navigator's Integrated Control Panel from start to finish (including PSD).

After moving to FCD in 1990 Keith became part of the Phoenix Management Team and is now responsible for the

Phoenix range safety equipment.

Paul Buckingham



Upon completion of his apprenticeship, Paul joined the Power Supplies team where he worked on a range of power supply projects. Many of these culminated in design concepts which are still used in Company products today.

Paul has worked on numerous projects including the Fly-By-Light Demonstrator and the Machan unmanned aircraft. The Phoenix RPV Contract was awarded as a direct result of the Machan technology demonstrator activities.

Since 1993, having joined CACG as Senior Development Engineer, Paul has been involved in the MoD Airship 600 programme and support and has contributed in the development of the Group's Sticks and Throttle activities.



## CENTRAL CHARITY FUND

### List of Donations agreed

Homestart Medway	£135.00	Medway & Swale Adult Student Trust	£100.00
The Arthritis & Rheumatism Council	£200.00	Motor Neurone Disease Association	£200.00
The Rotary Club of Rochester	£100.00	Mrs I Williams (Danny White Appeal)	£50.00
Dial Kent	£100.00	The Evelina Children's Hospital Appeal	£100.00
SENSE	£200.00	The Maidstone Hospital League of Friends	c/s wine
Kent County Constabulary	£100.00	Patricxbourne Adolescent Unit	c/s wine
The Bluebell Association	£100.00		
Opportunity Playgroup	£100.00		
Gt Ormond Street Children's Hospital	£131.62		

B.J. Rogers - Secretary 14 September 1995

## It's Not Child's Play!

A Report by Stephen Hoad, 2nd Year Sponsored Engineering Student at Cambridge University

For five days in July Rochester's Training Department organised a series of Technology Workshops for local secondary schools. In all, some 15 schools and approximately 200 Year 9 pupils took part, the aim being to introduce the children to engineering careers in general and, more specifically, within GMAV.

After an initial introductory session, the children were split into three "Companies" of mixed schools, each supervised by a senior trainee. Each "Company" was then further divided into three "groups".

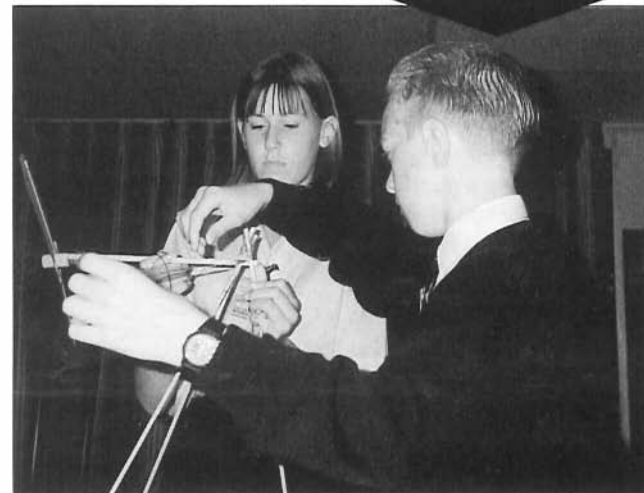
The task for the day was for each Company to design and construct a hydro electronic controlled fan to customer requirement. Within the Company, each group was responsible for one particular aspect of the product which would then be combined. At the end of the day the contract was awarded to the team which

most closely met the customer requirement.

The Workshops proved to be a valuable experience for all those concerned. The children were required to use various skills which included co-operating with strangers of greater/lesser ability in a working environment; meeting a customer requirement; and liaising with the other groups through a leader and working from the information that he or she provided.

As a student engineer acting as an advisor to the pupils, I learnt to communicate and co-operate with people much younger and less experienced than myself. Meanwhile, GMAV continues to forge an excellent relationship with the local schools from where a large proportion of the Company's future trainees will come.

*Getting to grips with engineering in the design and construction of a hydro electronic controlled fan.*



## 3rd Time Lucky for FCG

It was third time lucky for Flight Controls Group in the final of the Inter - Group Football Competition held at the Hoo sports ground. Having lost in the two previous years their opponents, this time round, were DSGR - the pre-tournament favourites.

On a scorching evening FCG stunned their opponents with some spectacular goals in the first half to take a 5 - 1 lead. The heat took its toll on both teams in the second half with the play lacking inspiration. However, to add excitement to the play, DSGR fought back to score two late goals, the second of which was scored with the last kick of the match, to make the final score 5 - 4 to FCG.

The final score reflected the spirit and competitiveness of both teams, which was also in evidence in all previous games. The tournament was again organised by the Social Club's Elaine Beard whose contributions are recognised by all teams.

FCG's scorers were Mark Willis (3), Andy Hawley and Kevin Sammon, those for DSGR were Jason Brett, Lee Cook and Justin French (2).

The match was officiated by Pat Murphy, with Dave Fuller and Gordon Harvey running the lines.