

GIG GIG TO THE STATE OF THE STA

MAGAZINE OF THE ASSOCIATION OF ASIA PACIFIC AIRLINES

Official letters reveal inside track as Manila pulls the plug on Taiwan air services once more



Executive interviews:

Cathay, Dragonair, CNAC chiefs look to future

Qantas boss talks about safety record

Thailand's extrovert deal maker

Asia-Pacific fleet census - UPDATE

10

26

34

37

33

58

Job cuts at JAL; ANA outlines new lost cost airline plan

COVER STORY

OFF Page 20 **AGAIN**

Letters give insight into Taiwan/Philippines air rights dispute





NEWS

MAS's largest shareholder to sell percentage of stake in the airline	10
Business round-up: financial results of Cathay Pacific, EVA Air, MAS	11
SIA "will take a stake" in Air NZ	22
Sydney airport and airlines go to court	27
Airlines face rise in insurance premiums	28
Business Digest	52
FEATURES	
Aeropolitics loom large in plans, but future is bright for Cathay Pacific and	
Dragonair, say chief executives	14
Afghanistan, Cambodia, Myanmar, all part of business plan	
of Asia's extrovert deal maker	31
Quiet achiever pushing back the boundaries of the executive jet market	50
SPECIAL REPORTS	
Safety: The chief of the world's safest airline says you cannot be too careful	24

Turbulence by Tom Ballantyne INFLIGHT ASIA

COMMENT

Asia-Pacific Fleet Census Update

AAPA to spearhead major safety drive Asian Aerospace 2000 review

Behind the Cockpit Door by The Captain

A 16-page pull-out dedicated to onboard services and technology. In this issue: Tough love at Air Macau; industry giants join forces to put live TV in flight; British Airways and SIA make peace over beds dispute; DeSter/ACS: a profile; Network: industry news.

PUBLISHER

Wilson Press Ltd GPO Box 11435 Hong Kong Tel: Editorial (852) 2893 3676 Fax: Editorial (852) 2892 2846

E-mail: orienta@asiaonline.net **Publisher and Managing Editor Barry Grindrod**

Joint Publisher Christine McGee

Chief Correspondent Tom Ballantyne Tel/Fax: (612) 9638 6895

Special Correspondent Patrick Garrett

Hong Kong & China: Wellington Ng Tel: (852) 2893 3676

Photographers Andrew Hunt (chief photographer),

Rob Finlayson, Hiro Murai

Design & Production Ü Design + Production

Colour Separations Twinstar Graphic Arts Co.

Printing Lammar Offset **Printing Company Ltd**

Distributed by Speedmail Ltd

ADVERTISING

Asia: Wilson Press Ltd Christine McGee Tel: (852) 2893 3676 Fax: (852) 2892 2846

The Americas / Canada:

Robyn Tucker International Marketing Robyn Tucker Tel: (1-441) 295 8200 Fax: (1-441) 295 8210

Europe: REM International

Stephane de Remusat Tel: (33 5) 34 27 01 30 Fax: (33 5) 34 27 01 31

Australasia: Phil Grose

Tel: (61 2) 9820 7920 Fax: (61 2) 9820 7756 Mobile: (61 0) 417 7449943 E-mail: pgrose@ozemail.com.au

Association of Asia Pacific Airlines Secretariat

5/F, Corporate Business Centre, 151 Paseo de Roxas, 1225 Makati, Metro Manila, The Philippines Director General: Richard Stirland Commercial Director: Carlos Chua Technical Director: Leroy Keith Tel: (632) 840 3191 Fax: (632) 810 3518

Published 10 times a year February, March, April, May, June, July/August, September, October, November and December/January. © All rights reserved Wilson Press Ltd, Hong Kong, 2000.

The views expressed in this magazine are not necessarily those of the Association of Asia Pacific Airlines.

REAL HOPE FOR DIRECT FLIGHTS

■he outcome of Taiwan's presidential election has once again thrown the spotlight on the possibility of direct flights across the Taiwan Strait.

How many times have we heard that said in recent years?

Hopes have been raised and dashed so often that many of the companies in China and Taiwan, which have spent a huge amount of time and no little money in preparing for the day, now refuse to speculate on the prospect.

But there appears to be real hope now of some kind of breakthrough.

Observers in Taipei have said president-elect, Chen Shui-bian, is prepared to be more conciliatory with Beijing than his predecessors. They have said he is likely to agree to restoring commercial, postal and communication links to mainland China which, officially at least, have been cut off since the Communists took power in China in 1949.

If true, then the aviation industry stands to be a necessary beneficiary.

In practical terms it would not take long to crank up cross strait services once the political hurdles have been removed. Some say as little as a matter of weeks. The reason is that the airlines in Taiwan and China most likely to be involved in "the first wave" have been co-operating for years at an unofficial level. Indeed, there have been unofficial government delegations from both sides which have crossed the strait and met with aviation industry representatives.

Certain carriers' fleet plans have been made with one eye on direct flights, airlines have identified their partners across the water, maintenance arrangements are in place and joint venture and other business opportunities have been earmarked for development.

If the dollar rather than political will had been the motivating factor in this scenario, then cross strait services would have taken off long ago. The market potential is immense.

Airlines like Cathay Pacific Airways in Hong Kong may suffer in the short-term, with a falling off in Taiwan traffic, but other carriers like Dragonair in Hong Kong, Air Macau in Macau and EVA Air and Transasia of Taiwan, could benefit considerably, along with the appointed mainland carriers. The big question is where would Taiwan's national carrier, China Airlines, fit into the equation?

Let us hope this is not another, frustrating false alarm and that the industry's patience, particularly in Taiwan and China, is rewarded by approval, finally, of transport links across this small stretch of water.

> Kom - (into) **BARRY GRINDROD** Publisher/Managing Editor

The Association of Asia Pacific Airlines members and contact list:



Air New Zealand

Managing Director, Mr Jim McCrea GM Govt & International Affairs. Mr Graeme McDowall Tel: (649) 366 2605 Fax: (649) 309 4134



ANA All Nippon Airways

Chairman, Mr Kichisaburo Nomura Director, Public Relations, Mr Koji Ohno Tel: (81 3) 5756 5675 Fax: (81 3) 5756 5679



Ansett Australia

Executive Chairman: Mr Rod Eddington EGM Corporate Affairs, Ms Pamela Catty Tel: (631) 9623 3471 Fax: (613) 9623 3663



Asiana Airlines

President, Mr Park Sam Koo Managing Director, PR, Mr Hong Lae Kim Tel: (822) 758 8161 Fax: (822) 758 8008



Cathay Pacific Airways

Chief Executive Officer, Mr David Turnbull Corporate Communications Manager, Ouince Chono Tel: (852) 2747 5214 Fax: (852) 2141 5214



China Airlines

President, Mr Sandy K. Y. Liu Director, Public Relations, Mr Scott Shih Tel: (8862) 2514 5750 Fax: (8862) 2514 5754



Dragonair

Chief Executive Officer, Mr Stanley Hui Corporate Communication Manager. Ms Laura Ayson Tel: (852) 2590 1260 Fax: (852) 2590 1333



EVA Air

President, Mr Frank Hsu Deputy Senior Vice President, Mr K. W. Nieh Tel: (8862) 2500 4585 Fax: (8862) 2501 7599



Garuda Indonesia

President, Mr Abdulgani VP Corporate Affairs, Mr Pujobroto Tel: (6221) 380 0592 Fax: (6221) 368 031



Japan Airlines

President, Mr Isao Kaneko Director, Public Relations, Mr Geoffrey Tudor Tel: (813) 5460 3109 Fax: (813) 5460 5910



Korean Air

President and CEO, Mr Shim Yi Taek VP Public Relations, Mr Seung Jae Noh Tel: (822) 656 7092 Fax: (822) 656 7288/89



Malaysia Airlines

Chairman Tan Sri Taiudin Ramli Head of Industry Affairs, Ms R. Nordiana Zainail Shah Tel: (603) 265 5154 Fax: (603) 263 3178



Philippine Airlines

Chairman, Mr Lucio Tan VP Corporate Communications. Mr Rolando Estabilio Tel: (632) 817 1234 Fax: (632) 817 8689



Qantas Airways

Managing Director, Mr James Strong Director of Public Affairs, Mr Bernard Shirley Tel: (612) 9691 3760 Fax: (612) 9691 4187



Royal Brunei Airlines

Chairman, Dato Paduka Awang Haji Alimin Bin Haii Abdul Wahab Tel: (673 2) 343 368 Fax: (673 2) 343 335



Singapore Airlines

Deputy Chairman and CEO, Dr Cheong Choong Kong VP Public Affairs, Mr Rick Clements Tel: (65) 541 4030 Fax: (65) 545 6083



Thai Thai Airways International

President, Mr Thamnoon Wanglee Director, PR, Mrs Sunathee Isvarphornchai Tel: (662) 513 3364 Fax: (662) 545 3891



Vietnam Airlines

President and CEO, Mr Dao Manh Nhuong Dep Director, Corp Affairs, Nguyen Huy Hieu Tel: (84-4) 873 0928 Fax: (84-4) 827 2291

'HAT'S UP? Air Maldives' man aging director, Fauzi Ayob, was given his marching orders in March when Baharudeen Hassan, an executive of Naluri Bhd, a 49% shareholder in the island carrier, arrived in town, took over and suspended the airline's operations. One theory is that Air Maldives has not been able to keep up its lease payments on three A310-300 jets, taken on a five-year contract last year. Nobody is saying anything, of course, even the boss of Naluri Bhd, Tan Sri Tajudin Ramli. Naluri is the largest shareholder in Malaysia Airlines, a carrier, incidentally, which is reported to be considering the imminent acquisition of large numbers of new airplanes.

AUDITED: All international partners of U.S. carriers will have to undergo compulsory safety audits every two years as the result of a March ruling issued by the United States Department of Transport. The U.S. carriers, which include major alliance and code-share partners of several Asia-Pacific airlines, must report the results of the audits to the Federal Aviation Administration.

Impetus for implementation of the safety audit rules was provided by the crash of a Korean Air cargo airplane in rural England last year, which took the lives of all four crew onboard. Said U.S. Transportation Secretary, Rodney Slater: "Through this programme, Americans will know U.S. airlines are auditing their code-share services on foreign partner airlines to check compliance with international safety standards."

COSMETIC CHANGES? At Korean Air. which is perceived as having the worst recent safety record in the region, management will be cut by almost 30% in yet another effort to win back confidence in the carrier from customers and partner airlines. The Korean Air cause has not been helped with the conviction of the chairman, Y. H. Cho, for tax evasion in recent months. Current president, Y. T. Shim, has yet to convince the industry he has the will to purge upper level executives at Korean Air who still refuse to accept the airline has to be run differently and more competently. Korean Air recorded a 13% fall in net earnings in the last financial year, when an improved won and a one-off gain failed to offset increased costs for aircraft leasing contracts, insurance premiums, depreciation and labour.

GAUNTLET DOWN: Qantas Airways chief executive, James Strong, declared the carrier "battle-fit" and ready for the entry

of Sir Richard Branson's planned no-frills domestic airline in Australia. In Sydney, he said starting another airline was an option, but in the meantime "we are going to get smarter, we are going to get sharper and we are going to use this as a stimulus to improve our business".

SHOW US THE MONEY: Despite a long search, at press time no buyer has been confirmed for the 35% stake in Taiwan's China Airlines (CAL), which has been on the market since mid-1999. Now the progress of a sale, if it eventuates, has to deal with the previously unknown: a newly elected government in Taiwan that advocates an independent Taiwan. Business leaders were influential in persuad-



Augustus Tang has been appointed general manager corporate planning at Cathay Pacific Airways

ing the new premier, Chen Shui-bian, of the Democratic Progressive Party, to offer to open a dialogue with Beijing and to put cross-strait flights and shipping on the agenda. Such a policy reversal is bound to effect the price the government can demand for its shares in CAL, if nothing else.

SORRY: Unlike several band members and sportsmen who have never seen the need to apologise for their acts of hooliganism onboard, Canto-pop singer Ronald Cheng, had the decency to issue apologies to EVA Air and the public after he went on a rampage in the first class cabin on a flight from Los Angeles bound for Taipei. "I will never drink for the rest of my life," said the 28-year-old, after he was knocked unconscious with a flashlight by EVA Air BR005 captain, John Irving. The airplane was diverted to Anchorage in Alaska and Mr Cheng ended up nursing his 15-stitch head wound in custody. Apart

from a heavy compensation bill from the airline, possible pay-outs to crew members who were assaulted and cancelled concerts, Mr Cheng could face a prison sentence if convicted in the U.S.

SPRING MOVES: James Barrington, formerly head of Cathay Pacific Airways' very successful cargo division, has taken over from Peter Buecking as the airline's director of sales and marketing. Mr Buecking moved to Vancouver to set up and head the new oneworld management unit. Kenny Tang, who has been running 75% Cathay Pacific-owned Air Hong Kong, will replace Mr Barrington as general manager cargo. Hunter Crawford is the new chief operating officer of the cargo carrier.

Three other key staff appointments, announced in March, are G-M revenue management, Ian Shiu, G-M Sales and Regions, Ian Callender and G-M corporate planning, Augustus Tang.

SEDUCED: James Yeung, a 25-year veteran of the Hong Kong de facto flag carrier, has been lured to Dragonair, where he is setting up as the first G-M commercial at the regional carrier. Until early this year, Mr Yeung was Cathay Pacific's G-M airline services, however the MBA holder is familiar with the style and detail of expanding Dragonair as a result of his secondment from Cathay Pacific to the carrier as G-M customer relations from 1996-98.

DEMOTED: After an investigation into a near-miss between a Dragonair flight about to land in Hong Kong and a SilkAir airplane over-flying the airport en route to Xiamen China, an air traffic controller on duty at Hong Kong International Airport at the time has been re-assigned to a non-operational job, the Hong Kong Civil Aviation Department (CAD) announced in March. A CAD official said more refresher courses would be offered to air traffic controllers, but he insisted there was no threat of a collision. The airplanes were 2.4 kilometres apart laterally and separated by 320 metres when the pilots on both aircraft took avoiding action.

CLARIFICATION: In the February issue of *Orient Aviation*, in a story headlined Countdown about Capt. Nguyen Thanh Trung's attack on the presidential palace in Saigon in April 1975, we quoted him as saying he would have helped South Vietnam if he thought they could have won the war. Capt. Trung has asked us to point out he did not say this. We apologise for any embarrassment it may have caused him.

REGIONAL ROUND-UP

ANA, JAL announce cut and thrust business plans to 2003

apan's two major carriers, All Nippon Air ways (ANA) and Japan Airlines (JAL) have announced their business plans for 2000 and 2000-2003 respectively.

ANA said it will introduce a new cost competitive airline to serve international routes in the last quarter of the year and combine with Air Nippon (ANK) to integrate their domestic networks and increase expansion by 1.1%.

ANA president and chief executive, Kichisaburo Nomura, said the February deregulation of Japanese domestic services and the planned opening of a new runway at Haneda Airport offered new opportunities for the carriers to expand domestic services.

The ANA 2000 Business plan also announced the setting "up of a new, cost-competitive international airline, initially serving Asia (including China) from the New Kansai International Airport, Osaka, with Boeing 767 airplanes, with expansion of the airline to Tokyo planned when the new runway at Narita is built.

A committee was established in March to plan for the airline's launch.

Mr Nomura also forecast a cut in international services by 5.2%, with a reduction of frequency on the Tokyo-San Francisco, Dalian, Hong Kong and Singapore routes and suspension of Kansai-Yangon flights. Code-shares with fellow Star Alliance members, United Airlines and Lufthansa "will be significantly expanded," said Mr. Nomura.

JAL's updated corporate plan, from April 1 this year to March 31, 2003, will continue on its debt reduction and job cuts programme. The group will increase operations of the JAL Group's subsidiaries, JALways on former JAL Pacific leisure routes, JALExpress on former JAL domestic routes and the injection of 50-seat Bombardier jets into the regional domestic carrier, J-Air.

Japan Asia Airways, which flies the Japan-Taiwan routes, will continue in its separate role at a flight operations level, but its other company functions will be more closely integrated with JAL group companies, to improve cost efficiency.

The carrier's already announced job cuts of 3,500 by the end of the 2001 fiscal year now include a target of another 700 in the following year.

Major MAS investor told to sell shares to repay debts

The head of the Malaysian Government's Corporate Debt Restructuring Committee (CDRC) said in March that Tajudin Ramli's aviation services umbrella company, Naluri, must sell some of its 29% stake in flag carrier, Malaysia Airlines (MAS), to repay debts.



Malaysia's Transport Minister, Dr Ling Liong Sik: confirmed MAS was in talks with the Wings Alliance

But CDRC chairman, C. Rajandram, said Naluri, whose MAS share is currently worth US\$218 million, would remain the "predominant" shareholder in the airline even after it paid the money demanded by a debt restructuring plan.

Naluri requested assistance from the CDRC last year, reports Reuters from Kuala

Lumpur, to re-structure debts of M\$1.2 billion, including \$600 million in 2% redeemable bank guaranteed bonds issued in 1995.

The bonds are due for redemption on June 12. Naluri pledged its stake in MAS as collateral for the bonds.

The news highlights the problems of MAS. The airline posted a net profit for the nine months to December 31, but the profit was from the sale and leaseback of aircraft. When these gains are excluded the carrier was still operating heavily in the red.

Malaysia's Transport Minister, Dr Ling Liong Sik, confirmed in March that MAS "was in quite intensive talks" with members of the Wings Alliance, KLM Royal Dutch Airlines, Northwest Airlines and Alitalia.

Several analysts believe KLM wants to buy into MAS. Negotiations are now concentrated on price.

THAI to sell off shares by November "at latest"

Thai Airways International president (THAI) Thamnoon Wanglee confirmed at press time that the partial privatisation of the national flag carrier should be completed "at the latest" by November this year, with the successful strategic partner buying an initial 10% share.

The cabinet of the Thai Government approved a plan in early March for the airline to sell 400 million shares – 100 million new shares and 300 million held by the government – to both the public and the chosen strategic partner.

The government owns 93% of THAI and intends to reduce its equity to around 70% in the first tranche of the sell-off.

Eventually, its holding in THAI is planned

Cathay, SR Technics sign MoU

Cathay Pacific Airways and Zurichbased MRO, SR Technics, are continuing their successful bonding relationship with the signing of a Memorandum of Understanding for a 50-50% component management joint venture.

Last year, the two parties signed a 15year power-by-the-hour contract for SR Technics to maintain the airline's CFM56-5C4 engines for its growing fleet of A340-300 aircraft.

The new component management

company, based in Hong Kong, will offer a full range of services covering full component support with pooling arrangements, inventory purchasing and engineering and logistics solutions, to customers in the Asia-Pacific region and the Middle East.

The company, which has yet to be named, is expected to start operations in July.

The latest deal is further evidence of the Swiss company's vigorous search for new business projects in Asia and the rest of the world.

to be 49 per cent.

Several airlines have expressed an interest in buying a share in the airline. President Thamnoon said the sale of shares to a strategic partner would take place "three to four months after the Initial Public Offering (IPO) is completed".

Meanwhile, the Bangkok flag carrier has been quick to reject suggestions it will abandon the Star Alliance ship.

After meeting with Singapore Airlines chief executive, Dr Cheong Choong Kong, and Lufthansa chief executive, Jurgen Weber, in March, THAI president Thamnoon Wanglee said the speculation was ill-founded.

China Airlines hires ex-Swissair training chief

Only weeks after Korean Air announced it had appointed Harry Greenberg as its first western executive vice-president of flight operations, the board of Taiwan's China Airlines (CAL) confirmed ex-Swissair captain, Alfred Kupferschmied, 57, as the airline's first expatriate vice-president of operations.

A former Swissair chief flying instructor and head of cockpit crew training, Captain Kupferschmied will "strengthen CAL's management and training as well as upgrade its flight safety reform programme", said the airline in a March 23 statement.

"This is a successive step in the overall strategy plan to second top managers from interline carriers to CAL."

The new VP Ops, who also re-organised Swissair's training programme for its captains, has been working as a Lufthansa Technik consultant at the Taipei-based flag carrier since 1996.

The appointment is for two years.

10 new B737s for Virgin no-frills carrier

Sir Richard Branson's no-frills start-up airline in Australia is to receive a boost of 10 new Boeing 737s to its fleet, valued at A\$540 million (US\$325 million), in early 2001, a company statement said in late March.

The no-frills carrier had hoped to launch services in July, but the completion of regulatory procedures meant the airline would not be operational until nearer the Sydney 2000 Olympic Games in mid-September, said the airline's managing director, Brett Godfrey.

Owner of the Virgin Group, entrepreneur Sir Richard Branson, announced last November he would set-up an Australian airline to compete with the nation's two established carriers. Ansett Australia and Qantas Airways.

Auction to support ORBIS flying eye hospital

A back seat ride in one of the world's leading fast jet training aircraft, a Hawk 100, awaits the highest bidder in a worldwide Internet auction arranged by the Hong Kong-based Aerospace Forum to raise funds for the ORBIS flying eye hospital.

ORBIS, which operates a DC-10 equipped with a surgical suite, laser treatment area, recovery room, 52-seat classroom and technical support, has restored the sight of thousands of adults and children in Third World countries and trained tens of thousands of medical staff since the charity was established 20 years ago.

"The Aerospace Forum has raised over US\$25,000 for ORBIS in recent years and is look to more than double this figure from the auction by the time bidding closes on

the charity's web site at www.orbis.org.hk, on April 17," said forum chairman, Martin Craigs.

Other items for auction include a 45-year-old stainless steel B52 model (top bid so far \$475), a model of a Concorde in Pan Am livery (top bid \$490), a Swissair 1/25th model B747-300 (top bid \$950), a 1/100th scale Airbus A3XX model (top bid \$440), a Rolls-Royce compressor blade modelled into the shape of a Chinese junk (top bid \$490) and a GE J-73 turbojet engine model (top bid \$300).

A top bid of \$8,888 has so far been submitted for the "ride of a lifetime" in the Hawk at the Farnborough Air Show in July. The Hawk is used by the British Red Arrows aerobatic team. Full details of the auction and donations are on the web site.

What a difference a year makes

ast year outgoing Cathay Pacific Airways chairman, Peter Sutch, announced the airline's first loss in 36 years – HK\$542 million (US\$69.9 million) – with "no significant improvement expected".

In March, new chairman James Hughes-Hallett reported a profit of HK\$2.19 billion for the year to December 31, 1999.

It was quite a turnaround, but as chief executive, David Turnbull, told *Orient Aviation*: "There is still a way to go. The level of profitability has to be greater if we are to fund our future aircraft purchases." (see page 15).

Turnover was up 7.9% on 1998, to HK\$28.7 billion. Passengers increased 2.1%, to 10.5 million, with improvement across the route network. Growth was particularly robust between Hong Kong and the U.S., Korea and the Philippines. Passenger load factor rose from 67.5% in 1998 to 71.4% last year.

The outstanding performer of the year was Cathay's cargo division. It set a new record with turnover increasing 20.6% over 1998 to HK\$8.4 billion.

Cost targets were met in most areas, but Mr Hughes-Hallett expressed concern at rising fuel prices.

Taiwan's EVA Air is projecting impressive

growth on virtually every front during 2000. The carrier's vice-president for finance, Philip Chen, said revenue was expected to rise from US\$1.17 billion in 1999 to \$1.27 billion, with gross profits increasing 19.9% year on year, to \$11.5 million. Operating income is expected to rise 8% to \$4.1 million.

Mr Chen said cargo is expected to contribute a massive 60% of revenue. EVA originally targeted a 50% revenue contribution from cargo but it has adjusted its forecast following an order for three additional freighters to be delivered between 2000 and 2003.

The number of passengers is expected to increase to 4.3 million in 2000 against 3.9 million in 1999, with cargo volume rising to 520,137 tonnes from 460,346 tonnes. The passenger load factor projection for 2000 is 77.4% from 74.6% last year.

In 1998, a near bankrupt Philippine Airlines (PAL) closed its doors for 10 days during which time it re-invented itself. The new look, slimline PAL posted a net profit of US\$2.4 million for the month of January, marginally higher than the forecast in its rehabilitation plan submitted to the country's Securities and Exchange Commission. The airline is confident of a better-than-projected year to March 31.

Wang Guixiang, the chairman of the mainland's China National Aviation Corporation (Group) Ltd (CNAC) has called for the Hong Kong Special Administrative Region's (HKSAR) one airline-one route policy to be dismantled.

The chairman of CNAC, whose company owns a majority stake in Hong Kong's second airline, Dragonair and a minor share in Cathay Pacific Airways, told Orient Aviation the policy is holding back competition and stifling Hong Kong's economic development.

The Hong Kong Government says it favours a more competitive aviation environment. The implications for Cathay and Dragonair, if the policy changes are introduced, are significant.

It could result in Dragonair competing head-to-head with Cathay on some of its lucrative routes. By the same token, following

the signing of the new air services agreement between Hong Kong and China, Cathay could also fly Dragonair's routes into China.

The airlines' chief executives emphasise, on the record, the importance of co-operation rather than competition, but industry watchers say increased rivalry is eventually inevitable.

In this special report, Orient Aviation spoke to CNAC's Mr Wang, Cathay Pacific Airways' chief executive, David Turnbull, and Dragonair chief executive, Stanley Hui, about the role of the airlines in the region, their relationships with each other and how changes in aviation policy could affect their businesses.

We also report their reactions to their companies' strong economic performances as the region emerges from recession and the role and influence of mainland airlines in this new economic era.

IT'S PLANE POLITICS

But the future looks bright for Cathay Pacific and Dragonair

By Barry Grindrod in Hong Kong

hen asked to comment on the possibility of increased competition on routes with Cathay Pacific Airways, Dragonair's chief executive Stanley Hui said with a smile: "There is a saying among Chinese that anyone who claims to be able to tell the future is lying."

What is known, however, is that Dragonair will add 10 new aircraft to its fleet of 13 jets in the next six years and will significantly expand its successful route network of 16 destinations in China.

But what about elsewhere in the region? The Hong Kong Government has said it would like to see a more competitive aviation environment on routes operating to the SAR and that news has given rise to speculation that the days of Hong Kong's one airline-one route policy may be numbered.

If that turns out to be the case Dragonair would be able to double up on Cathay's profitable routes in the region. Mr Hui would not be drawn on the issue and said the policy was for the government to decide.

However, Wang Guixiang, the chairman of the mainland's China National Aviation Corporation (Group) Ltd (CNAC), which owns a majority 43.3% stake in Dragonair, believes



Dragonair chief executive, Stanley Hui:
"Cathay is our biggest, single most
important interline partner.
We co-operate a lot"

scrapping the one airline-one route policy is in the best interests of the industry. "I have read the many discussions which have appeared in the media on this matter," he said. "The majority of the views would be to adopt a more flexible policy.

"Healthy competition would improve the quality of airline services. This would benefit the airlines, the passengers and the Hong Kong area in general."

Cathay's chief executive, David Turnbull, also said it was a matter for the Hong Kong Government to handle, but added: "It has been good for us so far and obviously it



CNAC president and Dragonair chairman, Wang Guixiang: Hong Kong airlines unable to meet needs of economic development in SAR

does enable the development of secondary carriers like Dragonair. We pulled off Beijing and Shanghai and passed the services to Dragonair.

"It is not an unheard of policy. A lot of other countries operate it in some modified form."

An example, he said, was the U.S. and British governments, which allow two carriers from either side to fly between the countries. "When you think of the size of those markets, having just two carriers from each side is pretty much more restrictive than one airline, one route out of Asia," said

Mr Turnbull.

Irrespective of future developments all sides value the close co-operation that exists between the carriers.

Although the new air services agreement (ASA) between Hong Kong and mainland China creates equal opportunities for airlines of both sides of the border, Dragonair will be the major beneficiary.

Its capacity in terms of seats to China has increased 90% since the handover of Hong Kong to China in July, 1997. The new ASA means the unpopular monthly charter schedule will disappear and all of Dragonair's flights from July will be scheduled services. It competes one to one with China's airlines. Previously, the ratio of seat capacity favoured the Chinese carriers by as much as seven to one on some routes.

Cathay, which also is preparing for a major fleet expansion, has no plans to reactivate services to China in the foreseeable future. It handed its Beijing and Shanghai services to Dragonair in 1990, when it took a major shareholding in what was then a struggling, privately run airline. "Our current plan is to work closely with Dragonair. It is better for both sides," said Mr Turnbull, but he did not entirely rule out an "organic" change as time progressed.

Mr Hui, who spent 22 years with Cathay, said there was both co-operation and competition with Cathay. "Cathay is our biggest, single most important interline partner," he said. "We co-operate in a lot of areas."

Competition between the airlines had been taking place for a number of years in the Taiwan and Japan markets, he said. In the same way, the principle of co-operation and competition was also in place between Dragonair and China's major carriers.

"In the next five years we will be focussing on our strengths. We will continue to be the China expert," said Mr Hui. "However, we will always look at other options in the region as we have in the past."

CNAC's Mr Wang said the relationship between the two Hong Kong airlines was more co-operation than competition. CNAC holds a small stake in Cathay too. "Cathay benefits from passenger feed from Dragonair, which in turn benefits from passenger feed from Cathay from other parts of the world. It is not vicious competition."

Looking ahead, Mr Wang said there was a lot of room for development in Hong Kong's aviation industry. "The overall situation is that airlines in Hong Kong are not yet able to satisfy the needs of economic development in the SAR," he said.



Cathay Pacific Airways chief executive David Turnbull: Cathay may be launch customer for A3XX

Why Cathay's Turnbull can afford to smile

Up to 30 new aircraft may be ordered

fter riding out the toughest baptism of any boss in the airline's history, Cathay Pacific Airways' chief executive David Turnbull, three years after taking over the hot seat, can at last afford a smile. Little wonder.

In March the airline announced a profit of HK\$2.19 billion (US\$283.7 million) to December 31, 1999, after recording a loss of HK\$542 million in 1998, its first reversal in 35 years.

"There is still a way to go," conceded Mr Turnbull. "The level of profitability has to be greater if we are to fund our future aircraft purchases. Our return on capital investment is still poor."

That may be so and complacency is not a word in his vocabulary, but after a two-year period Mr Turnbull describes as "gruesome" Cathay has produced a remarkable turnaround in the face of massive adversity.

Costs have been reduced from HK\$2.70 per available tonne kilometre (ATK) three years

ago to around HK\$2.20. The recent rise in fuel prices has accounted for 13-14 cents per ATK. This has been achieved despite the added expense of Cathay's move to a new US\$1 billion headquarters (the cost includes a new inflight kitchen) and the carrier's transfer to the new Hong Kong International Airport.

In human terms, the cost of the return to profit has been high. Cathay has cut its staff by nearly 3,000 in the last two years. This figure is close to 5,000 when subsidiary companies are taken into account. This, said Mr Turnbull, was the hardest part. "Many of these people were more than colleagues. They were friends. Some of them have done OK, but others have had trouble finding jobs."

But none of this was on the horizon when Mr Turnbull took over from Rod Eddington as Cathay's chief executive in November 1996. Indeed, the future looked bright. As Mr Turnbull told *Orient Aviation*: "We had had 25 years of good times."

In fact the good times looked about to be even better. As a consequence, in the first half of 1997 Cathay was preparing to order a mixture of 20 new aircraft from Airbus Industrie and Boeing.

But by May, management was beginning to feel a little nervous. There was a "gut feel" that something was not quite right, said Mr Turnbull. "We noticed a slackening off in bookings. This became more apparent in June."

In July of that year, Cathay told the manufacturers of their nervousness and decided to defer signing the orders for three months.

The gut feel was spot on. During those three months the economic dominoes began to fall as the Thai economy fell into deep recession and the rest of the region quickly followed.

"All bets (with the manufacturers) were off," said Mr Turnbull. "Although we had some early warning signs [of a slowdown] the extent of the recession took everyone by surprise.

"On average our yields fell 30% and on some of our most profitable routes, like Japan, 50%. Friends of mine running airlines in Europe and the U.S. said that had it happened to them it would have finished them off.

"Had we ordered those planes in 1997 they would have been delivered to us when things were absolutely hopeless. What's more, we would have ordered models like the B747-400 which we do not need now because Boeing are talking of launching different models like the B747-X."

The airline had been digging in for a longhaul recession. Management believed it could last anywhere up to five years. Only 12 months ago, outgoing chairman Peter Sutch had said: "No significant improvement is expected in 1999. We don't expect to see a turnaround anytime soon."

But, contrary to all expectations, by midyear the impossible was starting to happen. Revenue of airlines throughout the region started to improve significantly. Cathay's star performer in 1999, its cargo division, had an outstanding performance in July and August.

In the last four months of the year, passenger traffic followed suit.

So much so that Cathay, having retired

Cathay Pacific shareholding:

Swire Pacific 45.1%, CITIC Pacific 25.4%, minority shareholders 29.5% including CNAC with 2%

its 13 B747 Classics from the fleet, found itself short of capacity. In October, it leased three A340-300s from Air China and ordered two new B747-400 freighters to add to the two in service. In December, it signed a purchase deal for three A330-300s to be delivered in 2001. In February, a leasing agreement was finalised with ILFC for an A340-300.

By the end of 1999, just nine months after Mr Sutch's downbeat forecast, Cathay had seen an improvement on almost all routes. Although yields remained under strong pressure passenger numbers in the year rose 2.1% to 10.5 million. Passenger load factor increased from 67.5% in 1998 to 71.4% last year. The growth is continuing.

Cathay's turnover in 1999 rose 7.9%, but revenue is still below pre-crisis levels. Mr Turnbull expects the carrier to surpass this level in 2001. Cargo, however, broke all records last year when its turnover shot up 20.6% over 1998. It now accounts for 29% of the airline's total turnover.

It is therefore hardly surprising that Boeing and Airbus are back around the table with Cathay and negotiating in earnest.

Mr Turnbull expects to make two separate orders this year. The first announcement, in April or May, will be for between eight and 10 planes needed for "immediate use".

The second, for 15 to 20 aircraft, will be late this year. This larger order will be focussed on new models for the long-haul market, said Mr Turnbull; the Boeing B777ER, Airbus 340-500/600, the A3XX extra large aircraft "or whatever Boeing might do".

The Cathay boss said his purchasing team were seriously evaluating the A3XX and said the carrier could be a launch customer for the aircraft. "It depends on what Boeing are doing. They have not said 'we are definitely not doing that' [an extra large aircraft] and have not said 'we are doing that'. So I assume they must still be thinking about it. I cannot see them letting Airbus go alone on this."

Mr Turnbull foresees fleet growth of 8-9% a year over the next five years with Cathay's fleet, currently 65 aircraft (including three B747-200Fs leased out to subsidiary cargo airline Air Hong Kong), growing to 90-95 planes.

In the months to come Cathay will revive an ambitious route expansion plan, which was shelved at the onset of the economic downturn. Mr Turnbull wants to see Cathay flying to major cities in the region every two to three hours and twice daily to major longhaul points.

The oneworld alliance also is proving an important cog in the Cathay wheel. Having

Patience

t had been a long time coming, but when the new air services agreement (ASA) between Hong Kong and China was eventually signed in February there was no happier man in Hong Kong than Dragonair chief executive Stanley Hui.

After years of struggling with a hopelessly imbalanced ASA that granted mainland airlines an average 2.7:1 seat ratio advantage over what was generally regarded as the passengers' airline of choice into China, Dragonair was granted equal access.

"The agreement has given us all the resources we need to carry out our expansion plan for a number of years to come," said



Dragonair: on equal footing with China's airlines in the mainland

resisted joining an alliance for about two years, Mr Turbull said oneworld was paying dividends

"I will be disappointed if the oneworld benefits to us this year are not US\$50 million," he said.

But the airline chief added that caution was needed in alliance management. "We have to be careful about the number of partners and system of governance we have. We must be cohesive," said Mr Turnbull.

He believed oneworld still had room to grow. "There are a few holes to fill, but what is important is who fills the holes."

Japan Airlines, he said, was still a contender and talks were ongoing with the carrier. He would also like to see Hong Kong-based Dragonair, in which Cathay has a stake, join the fold.

The airline launched its frequent flyer programme, Asia Miles, during 1999. It has 500,000 members and is growing at the rate of 20,000-25,000 a month. The goal is to reach two million members.

Cathay is placing a major emphasis on ecommerce with a number of announcements due later in the year. But Mr Turnbull said the role of Asia Miles on the Internet is seen as crucial. "The Internet will make a big change in the way we sell and the way people buy," he said.

Once no more than nuisance value, frequent flyer programmes are now a business in themselves because of the number of non-airline partners in Asia Miles, said Mr Turnbull. "Fees are involved. It is a significant revenue generator and will become more significant."

Outsourcing has also contributed to Cathay's cost effectiveness during the recession



Cathay Pacific Airways: Looking to fly to major destinations in the region every two to three

and will be expanded.

A setback during the year was the pay dispute with flight crew, which led to a major disruption in services during June. "This was wearing for both sides," said the Cathay chief. "If we do our job properly most of the crew will get back all if not more than the pay they gave up in return for stock options."

Looking to the future of the industry in the region, Mr Turbull believes it "will be a bit more liberal, but still controlled by air service agreements on a bilateral exchange basis; a lot more capacity generally with some secondary places getting more services and a lot of new aircraft."

Cathay's plans do not include flying into China. The carrier will continue to work closely with Dragonair. Cathay gave up its Beijing and Shanghai services in 1990 and handed them to Dragonair when it took a majority shareholding in Hong Kong's second carrier. Since then, the China National Aviation Corp (CNAC) has become Dragonair's major stakeholder, with

Cathay retaining 18% and its parent Swire Pacific 8% in it.

Mr Turnbull said the airlines could distance themselves in time, but he believed it was better to work together.

One aspect of the business Mr Turnbull is adamant about is open skies or rather a lack of them until the U.S. opens its hinterland to foreign carriers. Open skies was not a subject for discussion, he believed, until the U.S. did this.

"The current agreement between the U.S. and Hong Kong provides for unlimited services between the two, but the U.S. wants to fly from Hong Kong and Singapore to the rest of Asia. Open skies without reciprocal rights in the U.S. would be very damaging for the hub," he said.

Mr Turnbull, who is married with two teenage children, thrives on challenges. None could have been greater than those he has faced in the last three years. "It was been very wearing, but I have learnt a lot," he said. He is not the only one.

pays off for Dragonair chief

Mr Hui. Hence the importance of the recent US\$600 million order for 10 new aircraft.

Sixteen of Dragonair's 25 routes are in China, but plans are in place to expand the network. It added Sanya, on Hainan Island, a popular holiday destination known as the Hawaii of the East, to its schedule in April.

The developments have not pleased its mainland competitors, but for Dragonair it is the end of a long road to establish its presence as an equal partner in China.

Majority owned by the mainland's China National Aviation Corporation (CNAC), the breakthrough for Dragonair came when Hong Kong was handed back to China in July. 1997

Prior to that date its network was restricted. It had to apply for extra "charter" flights on a month-to-month basis. Depending on the political climate between Britain and Beijing or the performance of China's airlines, these were, or were not, granted.

"It was a very messy situation, especially for our marketing department," said Mr Hui.

"But since the handover we have been pressing for clear arrangements so airlines on both sides could plan and work more efficiently."

By mid-1999 Dragonair had increased its seat capacity on China routes by 60%,

compared to services operated to China before the handover. By July it will have added another 30% capacity on mainland services and all of them will be scheduled. "The unique charter services will be a thing of the past," said Mr Hui.

The new ASA means Dragonair will have, for the first time, full ticketing and way bill rights and authority to appoint managers in its outports in China.

It also will be developing stronger ties with the major mainland carriers Air China, China Eastern Airlines and China Southern Airlines. "Commercially, we have always worked closely with these carriers, but our ties will become stronger in the future. We will be looking at the possibility of joint ventures and code-shares. While competing with each other we also look at ways we can cooperate," said Mr Hui.

Cargo has taken on a new meaning in recent times. One of the first tasks for Mr Hui when he joined the airline in 1997 was to set up a cargo department. It was familiar territory for him. Before he moved to Dragonair he had been chief operating officer at dedicated cargo carrier Air Hong Kong. The carrier was close to bankruptcy when Cathay Pacific bought a 75% stake, and Mr Hui, turned it into a healthy revenue earner. He more than anyone, realised the potential for Dragonair and cargo.

Cargo's contribution to Dragonair's bottom line has risen from 1-2% in 1997 to an expected 13% in 2000. "We have seen tremendous growth. Last year there was a 50% increase in both revenue and kilos up-lifted," said Mr Hui.

A large volume of the booming business was transshipped through Hong Kong from Shang-hai, Xiaman and Beijing in China and Kaohsiung in Taiwan. Between 45-50% of the airline's cargo is transshipment cargo, said Mr Hui.

"We need more capacity. This could mean putting larger aircraft on the routes, like

an A330, or using freighter options. We are conducting a serious review into the possibility of acquiring freighter aircraft."

Outside China Dragonair flies to Japan, Thailand, Taiwan, Indonesia, Bangladesh, Cambodia and Brunei. While keeping an eye on marketing opportunities in the region, Mr Hui said Dragonair will concentrate on its strength – China.

It is not surprising that the airline is being

Dragonair shareholding:

CNAC 43.3%; CITIC pacific Ltd 28.5%, Swire Pacific Ltd 7.7%, Cathay Pacific Airways 17.8%, Others 2.7%

courted by the major alliance groupings. Global alliance oneworld has made no secret of the fact it would like Dragonair to join. Other groupings have also made overtures to the Hong Kong-based airline.

Mr Hui was somewhat coy when asked about the carrier's plans for alliances. He said Dragonair had higher priorities, but the airline's chairman and CNAC president, Wang Guixiang, was more forthcoming.

"The Dragonair management has been asked to make comparative studies and report to the board," he said. "We have not set a time frame for making a decision, but we cannot procrastinate indefinitely," he said.

In such promising times the affable, 49year-old Mr Hui must reflect these days on his initial dealings with Dragonair.

In 1990, when Cathay and parent company, Swire Pacific, bought a 35% stake in the airline and signed a 15-year management contract, Dragonair was battling for survival. Mr Hui, who spent 22 years with Cathay, was part of the new management team, as general manager airline planning and international affairs.

When he left the airline in 1992 to become chief representative in Beijing of Cathay's parent company, the Swire Group, Dragonair was not just surviving, but thriving as it began cashing in handsomely on a lucrative China network with an unrivalled reputation for safety and service.

When the CNAC took a majority shareholding in Dragonair and Cathay terminated its management contract with the carrier, Mr Hui was seen as the man to lead Dragon-air.

Reforms on course in China

hina National Aviation Corporation (Group) Ltd chairman, Wang Guixiang, confirmed to *Orient Aviation* that a review aimed at widespread reforms in the aviation industry was continuing in Beijing.

It would include the widely speculated mergers of airlines and a downsizing in the day-to-day operational role of the Civil Aviation Administration of China (CAAC) among mainland carriers.

The reforms would, in addition to airlines, include airports, general aviation and provincial administrations, said Mr Wang.

He said that in the airline business the priorities were to increase efficiency and competitiveness.

For this reason mergers were essential. "There are too many small airlines in China and we have a problem with backward management," said Mr Wang. It also was important that the gap in operational efficiency between mainland carriers and their overseas competitors was narrowed, he said.

But when asked when the changes will be implemented, and how many airlines there will be in the future, Mr Wang said no decision had been taken as airlines were still being



Dragonair is looking to strengthen its ties with China's major carriers

consulted.

The Beijing Government also has identified the need to separate the CAAC from its direct involvement in airline management. In recent times there has been widespread criticism by the smaller, independent carriers that the CAAC favoured its own airlines in areas like route allocation and frequency. They alleged this discriminated against them and hampered their earning capacity.

Following reform, the CAAC's responsi-

bilities will be confined to macro control of the industry and regulatory work. "The airline managements will be given the power to manage," said Mr Wang.

Once again, the time frame for implementation of the policy and regulatory changes has yet to be decided. "All industry in China is undergoing reform, but the special characteristics of the aviation industry mean its reforms will follow a little behind the other industries," said Mr Wang.

Insults fly in Manila as government cancels Taiwan air services; airline at odds with tourism department

OFF AGAIN!

By Tom Ballantyne

anila has pulled the plug and reimposed a veto on direct air services between the Philippines and Taiwan just weeks after reaching a tenuous agreement with Taipei and resuming flights.

The Philippine's Civil Aeronautics Board (CAB) acted on March 15, with dramatic effect, when it refused an EVA Air B747 freighter, already on route, permission to enter Philippines air space and land at Manila. The pilot was forced to dump fuel and return to Taipei's Chiang Kai-shek airport.

The move shocked Taiwan's Civil Aeronautics Administration (CAA), which quickly reacted by imposing its own ban on flights and filed a strong protest with Manila, describing the incident as "an extremely unfriendly move".

CAA director, General Chang Yu-heng, accused the Philippines of trying to "give us trouble and cash in on" Taiwan's presidential polls, which took place on March 18.

After months of bitter verbal exchanges and uncertain negotiations, the event has dragged relations between the country's aviation authorities to a new low.

The row erupted last July when the Philippines scrapped a 1996 air services accord and accused Taiwan of poaching passengers from its flag carrier, Philippine Airlines (PAL), on the lucrative Manila-Taipei-U.S. route. Manila also alleged Taiwan airlines were exceeding the passenger load they were legally allowed



Shaky truce: Orient Aviation's headline in March.

to carry.

Direct flights between the two countries were suspended in October, but restored in February under a shaky truce many observers doubted would last. They were right. The Philippines is again accusing Taiwan's EVA and China Airlines (CAL) of exceeding their passenger limits.

A five-man CAB board, chaired by Department of Transportation and Communications secretary Vicente C. Rivera, Jr., approved a resolution to justify the cancellation of the flights. "There is in effect no meeting of the minds," said the resolution on the long-running dispute.

It said Taipei had refused to resume air consultation talks proposed in Manila a week before the latest ban. "The board has no option but to recall" the 17 flights granted for

both China Airlines and EVA Airways under the interim agreement, "effective immediately," said the board.

Taiwan's foreign ministry quickly became involved, describing the action against EVA's freighter as "unfriendly" and warning it could affect normal ties between the countries.

"It is ridiculous," said the Taiwan CAA director, Mr Chang. "Their decision was unfriendly and not in line with global practice. For this reason we decided to suspend all regular flight services with the Philippines immediately."

He added Taiwan would no longer commit to re-opening talks and Manila would be responsible for the consequences.

There are about 300,000 Filipino workers in Taiwan. Hundreds of passengers bound for Taipei were stranded.

Letters suggest Manila in the wrong

he Philippines Government is coming under increasing pressure to reverse its tough stance on air agreements and totally restructure the Civil Aeronautics Board (CAB) in the wake of the disastrous dispute with Taiwan, which has again interrupted

transport links between the two nations.

At the same time, *Orient Aviation* has obtained copies of an exchange of correspondence between the two sides which indicates Manila did breach an agreement between the two sides when it suddenly suspended the air

treaty in March for a second time.

The written communications are between Eva Estrada Kalaw, chairperson of the Manila Economic and Cultural Office (MECO) and Hsien-Ching Chan, director of the Taipei Economic and Cultural Office in the Philippines

PAL accuses tourism chief of having 'hidden agenda'

he president of Philippine Airlines (PAL), Avelino L. Zapanta, has launched a scathing attack on the country's tourism chief, Gemma Cruz-Araneta, and the Department of Tourism (DOT), accusing them of "pandering to foreign interests" and "undermining" the government in its air rights dispute with Taiwan.

Mr Zapanta accused the DOT of "allowing itself to be used as a tool of foreign interests" in pursuing a "hidden agenda" to wrest control of the Civil Aeronautics Board (CAB) from the transportation department.

The DOT has said the dispute is having an adverse effect on the country's tourism industry and has called for a ban on flights to be lifted.

"It is shameful and dishonourable for a top government official – the secretary of tourism, no less – to seek to destroy the national flag carrier and drive a wedge in the country's aviation policies," said Mr Zapanta in a statement demonstrating the growing divide in the Philippines over the issue.

"This divisive stance of the DOT has emboldened foreign interests, including foreign airlines, to engage in a big budget lobbying campaign to pressure the government to cave in to their demands."

Mr Zapanta said that at a crucial time when the Philippines is engaged in a standoff with Taiwan over air rights, the DOT's complaint that the country stood to lose Taiwanese tourists "did not help at all".

"The DOT has no business handling aviation policy. The CAB is concerned with many things besides passenger flights – cargo transport and the enforcement of air rights, for example. These are areas alien to the DOT, which is only concerned with inbound passengers," said Mr Zapanta in his statement.

"Worse, the desire to reclaim the CAB chair was causing the DOT to neglect its



PAL president, Avelino Zapanta: claims foreign airlines have engaged in a lobbying campaign to pressure government to cave in to their demands

mandate of developing the country's tourism potential.

"This hidden agenda has distracted the DOT from carrying out its responsibilities. The DOT should concentrate on doing its job first instead of meddling in aviation policy.

"Look at the tourism master plan – it has not moved at all since the present leadership took over in 1998."

(TECO), the two bodies nominally responsible for negotiations.

TECO is the de facto Taiwanese Embassy in the Philippines. In one letter, Ms Kalaw addresses her counterpart as "Dear Ambassador Chan".

In a note on January 20, MECO agreed to "fully" recognise the 1996 agreement, giving both sides 9,600 seats. However, there is a plea for self-restraint by both sides.

Taiwan replied on January 28, saying it would do this by operating only 50% – or 4,800 seats – between Taipei and Manila. In the same note, Chan stated that "in case any side intends to suspend such operation and practice, a twelve-month prior written notice shall be given to the other side".

The Philippines agreed to this the same day. "In reply, our side agrees to resume the air services between the Philippines and Taiwan on January 31, 2000."

During this exchange Manila attempted to impose additional conditions regarding sixth freedom traffic and pricing, but the Taiwanese refused to accept them. They drew attention to the fact the proposals had been suggested by PAL owner, Lucio Tan, at a meeting on January 20 and had never been agreed by the Taiwanese side.



PAL chairman, Lucio Tan: Taiwan says Tan suggested sixth freedom proposals which they rejected

Another issue which later caused problems was the CAB's cancellation of permission for China Airlines to fly between Kaohsiung and Manila, apparently justified on the grounds the 4,800 seats agreed to applied to Taiwan-Philippines, not Taipei-Manila.

In fact the correspondence shows clearly that the 4,800 seats was a voluntary selfrestraint and applied only to Taipei-Manila, which should have left CAL able to legitimately mount a daily B737 service from Kaohsiung.

Another letter obtained by *Orient Aviation*, written by the Manpower Agency Association of the Philippines, which looks after the rights of overseas workers, said that the organisation urged PAL to join CAL on the Kaohsiung route. It suggested rather than doing this, PAL went to the CAB to ask them to cancel CAL's service on the grounds of "unfair marketing advantage".

The machinations in Manila are prompting heated national debate. Three House of Representative committees – tourism, transportation and communications and foreign affairs – have now swung their full support behind liberalisation.

They have written to the newly created Economic Co-ordinating Council (ECC), the Estrada government's policy co-ordination body, seeking a full review of aviation policy and an overhaul of the CAB.

This came after the CAB admitted in committee hearings there were policy distortions favouring PAL.

Senator Francisco S. Tatad, chairman of the Senate foreign affairs committee, has taken up the cause by demanding a chamber inquiry into the entire aviation policy mess.

SIA's Air NZ bid stalled

But Brierley chief confident deal will go through

By Tom Ballantyne

ttempts by Singapore Airlines (SIA) to take a equity stake in Air New Zealand (Air NZ) were back in limbo in late March. The move stalled just hours before SIA chief executive, Dr Cheong Choong Kong, was to sign a deal purchasing 17% of the Auckland flag carrier held by major shareholder Brierley Investments.

It was the latest hiccup in SIA's long-running effort to buy into Air NZ and, through it, gain influence in the running of Australia's Ansett Australia. In February, Air NZ won full control of Ansett Australia when it bought News Ltd's 50% share of the Australian carrier's domestic arm.

The breakdown of the latest negotiations came after Dr Cheong had flown to Auckland to finalise a preliminary agreement apparently negotiated earlier with Brierley's Singapore-based chief executive, Greg Terry.

Mr Terry has since said he is confident SIA will eventually buy into Air NZ.

He denied the reason for the breakdown was because Brierley chairman, Sir Selwyn Cushing, who also is chairman of Air NZ, attempted to increase the share price. "This was completely untrue and inaccurate," he said. It is understood there also was disagreement over the number of board positions SIA would ultimately hold.

Analysts had said they believed the original agreement priced shares at between NZ\$2.75 and NZ\$2.80 (US\$1.36 and US\$1.38) a share, but that Sir Selwyn had asked for NZ\$3 (US\$1.48) at the last minute. SIA refused to budge on the original agreement.

Last year, SIA was angry when Air NZ floored a deal under which it had agreed to purchase half of Ansett from the Murdoch group. The New Zealand carrier, half owner of Ansett and with first rights to the remainder, refused to allow the deal to proceed and ended up buying the shares itself, paying US\$414 million.

While full details of the proposed SIA buy into Air NZ remain confidential, sources in New Zealand suggest it wanted to initially purchase Brierley's 17% stake of B shares, which can be owned by foreign interests. Along with A shares, available to New Zealanders, Brierley



Brierley and Air NZ chairman
Sir Selwyn Cushing: suggestions
he may have raised the share price
have been denied

owns 47% overall.

But SIA wants to increase its stake to 25% by buying more shares in the open market. Ultimately, it has a 40% stake in mind.

New Zealand Prime Minister, Helen Clark, has expressed concern over the impact of SIA holding such a large slice of the national carrier

"The problem with a 40% stake is that the government's ability to negotiate extra traffic rights into other countries would be compromised," said Ms Clark in a statement.

Most analysts disagree with this view, pointing out that as long as more than half the airline is New Zealand-owned, there should be no problem with traffic rights.

There would have to be regulatory change in New Zealand to allow SIA to achieve its goals. Under present law, a foreign airline can only own up to 25% of the country's dominant airline, although two foreign airlines can own a combined 35%

It is no secret that SIA has a war chest of spare cash and an ambitious programme of potential investment in other carriers. The airline has often stated publicly that it intends to build a stable of airlines and airline-related businesses in which it has equity involvement.

It has failed to secure stakes in China Airlines, South African Airlines and Ansett Australia and to win approval for involvement in a proposed new Indian domestic carrier with Tata Industries.

It did succeed in buying 49% of Sir Richard Branson's Virgin Atlantic Airways last December, although that move has already caused some consternation amongst analysts and industry observers.

This is because Virgin has announced plans to launch a start-up Australian domestic airline later this year and has invited SIA to become a partner in the venture. If SIA succeeds in snaring a share in Air NZ and, through that, influence in Ansett, it would in effect be competing directly in Australia with a business in which it has a major interest.

Of one thing there is no doubt. SIA is determined, one way or another, to become a powerful influence in the Australasian market. Little wonder. Its sales in the area have risen 43% over the past five years and it has constantly increased its international capacity into Australasia.

As for Virgin, it appears unperturbed by the latest developments. A spokesman said any deal between SIA and Air NZ would "make no difference whatsoever" to its links with SIA. "When we announced the tie-up with Singapore, we made it clear that it didn't affect either airline's ability to compete in various markets," he said.

The UK and Singapore partners may have other things in mind. Sources suggest SIA and Virgin are already working on a joint bid for a stake in state-owned Air India, which would be privatised under the government's new aviation policy.

According to an Indian civil aviation ministry source, they have already approached the government seeking information about bilateral rights held by Air India, its accumulated losses and its fleet.

• Elsewhere in Australasia, it appears rumours of a senior management change at Qantas Airways may be premature. Reports were circulating during March that chief executive, James Strong, may replace British Airways chief executive, Bob Ayling, who resigned after pressure from shareholders unhappy with the lacklustre performance of the airline during his tenure.

Insiders at Qantas say reports should be treated with scepticism and Mr Strong is unlikely to leave the airline.

Accidents and incidents are an airline management's worst nightmares. But when you are widely accepted as the world's

safest airline and one of your B747s runs off the end of a runway the glare of public attention can be blinding ... and cruel.

OUT OF THE BLUE

Qantas chief executive James Strong talked frankly to TOM BALLANTYNE about the aftermath of flight QF1 to Bangkok last September

t was the night the heart of Qantas man agement missed a beat: September 23, 1999, at around 10.47pm. With thunderstorms and heavy rain battering the area around Bangkok's Don Muang International Airport, Qantas flight QF1, a B747-400 inbound from Sydney, touched down on wet tarmac.

What happened next gave the 391 passengers, 16 cabin crew and three pilots a frightening glimpse of potential disaster. For 25 seconds, the big jet roared down the runway, gradually losing speed.

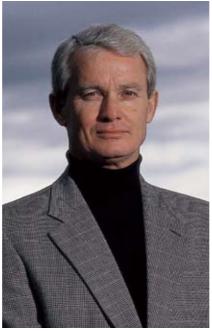
But it didn't stop. Running off the end at around 79 knots, it collided with an ILS localiser antenna and continued another 80 metres with the front undercarriage broken, finally stopping with the nose resting on an airport perimeter road.

Although there was around US\$100 million damage to the jet, no one died and, in the circumstances, injuries were relatively minor.

For Qantas, that was hardly a relief. Given the airline's extraordinary safety record, the incident, its worst in five decades, was bound to attract enormous media attention ... and it did.

Was the Australian flag slipping on the safety front? Was its drive for profits – the carrier has been reporting record income, even in the midst of the Asian economic downturn – impacting on standards?

Such suggestions, insisted Qantas chief executive James Strong, were totally unfounded. He rejected them entirely. "Qantas still observes standards that are above the



Qantas Airways' chief executive James Strong: safety record "a fragile asset"

required minimum in virtually every area of our operation, including maintenance and safety issues," he said forcefully.

"A classic example of this is the collision avoidance radar. We decided voluntarily to put that into our domestic aircraft before it was required by legislation. That cost us A\$30 million and is indicative of our attitude."

An accident like Bangkok affects every-

one's thinking, according to Mr Strong. "With the very good record Qantas has had for so many years, an accident of this nature was out of the blue.

"It has meant everybody has realised or remembered we are in an industry where you don't control the circumstances, all the environment. Therefore every aspect of the practices that you follow in your business needs great vigilance in terms of how it is conducted and how you operate.

"It has firmed even more the resolve in the company to make sure we always have the highest standards. Whilst it is very unfortunate, it does have its positive side in terms of focussing people even more than ever and giving us a renewed resolve to ensure that we do maintain high standards."

For Qantas, QF1 raised other issues, such as confronting media coverage that mounted in intensity as the weeks passed, mainly because Bangkok was not the only drama it faced.

The landing in Thailand came just weeks after another scare, when the engine of a B747 struck the runway on landing in Perth, West Australia, the result of windshear hitting the aircraft as it approached.

There were other incidents, in aviation terms hardly life-threatening, but still generating unwelcome newspaper and television headlines.

 November 14. On a B747 flight from Brisbane to Auckland, a child inadvertently set off an emergency exit chute, which deployed inside the cabin at 30,000 feet.

- December 26. Parts of an engine on a B747 broke off after take-off from Brisbane, damaging leading edge flap panels.
- January 21. A British Aerospace BAe 146 flight operated by Qantas subsidiary Airlink, landed without incident at Darwin after a mechanical fault developed in one of the aircraft's four engines.

"We investigate every air incident report and monitor them at every meeting of the safety committee of the board," said Mr Strong, who also stressed his own personal involvement. "We monitor the rate of incidents on every type of aircraft by the nature of the incidents and the frequency. There is no trend of increased incidents whatsoever."

But after Bangkok, the media has tried to link these incidents. "If you look at each one of the incidents there is absolutely no commonality in any of them. I think this is very important to note," said Mr Strong.

"We operate about 220,000 flight sectors a year. By the very nature of so many operations and so much equipment there are going to be incidents.

"Every one of them has to be taken seriously. The way in which Qantas runs its whole operations from a maintenance point of view and the way in which its pilots exercise judgement at all times means those incidents are controlled and there isn't any catastrophe resulting from them – and that's the track record.

"The important point is there is no commonality and no evidence of systemic problems."

Mr Strong is particularly scathing about Australian press coverage of Bangkok. He insisted some reports were totally inaccurate. One newspaper, for example, published a front page article which Mr Strong said had 30 references to anonymous sources and not one reference to a specific source.

"We realise if there is no official material it is difficult, but to float 30 something unsourced comments in a front page article which contained glaring inaccuracies, I think is quite irresponsible," he said.

Another Sydney newspaper published what Mr Strong described as a series of "flagrant inaccuracies", which he said have never been corrected.

"At one stage a journalist ran the line that a probable cause was that the pilot was running low on fuel, when it was subsequently revealed he had several hours of flying left," he said. "There was never any retraction."

Then there was a report that the aircraft landed more than halfway down the runway. "They quoted firemen at the scene who said

Investigations continue

A ustralia's Bureau of Air Safety Inves tigation issued an Interim Factual Report on the Bangkok incident on November 26. The investigation is continuing and a final report, which will include conclusions and safety recommendations, will be released in due course. Qantas's own internal investigation also is continuing.

they could see the plane was too high and they set off in their fire engines before it landed," Mr Strong said. "It was an absolute joke, because there were no fire tenders there until 15 minutes afterwards."

To some extent, because Qantas had an extremely high profile in Australia and a great reputation for safety, he accepted a lot of attention would be focussed on the airline.

"We responded very quickly on the day by confirming as much information as we could and concentrating also on the fact that nobody had been killed or badly injured," he said. "But even today the press coverage is of a type which I think is meant for effect and is quite irresponsible in terms of the general public perception of aviation which, as we all know, is the safest form of transport around."

Mr Strong said the issue raised the perennial dilemma faced by airlines and authorities over how quickly and how much information should be released. When you have an event like the QF1 incident, everybody wants to know the cause immediately. "By the very nature of the inquiry process – which not only examines what happened but tries to find out why it happened by interpretation of the actual events – it takes quite an amount of time and it has to be very high quality

investigation. It has to be very fair to all the parties," said Mr Strong.

"So every time there is an accident of this nature ... you have this dilemma of not being able to say anything authoritative for a long time. On the other hand you get an incredible amount of speculation and rumour and theories and 'expert' opinion by everybody on the sidelines. All this is much worse these days with the Internet, where people can propagate any idea without any responsibility or accountability."

Mr Strong said a classic example was the Egypt Air crash off the U.S. East Coast a few months ago. "There you saw the authorities making very early statements about possible causes that led to a frenzy of media coverage which subsequently became totally at doubt. Here we are, months later, and there is no authoritative interpretation of what actually caused that incident.

"It shows you that sometimes, if a responsible authority tries to speak early, it can worsen the situation."

None of this deflects Mr Strong from the primary issue of maintaining safety. He said there had been no change in the fundamental, inbuilt attitude of all staff that safety must come first.

"Our board is obsessive about safety and that is reflected in the way we manage the business. Also it is borne out by the track record," he said.

Above all, Mr Strong knows a safety record is a fragile asset. "It's a day by day proposition. That is why you have to have so much focus on it, so much inbuilt attitude about it. But in the end Qantas has an absolutely outstanding record and everybody here is committed to making sure that remains the case," he said.



Qantas Airways: widely accepted as the safest airline in the world

By Tom Ballantyne

he Association of Asia Pacific Airlines (AAPA) has been asked by the U.S.-based Flight Safety Foundation (FSF) to spearhead efforts in the Asia-Pacific to reduce controlled flight into terrain (CFIT) and approach and landing accidents (ALA), the global industry's most common types of air accidents.

AAPA technical director, Leroy Keith, attended a FSF meeting in March and will report to the association's Flight Operations and Safety Working Group (FOSWG) with recommendations on future action.

Among other measures to intensify efforts to reduce crash rates, the AAPA has requested observer status at meetings of a key U.S. review body, the Commercial Aviation Safety Team, or CAST, according to Mr Keith.

CAST, involving global aviation industry and regulatory authorities, was created to review aviation safety in general following the crash of TWA Flight 800 in 1996. One particular area of emphasis is the reduction of CFIT and ALAs world-wide.

Addressing the 4th Aviation Insurance Conference in Singapore, Mr Keith told delegates AAPA member airlines are spending more on safety and training budgets. "In spite of all the safety initiatives taken or underway, we will continue to look for ways to improve."

The whole issue of safety and the nature of each airline's individual managerial and operational practices are highly sensitive to each airline, he added, but AAPA chief executives collectively recognise they have a vested interest in the enhancement of safety in the region. The 18 AAPA member airlines operate 1,263 aircraft, including 853 wide-bodied planes, which account for about 26% of the world's wide-body fleet.

Last November the AAPA's Assembly of Presidents passed a resolution to reinforce safety co-operation among its airlines.

Mr Keith said the FOSWG, where members exchange information on significant operational issues affecting safety, is focusing on procedures or training to prevent CFIT and ALAs. Of all major transport accidents in the last 20 years, CFIT and ALA are by far the leading causes." The FSF has developed several tools which FOSWG members are reviewing.

Good "checklists" have been developed by various organisations for use by airlines to get a "snapshot" of the safety culture in their companies. "The FOSWG members are working with either the British CAA or European JAR-OPS safety checklists, or any other

AAPA to head major safety drive

Reduction of CFIT and ALA a priority

company audit checklist which they may think appropriate, and they will report on the status of the audit." he said.

This type of safety audit can make sure airlines have a sound safety infrastructure. They can take corrective measures if the safety audit identifies areas for improvement.

Mr Keith said the Asia-Pacific region has had several highly visible accidents in the last few years, by both AAPA and non-AAPA airlines. "While poor weather has been a contributing factor in one or two cases, the majority of aircraft losses still appear to involve a major element of human factors, namely crew control of the aircraft." said Mr Keith.

'AAPA airlines are spending more on safety and training budgets'

Since 1997 there have been approximately 32 accidents involving fatalities or total hull loss by 22 transport category passenger and cargo aircraft operating scheduled services in the Asia-Pacific, including South Asia, China, Australasia and the Pacific Basin to the international dateline. Eleven of the accidents involved six AAPA carriers.

"Some of the airlines with the best safety records in the world are members of the AAPA. The press, as would be expected, has focused on these highly visible accidents and has raised questions about the safety of air transportation in the region in general. This has the potential of resulting in undeserved negative publicity for all airlines in the region.

"The AAPA members recognise that all member airlines can be painted with this broad regional brush of negative publicity. Since the travelling public has very high expectations about air safety, if they become concerned about regional safety, they have the option to fly other non-Asian airlines. This, of course, is a concern to our members."

Mr Keith said factors such as these, but most importantly factors to ensure all steps are being taken to maintain the highest possible level of safety and to prevent future accidents were the reasons for the safety resolution passed last November.

In addition, the association has several safety initiatives underway. Training initiatives by member airline's include:

- Several airlines have either purchased or are leasing the latest state-of-the-art simulators or are entering into long-term contracts with major internationally recognised training organisations such as FlightSafety Boeing or Lufthansa Flight Training.
- Specialised consultants are being hired on an as-needed basis, including, in some cases, staff from other airlines.
- Modification of training techniques based on new technology member airlines are operating.
- Recognition of the "softer" critical knowledge skills, as opposed to pure technical skills, such as English language training and awareness training for both cultural sensitivities and multi-culture crew mix.
- Crew resource management training, including the critical role cabin crews play in safety and control of unruly passengers, are being given greater emphasis.
- Several member airlines are now increasing the number of western pilots in their organisations.

Mr Keith said similar initiatives are occurring in maintenance training departments and computer-based training is being used more extensively to train staff for modern, complex aircraft systems. "Some member airlines are including more human factors training in maintenance for all employees, including management. They also are measuring trends and analysing the data to identify root causes of errors and starting to move away from a 'fix blame' culture to 'fixing problems', so people will be more inclined to report problems, or their own mistakes," he added.

"The importance of cabin crew in safety is increasingly being recognised. They are now included in crew resource management training with flight deck crews at a number of our airlines."

21 carriers in airport court action

By Tom Ballantyne

ourt action against Sydney Airport authorities over proposed hikes in landing fees now involves 21 international airlines. Thirteen more have added their names to legal moves launched earlier this year by eight operators.

They are suing Sydney Airport Corporation Ltd (SACL), claiming the planned increases break a promise made by airport management in 1997. Carriers say a rise in aeronautical charges from US\$59.8 million to \$129.3 million annually is designed to recoup \$219.6 million spent modernising the international airport.

They also want compensation for extra costs incurred for disruption during the work.

In March, a Sydney court heard from the airlines' legal counsel that his clients were told before upgrading work started they would not have to pay increased fees. Now costs have soared.

Causes of the action include broken assurances, negligence and alleged misleading and deceptive conduct.

Lawyers for the airport said there were 30 airlines that were not suing. Proceedings were adjourned until April 27.

The case was initially taken to court by Qantas Airways, Aerolineas Argentinas, British Airways, Air Pacific, Cathay Pacific Airways and Thai Airways International. Air Vanuatu, Egypt Air, Garuda Indonesia, Gulf Air, Japan Airlines, KLM, Korean Air, Lauda Air, Malaysia Airlines, Olympic Airlines, Polynesian Airlines, Singapore Airlines and South African Airways are now involved. Ansett and Air New Zealand have taken parallel action. The two cases are being heard at the same time.

Outside the court, the executive director of the Board of Airline Representatives of Australia (BARA), Warren Bennett, pledged to continue fighting the proposed fees, which must be approved by the Australian Competition and Consumer Commission (ACCC). If given the go-ahead, the higher charges would be introduced late this year.

Mr Bennett, said meetings had been held with SACL in March, but basic disagreements had not been resolved. "There was a fair gulf between us," he said.

SACL has agreed to hold future meetings to discuss individual elements of its pricing plan.

Under the proposal, increased landing charges would be: B737-300 – up 243% from A\$690 (US\$421) to A\$2,367 (US\$1,444); B767-300 – up 158% from A\$2,079 (US\$1,268) to A\$5,362 (US\$3,271); A340 – up 136% from A\$2,899 (US\$1,768) to A\$6,834 (US\$4,169); B747-400 – up 128% from A\$4,469 (US\$2,726) to A\$10,208 (US\$6,227).

By Tom Ballantyne

irlines can expect to see a substantial rise in insurance premiums in the next two years as underwriters strive to turn ongoing losses into acceptable profits, a leading insurer has warned.

Speaking at the 4th Aviation Insurance Conference in Singapore, Gary Cooke, senior vice-president and aviation underwriter for ACE Bermuda Insurance Ltd, said in the last 11 years underwriters have suffered losses of nearly US\$2 billion, a situation which could not be allowed to continue.

"Our intention always is to be fair and reasonable, but I trust you will not think it unreasonable if we now attempt to put our respective houses in order and do what we are intended to do – that is to make a profit," he said.

Mr Cooke painted a dismal picture of airline insurance trends at the conference. In 1997, insurers collected premiums of \$1.2 billion and lost a similar amount. In 1998, premiums dropped to \$900 million, but losses approached \$2 billion.

Last year the premium figure was \$1 billion and losses were \$1.75 billion, despite 1999 being one of the safest aviation years on record with low passenger fatalities. There were 27 major jet losses with 512 fatalities, well below the annual average. Importantly, only 14 fatalities occurred in the litigiously minded North American zone.

"After a year like that it is understandable for underwriters to look for signs of improvement that may give them reason for hope.

Airlines brace for higher insurance costs

Indeed, we did see the premium volume during the year increase by approximately \$100 million." said Mr Cooke.

"Unfortunately, even that provides no cause for celebration. A closer look at the business base clearly shows this small increase belies an underlying further erosion in the rating base as the entire \$100 million increase can be accounted for by five airlines that had suffered multiple losses," said Mr Cooke.

The problem not only lay with low airline premiums, but also in associated businesses such as manufacturing products, airports and other aviation services, where the picture was just as bad.

One recent example was Australia where polluted fuel resulted in the grounding of about 5,000 turbine aircraft. "This loss has yet to be fully costed, but with a global income for airports and refuellers of around \$150 million, again underwriters are not coming out of this well." said Mr Cooke.

Insurers have been operating in a soft market for four years, but they are now saying

enough is enough, he warned. "Underwriters are determined that premium reductions must be reversed. We are seeking and will continue to seek increases."

Mr Cooke said the industry had to provide for future losses and everybody knew these would be more expensive than in the past. An actuary had forecast that this year underwriters would need to provide for \$1.65 billion of losses, \$1.775 billion in 2001 and \$1.9 billion in 2002.

"That means to achieve targeted rates of return the market requires \$2.35 billion of premium in the year 2000, \$2.535 billion in 2001 and \$2.7 billion in 2002," he said.

This year had started poorly for insurers with two major losses in January; a Kenya Airways A310 off the African west coast and an Alaskan Airlines MD80 off California. "Hull losses are already well ahead of the same period last year and after just one month passenger fatalities are more than 50% of the entire total for last year. Importantly, following the Alaskan loss, we have significant fatalities in North America."

Mr Cooke said while one month does not make a year, it did emphasise the importance of the insurers' stance on premium levels.

"We simply have to put it right because the alternative is to stop writing the business. It is as simple as that. Losses will occur where and when they will and they are not necessarily respecters of hitherto good safety records," he said.

"My point is that as underwriters we have no prior knowledge of where and when losses will occur. We can only rely upon our training and work to ensure equity among our many insured and that within that equity the losses of the few are paid by the premiums of the many.

"If we are to behave responsibly on behalf of our names, shareholders or other capital providers, we have a responsibility to at least price our product at a level where there is a reasonable expectation of profit," he said.

TAAATS on show in the U.S.

irservices Australia has moved up a gear in its efforts to help win a major contract from the U.S. Federal Aviation Administration for a new automated air traffic management system, which would include urgently needed oceanic coverage capability. Airservices is part of the ARINC-led consortium vying for the deal.

A team of five Australian air traffic controllers and technical specialists flew to the U.S. in March to demonstrate the Australian Advanced Air Traffic System (TAAATS), claimed by Airservices to be the most modern in the world.

Developed by Airsys ATM Australia, it was officially commissioned on March 11, the culmination of the single biggest

infrastructure modernisation programme ever undertaken in Australian ATC.

Airservices has a contract with ARINC, the U.S.-based aviation communications company, to provide controllers and specialists to demonstrate the capabilities of the GlobalCAT air traffic system, which is based almost entirely on TAAATS.

GlobalCAT is the centrepiece of AR-INC's bid – it also involves Airsys ATM – to modernise American oceanic ATC centres in New York, Oakland, California and Anchorage, Alaska.

It faces stiff competition from up to four U.S. and Canadian consortiums including Lockheed Martin, Raytheon, Diversified International Sciences Corporation and NavCanada. irlines world-wide must work together and show they are taking positive action in areas like environment and passenger rights to fend off moves towards re-regulation, the director general of the Association of Asia Pacific Airlines (AAPA), Richard Stirland, has warned.

Speaking after attending a Washington D.C. meeting of the world's airline associations, representing 95% of the world's operators, he said the planned imposition of new rules on various fronts will have a flow-on effect which would ultimately impact on all airlines, including those in the Asia-Pacific.

All the associations, representing carriers from Asia-Pacific, North, Central and South America, Europe, Africa and the Middle East agreed to work collectively on a common position on Chapter 4 noise regulations; tough new rules designed to force older, noisier aircraft out of the skies.

No date has been set for implementation, but an outline is expected to be ready by September when the International Civil Aviation Organisation (ICAO) holds its next Assembly.

The associations also:

- want governments to redouble efforts to modernise Air Traffic Management (ATM) systems across the globe.
- pledged to work on behalf of their passengers to counteract the serious trend toward escalating taxes and charges, including the excessive fee increases associated with airport privatisation.
- urged ICAO to update and enforce regulations on safety oversight as well as pressing the International Air Transport Association (IATA) to greater efforts on a

Noise, passenger rights top airlines' concerns

By Tom Ballantyne

number of issues.

 urged governments to protect the airline communication frequency spectrum.

On the noise issue, airlines argue that the current Chapter 4 regulations will result in airlines losing billions of dollars in fleet value as they are forced to phase out aircraft before their economic life has expired.

A study by the Campbell-Hill Aviation Group on this financial impact was outlined to the regional association officials in Washington.

It found about 15% of the current global airline fleet, worth US\$49 billion, would fail the base requirements of Chapter 4 regulations. But 62% of the fleet, worth US\$209 billion, would fail even more stringent rules, Chapter 4 CUM3.

In the case of Asia, where airlines operate mostly new aircraft, only 8% would fail the base rules, although 56% would fail the more stringent regulations. The cost for carriers in the region would be astronomical, making it impossible for airlines to achieve proper

returns on their investments.

Another area of concern involves moves by the European Commission to introduce regulations governing passenger rights, a form of consumer protection exclusively directed at airlines

Carriers elsewhere fear if such regulations go ahead they could be copied and imposed without choice.

The European Regions Airline Association (ERA) is fighting to halt the regulation. It said it is willing to consider a "passenger charter", which should be a voluntary code of conduct drawn up by the industry.

The AAPA also favours the voluntary approach. "It is a mistake to say we are against passengers' rights, but there has to be a balance between the rights of the airlines and the rights of the passengers. Why should passengers be compensated for being bumped off when airlines are not compensated for passengers who don't turn up," said Mr Stirland

Row escalates over hush kit threat

hush kit war has erupted between Washington and Brussels, with legislators hurling verbal salvoes across the Atlantic at each other amid threats of vetoes on air movements and protest moves through the International Civil Aviation Organisation (ICAO).

The U.S. has warned it could halt Europe's Concorde from flying into America or impose sanctions on Airbus Industrie's planned new A3XX. The European Commission has reacted with threats to impose its own sanctions.

The row is about an EU threat to ban hush kit aircraft. The ban on EU aircraft is due to come into effect on May 4. From 2002 it will apply to all non-EU aircraft. The hush kits, used to

suppress noise on the engines of older planes, are manufactured in the U.S.

This will have no impact on Asian airlines, which have no hush-kitted jets. However, the U.S. in particular has a large fleet of older jets, many operated by freight airlines flying into Europe.

U.S. Commerce Under Secretary, David Aaron, said the ban discriminated against U.S. airlines and manufacturers. Washington rejected a compromise on the issue proposed by the EU and has filed a complaint with ICAO. If it rules against the EU, the member states could lose their ICAO voting rights.

The EU offered to postpone the ban if the U.S. agreed to a joint statement on the reduction of noise pollution and dropped its ICAO

complaint.

Mr Aaron said the EU ban "amounts to a prohibition on American equipment" which was "a very dangerous precedent".

He added the U.S. "may decide there are technical reasons to exclude European aviation equipment from the U.S.", citing the Anglo-French Concorde and the Airbus A3XX as potential targets.

EU spokesman, Gilles Gantelet, responded: "If the Americans take action against Europe, we will have to react. You must be proportional. If there is a threat to Concorde and they say it can't land in the U.S., the EU must file a complaint, because it's against the rules on the freedom of flights."

Why was a Cambodian airline, run by a Thai managing director, ferrying passengers all the way from England to Afghanistan? PATRICK GARRETT finds out.

Udom, the deal maker

ven for Udom Tantiprasongchai, the colourful and entrepreneurial managing director of both Kampuchea Airlines and Orient Thai, it was one of the more unusual ad hoc charter deals.

It all began in February when hijackers took over a domestic Afghan flight and forced it to fly via Tashkent, Mazar-e-Sharif and Moscow to Stansted Airport, England.

Although the motives of the Afghan hijackers are not clear to this day, the drama was peacefully resolved by British police after 76 hours of tense negotiations. The alleged gunmen are now awaiting trial.

While some of the Afghan passengers seized the chance to apply for political asylum in Britain, others wanted to return to their families. The Ariana Airlines Boeing 727 was unable to leave immediately, so the Genevabased International Organisation for Migration (IOM) stepped in to assist with their return.

Enter Udom. Kampuchea Airlines successfully bid for the IOM charter back to Afghanistan and a few days after the siege ended their L1011 was in Kandahar, engulfing young Taleban soldiers guarding the landing strip in a whirlwind of sand as it taxied to a standstill. The 73 ex-hostages, accompanied by an IOM doctor, were greeted by Taleban officials as they arrived back home and presented with gifts: turbans for the men, cloth for the woman, and flowers for the children and crew.

It might appear odd that Kampuchea Airlines is now tendering for ad hoc charters out of Europe, but this was not the first IOM flight for the Asian carrier. In the last 12 months Udom's company has helped the IOM return thousands of displaced people to the Balkans and East Timor.

Indeed, a broad-minded approach to spotting unusual opportunities is probably the secret behind Udom's business survival. Orient Thai once operated a limited service within Thailand, but government regulations,



Kampuchea Airlines and Orient Thai managing director, Udom Tantiprasongchai: may run Haj flights from Kabul

which restricted most domestic routes to Thai Airways International (THAI) or newcomer Angel Airlines, finally forced an exasperated Udom to head into Phnom Penh and further afield

Kampuchea Airlines is operated as a joint venture by the Thai businessman with the Cambodian Government. It shares the Orient Thai fleet – two L1011s – whose call sign depends on whether they are flying for Orient Thai or Kampuchea Airlines on a particular day.

In the last 12 months, the two L1011s have been kept busy on IOM refugee operations.

According to the head of IOM's Geneva-based operations unit, Michel Tonneau, between August 6 and October 27, 1999, Kampuchea Airlines operated 13 flights from Australia to Skopje in Macedonia, returning a total of 3,138 Kosovars. The refugees were then transported by bus from Skopje to Pristina in Kosovo. Qantas's commercial network also was used. The Asian airline also operated 16 intra-Europe flights, returning 4,823 Kosovar refugees from Switzerland to the Balkans. The last flight was on January 25.

Closer to home, refugee crises also have been a source of work for the carrier. After the carnage in East Timor subsided, Kampuchea Airlines transported 4,137 East Timorese on 16 flights back to Dili and Bacau. Most of the passengers came from within Indonesia (Jakarta, Surabaya and Bali), but some evacuees returned from Australia.

"We call ourselves a 'can do airline'" Udom told *Orient Aviation*.

When his company was launched, he said, the majority of the captains were millionaires who had retired from U.S. carriers at the age of 59, at the end of A-scale careers. His current cockpit crews are a multinational bunch – American, Canadian, Australian, Thai, Greek, Peruvian and Dutch.

Two crews shared the Australia-Balkans flights. The cabin crews are a mixture of Thais and Cambodians, "depending on what call sign we operate," said Udom. "Most of the time we mix both nationalities."

The flight into Afghanistan had obvious advantages over operations into most major airports – no problems with slots. "The flight to Kandahar went very smoothly and the ground time was less than one hour," said Udom.

Catering for the refugees was standard airline fare for local handling agents, based on the passengers' religious and cultural requirements. The contract was on a full-charter basis

Since the IOM copes with the human fallout from the unexpected, the opportunities offered to Asian airlines are, to say the least, unpredictable. But last year, IOM moved about 285,000 people by air, spending more than US\$100 million. Udom explained the IOM choose carriers based on their location and past experience. Indeed, not all contracts are open to all carriers. The Kosovo refugees evacuated to America were financed by the U.S. Government and thus could only fly on These regulations also govern U.S. civil and

military service personnel.

Udom's business also identifies "peak sea-son charters from China to Thailand, Haj flights to Jeddah and possibly rest and recreation (R&R) trips for U.N. personnel from East Timor to Singapore, Bali or maybe Bangkok", as important areas for this year.

He has been active in seeking joint ventures. Back in 1998, he was in Indonesia attempting to sub-lease bankrupt Sempati Air's Airline Operators Certificate (AOC) for domestic services.

After negotiations fell through he found himself working with government-owned Merpati Nusantara – whose two leased Airbus aircraft had just been repossessed – to ferry stranded tourists between Australia and Bali.

European tour operators also used the carrier to evacuate thousands of tourists to Thailand when trouble was feared in Bali. There have been charter negotiations with Taiwan and Israel and joint venture discussions in Laos.

Udom has expressed an interest in Myanmar International Airlines, or, in particular, its traffic rights. He has had discussions with the Burmese airline and the Ministry of Transportation in Yangon, with a view to taking a 51% equity stake in the company and leasing an Airbus to concentrate on three key regional routes – Bangkok, Singapore and Hong Kong.

"We're still waiting for their final answer, but I have less and less interest due to the uncertainty of the political situation there," he said.

In the short-term, the boss said scheduled services are planned between Bangkok-Siem Reap (Angkor), Siem Reap-Phnom Penh, Phom Penh-Hong Kong, Hong Kong-Siem Reap and some points in China, such as Guangzhou and Shanghai, starting after April.

"We shall use different equipment (possibly an A320) and retain our L1011s for charter operations so as not to effect that operation," said Udom.

In recent weeks he has been globetrotting himself. He went to Jeddah to discuss Haj charters and to Shanghai. "My trip to Shanghai was to finalise co-operation with a Chinese carrier for code-sharing. I cannot disclose who it is until we have the final agreement," he told *Orient Aviation*.

And back in Afghanistan, Udom is investigating opportunities for Haj flights. If he secures the business he plans a trip to Kabul soon and promises to report back with his own unique impressions.



Kampuchea Airlines: have charter, will travel

Mercy flights cost IOM \$1b

elgian Michel Tonneau began working with the International Organisation for Migration (IOM) in Vietnam in 1988, but is now based at their headquarters in Geneva. However his heart, he says, will remain in Asia forever.

The political science and international relations graduate has a Vietnamese wife and worked in the region until 1993, on the Orderly Departure Programme. Managed by the IOM, Vietnam, the United Nations High Commission for Refugees (UNHCR) and the first asylum resettlement countries, 200,000 Vietnamese were reunited with families abroad during his five years.

The scale of IOM airline operations is enormous. Of the 424,941 people it moved last year, some 285,000 travelled by air. The air expenditure last year was US\$1.03 billion.

In Kosovo the IOM was involved in both the evacuation (April-June 1999) and repatriation (July 1999 onwards). A total of 59,993 Kosovars were taken to safety in Europe, America and Australia with IOM help, while others left the troubled region by alternative routes.

The primary destinations were Europe (particularly Germany and Scandinavia), the U.S., Canada, Turkey and Australia. The IOM employed 13 different carriers and chartered 365 flights to take Kosovo Albanians to 21 different countries for temporary or permanent resettlement.

Thirty-nine carriers have so far been involved in return operations. Last year alone 631 flights were chartered.

W394 people to Kosovo. The operation is ongoing.

Khazak, Armenian, Ukrainian, Estonian and Macedonian carriers were involved, alongside European, Turkish and North American flag carriers.

He says that most airlines are now very culturally sensitive and so arranging appropriate catering for the wide spectrum of IOM passengers is rarely a problem. The airlines are usually the first to ask about dietary needs and the IOM always keeps details ready.

Mr Tonneau admits that they were once caught out when carbonated drinks were served instead of water on a flight from West Africa. The refugees had no experience coping with bubbly drinks – especially at altitude – and the result, he says, was "a real disaster".

Instructions to their passengers on how to behave in the aircraft is often an important part of the IOM's work. Flying can be quite a shock for some. Some passengers might have spent five years in a refugee camp, or never even used a western-style toilet, especially not in an aircraft. IOM staff are careful to ensure these important skills are first learnt on the ground.

In February, Mr Tonneau was one of 12 IOM staff members to receive an award for outstanding work on behalf of the nearly half-million people the IOM helped last year.

"IOM can count on a dedicated team of professionals to make things happen," said Mr Tonneau. "I count myself lucky to be among them."

n my column about the mysteries of inflight entertainment software (Inflight Asia, March), I alluded to other potential concerns about flight safety such as bugs or hackers accessing mission critical software. Another area of concern for pilots and software is air traffic control (ATC) systems.

Many people are unaware of the extent software has intruded into the ATC environment. The advent of radar in World War II handed ATC a major tool for improving the safe and expeditious flow of air traffic.

First generation radar airspace was simple and required little or no software to operate. A radar antenna simply returned an echo of an aircraft to a controller's radar (CRT) screen. By observing the direction and speed of the return a controller could apply suitable separation between aircraft.

The system was limited to line of sight, but with the implementation of many radar 'heads' an ATC radar environment was created.

Further developments of the use of radar relied on this basic line of sight principle. Specialist radar systems were developed in a number of control areas. Terminal radar controlled aircraft in terminal areas. Similarly, approach radar controlled traffic in the approach control area and tower radar controlled traffic in the aerodrome circuit area. In conditions of low visibility, such as fog, ground radar control was available at many major airports like London's Heathrow Airport.

A unique military use of precision approach radar (PAR) or ground-controlled approach (GCA) was used at many jointly controlled civil/military airfields. While civilian airlines adopted pilot interpreted instrument landing systems (ILS) as the industry standard, the military pilots still relied on ground controlled landing systems such as PAR and GCA.

In some cases, for example Hong Kong's old Kai Tak airport, PAR monitoring of ILS approaches was used for many years. Computers and their associated software were restricted to air traffic flight plan management and administration. The radar screen used by these first generation radar controllers was a simple cathode ray tube showing aircraft as monochrome blips on their screens.

The first major intervention of software into the ATC environment was with so-called second generation radar systems, which use transponder information to improve radar control by reducing the time taken to identify aircraft on the controller's radar screen. Each aircraft was equipped with a military style identification device that started life as a friend or foe identifier. An aircraft was assigned a specific code to identify it from all

ATC SOFTWARE BLIPS? PILOTS CONCERNED

other aircraft in the sky at the same time. The code was activated by the pilot on request from the ATC centre, which produced a distinctively shaped blip on the controller's screen.

The transponder operated by basically returning an amplified signal to the radar that was "painting" it. Later additions to the aircraft mounted transponder included mode C altitude reporting. Now a controller could not only identify a particular aircraft but could also know its altitude.

The third generation ATC radar control



environment introduced the concept of not having a primary radar head painting an aircraft at all, but rather by using an airborne transponder to communicate data such as identifying code, altitude and speed to another transponder receiver either on the ground or on an orbiting satellite. This concept was known as secondary radar. Software was now the name of the game.

A controller did not need to actually "see" an aircraft on his screen by line of sight radar return. He or she could get the same and more information electronically manufactured by transponders and their associated software.

This was a major tool in the ATC radar tool chest because aircraft could be controlled with much greater accuracy. A controller was not concerned that the blip that he or she saw was computer generated or not, but more importantly that he had more information with which to control the aircraft. With the increasing amount of air traffic the pressure was on airspace designers and regulators to reduce separation minima and accommodate more aircraft in the same airspace. The new

software-driven radar of third generation air traffic controllers allowed them to do iust that.

Another key factor in the new ATC airspace environment was the increased accuracy of navigation available to pilots and their aircraft through the widespread use of Global Positioning Satellites (GPS). Now aircraft could be flown to an accuracy measured in metres rather than nautical miles. Couple this new found accuracy of navigation with vastly improved communications systems such as ACARS and SATCOM and the stage is set for the era of a software-driven ATC airspace.

So what is my concern? Bugs and hackers! Not so, protest the keepers of the system. I hope they are right. I can't help but be concerned when I read about hackers accessing Pentagon files and systems. I wonder if civil aviation is any more, or any less, secure than the U.S. Pentagon. But on a more mundane level, how about corruption of the system from within?

Imagine the day when regulators and airspace designers need to accommodate even more aircraft in their ever-crowded skies. What to do? They merely need to "adjust" separation standards (reduce). If the current separation minima is three nautical miles horizontally and 1,000 feet vertically, why not reduce the minima? If, for argument's sake, the new criteria was one nautical mile horizontally and 500 feet vertically, would the controller's job be more difficult? Not necessarily, especially if he or she was unaware the separation minima had been changed.

How's that you say? Surely the controller would see their blips ever closer to each other. Not so. A simple software tweak could have the separations reduced and the radar's display would be unchanged! Vigilance in the field of software design and implementation is an increasing responsibility for regulatory bodies. As a front row user of the system I hope they are up to the task ahead of them.

The Captain is a long-haul pilot with an Asian airline. The views expressed in his column are his own and not necessarily those of the magazine. Deals top more than US\$3 billion (and rising) as ...

AA 2000 reflects regional recovery

By Tom Ballantyne

eals worth more than US\$3 billion were clinched by participants at the recent Asian Aerospace 2000 in Singapore, making it one of the most successful air shows on record. That figure is expected to soar higher as on-going negotiations firm up.

For others, business begun at Singapore is still developing into hard contracts across the industry spectrum, from the sale of aircraft, engines and spare parts to the maintenance, repair and overhaul of planes and equipment.

This adds up to the air show being a major fillip for the region's aviation industry as it emerges from troubled economic times.

While analysts continue to preach caution and warn it is too soon for over-optimism, there seemed to be hardly a cloud on the horizon as major manufacturers unanimously forecast good times ahead.

Singapore believes it is well poised to snare a huge portion of future business and nail down a position as the aerospace centre of the region. Singapore's Prime Minister, Goh Chok Tong, said the country's Economic Development Board predicted that by 2010 the air industry's worth to Singapore, currently US\$1.4 billion a year, would triple in size.

He believes Singapore will become a regional hub for the global aerospace industry, with an estimated 60% of the country's aerospace industry output already derived from outside the Asia Pacific market. That figure, he predicts, will grow to 70% as aerospace companies worldwide outsource more and more of their non-core activities.

The chairman of Asian Aerospace, Mike Rushbridge, echoed similar sentiments. "Asian Aerospace 2000 couldn't have come at a better time, with most of the Asian economies recovering rapidly from the recent economic turmoil," he declared.

It did not take long for show participants



Year of the Dragon: Dragonair signs for 10 new Airbus aircraft. From left: Dragonair chief executive, Stanley Hui, Airbus Industrie chief executive, Noel Forgeard, Dragonair chairman, Wang Guixiang, and ILFC representative Jie Chen

to join the party.

Hong Kong's Dragonair chairman, Wang GuiXiang, scooped one of the show's biggest deals, a US\$750 million order for 10 Airbus jets.

Rolls-Royce's indefatigable chairman, Sir Ralph Robins, announced business worth nearly half a billion dollars for engines to power 100 Embraer regional jets. He said there was clear evidence the region's economic recovery was gathering momentum. "We are now established as the world's number two supplier of civil aero engines and the Asia-Pacific accounts for a large number of them," he said.

Indeed, Rolls-Royce is increasing its presence in Singapore to manage its expanding regional business. Sir Ralph forecast the number of staff employed by his company in the island state would increase from 10 to as many as 400 within three years.

He predicted "significant" opportunities

in Asia for Rolls-Royce products, especially aerospace engines. Noting economic growth in countries such as Malaysia, Hong Kong and Singapore, he said the company anticipated a "turn-up in business and it might be reflected in more deliveries over the next two years".

The Asia-Pacific currently accounts for a third of Rolls-Royce's firm order book, worth US\$22.5 billion, for commercial aircraft engines.

Singapore Aircraft Leasing Enterprise (SALE) used the show to announce the awarding of a US\$240 million engine order to International Aero Engines (IAE) for its V2500 power plant.

It is the largest engine order ever made by SALE. The engines will power 20 Airbus A320s ordered last October.

Embraer chose the show to formally announce the deal, which gave Rolls-Royce its sales boost, of a contract for 100 aircraft – 75 ERJ 145s and 25 ERJ 135s – for North American

launch customer Continental Express.

The Brazilian-based company has 250 firm orders for the jets, scheduled for delivery by the end of 2003. While most of the customers are in Brazil, the US and Europe, Embraer chief executive, Mauricio Botelho, said the company wanted to offer the regional aviation market an "affordable, reliable and highly cost-effective aircraft". It is probably only a matter of time before it wins Asian sales.

But the sales leader in Asia is undoubtedly Bombardier, which sold 50 'bizjets' and 100 regional aircraft in the region in the past year. It is even making inroads into the tough Chinese market, announcing the sale of five CRJ200 regional jets to Shandong Airlines (the launch customer) and another three to Shanghai Airlines.

However, it is not alone in winning China sales. Fairchild was the first, signing an order last August for at least 19 of its 328Jets from Hainan Airlines, with options on another 20.

Shandong Airlines has also ordered five Canadair regional Jets (CRJs) from Bombardier, whose president of sales, John Lawson, claimed at Singapore the company had "assumed a leadership role" in Asia Pacific.

Trung Ngo, the marketing vice-president of Bombardier, said recovery from economic problems in the region was likely to benefit Bombardier's product portfolio. His company is very bullish about the market.

Fairchild Aerospace, in the midst of a recapitalisation, is just as keen. Executive vice-president, Barry Eccleston, formerly with International Aero Engines (IAE), said the company expected to deliver 175 of its JET series aircraft a year by 2008, with annual sales of US\$5 billion.

The joy was not confined to plane manufacturers and engine makers. The big US firm, Honeywell, signed a maintenance service agreement with China Southern Group to provide maintenance and administration for the airline's Honeywell 331-500 auxiliary power units (APUs). The contract is worth around US\$8 million and covers a five-year period, with an option to extend for another three years.

In a second APU deal, Honeywell finalised a contract in Singapore to provide maintenance and repairs for the units on the Fokker F28 fleet of Indonesia's State-owned domestic carrier, Merpati Nusantara Airlines. The agreement was signed by the airline's president director, Wahyu Hidayat. Initially, the deal involves eight aircraft and others will be added as they enter service.

Jim Taiclet, president of Honeywell Aerospace Services, said Merpati was one of an



Asian Aerospace managing director, Jimmy Lau: show moving to new site in 2004

increasing number of airlines which had discovered the advantages of obtaining a fixed maintenance cost for each hour the APU was in use. The maintenance service agreement will keep APU operating costs predictable and allow airlines to avoid the risk of a sudden impact on cash flow resulting from an unexpected major repair.

Honeywell is still going through a settling in period after its merger with AlliedSignal. But Bob Johnson, president of Honeywell Aerospace, has big hopes for the firm's Asian business. He said there had already been a series of successes in both electronics service and engines and systems business with

mainstream airlines, including signed deals with Cathay Pacific, China Southern and Korean Air.

"We have more than 1,200 aerospace employees in the region. Many of them are located in our eight aerospace repair centres and five manufacturing sites," he said.

"Honeywell has a long-standing commitment to Asia and has a number of joint ventures in the area, including our Singapore engine and systems facility, which does some very sophisticated precision machining.

"We are very excited about a bright future for our business and we are very focused on forming unlimited partnerships with our customers," he said.

Another significant development at this year's show was the debut of a number of ecommerce businesses, which are likely to play a bigger role in the industry in future years.

Jimmy Lau, managing director of Asian Aerospace, disclosed the exhibition's planned move to a new purpose-built site has been deferred from 2002 to 2004. "The site is on reclaimed land alongside what will be the third runway at Changi Airport. It has been decided a longer period is needed for proper land settlement," he explained.

The new site is part of a 20-year commitment concluded by Asian Aerospace's joint venture partners, Reed Exhibitions and Singapore Technologies Aerospace.

"The Singapore show is set to be a major fixture on the international aerospace calendar for a long time to come," said Mr Lau.



The president of Indonesia's Merpati Nusantara, Wahyu Hidayat, signs a contract with Honeywell for APU maintenance and repair work on the airline's Fokker F28 fleet.

By Tom Ballantyne

aintenance, Repair and Overhaul (MRO) firms are sharpening their screwdrivers and honing their spanners for an Asian battle royal as they position themselves to fight for booming regional business and compete for third party contracts.

Among the big guns ready for the contest are Rolls-Royce, General Electric and Pratt & Whitney. All of them have put their weight behind joint ventures (JVs). Rockwell Collins, BFGoodrich, Boeing and Honeywell are also charging into the fray.

The growth of JVs, involving global MRO majors, promises to make competition tougher for some of the region's existing giants, including the big Chinese-based engineering groups and airline engineering subsidiaries that are trying to lift their third-party earnings. They include the recently formed Ansett Australia & Air New Zealand Engineering Services (ANNZES), which has pledged to attract more third party work.

Asia's financial woes have prompted many airlines to separate their engineering divisions into stand-alone, profit-making enterprises tasked with boosting revenue from in-house maintenance and engineering expertise.

The result is a crowded MRO market and increasingly fierce competition for business.

The trend could prove to be bad news for many existing firms and confirms an assessment by Hong Kong Aircraft Engineering Company (HAECO) chairman, David Turnbull, that times are exceedingly tough.

In March, HAECO reported a 59.2% drop in net profit last year. The US\$7.7 million income was down on a 3.4% slide in revenue to US\$2.54.5 million.

Commenting on prospects, he said revenue growth was unlikely in the short term because competitive pressures showed little sign of easing. Other MROs will likely feel the heat as more companies increase their regional MRO presence. During the past three years, U.S. major GE has opened no less than eight support and service centres around Asia, in locations such as Xiamen, Singapore, Taiwan, Japan and Malaysia.

As recently as February, it launched an aircraft engine maintenance company jointly with South Korea's Asiana Airlines, which until now has had most of its jets maintained overseas. The new company, GEOWS-Korea, is expected to save Asiana US\$20 million a year.

It is understood GE also intends to invest in an engine repair unit at Inchon International

Fierce competition awaits in crowded MRO market



Korea's Asiana Airlines has signed an engine maintenance joint venture agreement with GE Engine Services

Airport, to be opened in early 2001.

Another of the firm's joint ventures is GE Engine Services Malaysia, which overhauls and repairs engines for the Kuala Lumpur flag and other Asia-Pacific carriers from its facility at Subang.

Britain's Rolls-Royce has hardly been sleeping either. With the region accounting for a third of its global aero engine orders, it already has two joint ventures in Singapore. The first, International Engine Component Overhaul (IECO), is forecasting a 30% increase in revenue this year alone.

The second, Singapore Aero Engine Services Ltd, is being built to overhaul and maintain Trent engines for Singapore Airlines and other customers. It will open in 2002.

In February, Pratt & Whitney signed a Memorandum of Understanding (MoU) with Singapore Technologies (ST) Aerospace and SIA Engineering Company (SIAEC) to form a joint venture to repair aircraft engine components.

The new company, which will be located in Singapore, will initially carry out repairs on Pratt & Whitney's PW4000 turbine airfoils.

Robert Weiner, vice-president of Pratt & Whitney Engine Services, said: "This venture

will allow us to better serve our airline customers in the Asia-Pacific region by providing new technologies that will result in faster turn times and lower costs."

Pratt, just a few days later, announced it was establishing another joint venture with Japan Airlines to provide operators across the region with jet engine turbine maintenance services. Japan Turbine Technologies Company Ltd (JTT) was originally formed in 1988, 51% owned by JAL and 49% owned by Nippon Steel Corporation. Pratt will take up part of JAL's stake and acquire all the shares of Nippon Steel.

JVs and alliances appear be a growing trend in the MRO field. At Asian Aerospace, Rockwell Collins and BFGoodrich Aerospace announced they had formed a "strategic alliance" to provide nose-to-tail equipment, parts, maintenance and services to airline customers.

Rockwell brings its experience in avionics and inflight entertainment systems supply, integration, maintenance, repair and overhaul to the partnership. BF Goodrich offers similar expertise in airframes, speciality avionics, landing gear, wheels, brakes, thrust reversers, safety systems and accessories.

"Joining forces will help us reach a wider market and accelerate our growth. Together we offer customers a single-service solution for the aircraft. Customers can now contact one source of MRO or service needs, delivered with the reliability of two MROs," said Rockwell Collins president, Clay Jones.

At the same time, BFGoodrich has announced a Landing Gear Overhaul alliance with planemaker Boeing, aimed at introducing a wider range of landing gear overhaul solutions than are currently available.

Under the deal, they will offer a "rotable programme", enabling customers to exchange unserviceable or time-expired landing gears for overhaul or restored landing gears from a pool controlled by Boeing and BFGoodrich. After placement in the pool, the customer's landing gear will be repaired and then returned to the pool for other customer exchanges.

BATTLE ROYAL

oeing and Airbus Industrie are locked in a multi-billion dollar sales battle as the Asia-Pacific airlines shape up to lift capacity by ordering dozens of new jets as the region's economies continue to improve.

The rewards for the big planemakers could be the most lucrative in years. Airlines are not only increasing capacity. Many are replacing older planes by activating fleet modernisation plans stalled two years ago after the region went into economic meltdown and travel numbers plunged.

First blood in the Asian arena has gone to Airbus, still on a high after snatching the lead in commercial jet orders from Boeing during 1999. At the recent Asian Aerospace 2000 show in Singapore, Hong Kong Dragonair's chairman, Wang Gui Xiang, signed an agreement to buy five Airbus A320s and three wide-body A330s, with options on two additional A330s. Two other new jets, an A321 and A330, will be leased from International Lease Finance Corporation (ILFC).

The new aircraft will be delivered over the next six years, doubling Dragonair's fleet to 24 aircraft.

Airbus is also clawing its way towards a bigger share of the China market, long dominated by Boeing. In March it signed an agreement to sell 10 A321 jets to China Northern Airlines.

These are part of a package of 30 A320 family aircraft the Civil Aviation Administration of China (CAAC) announced it wanted during French President Jacques Chirac's visit to Beijing in May, 1997. The new planes will be used on China Northern's domestic and regional routes. Engine choice

and cabin configurations are yet to be announced by the airline.

But for the two big planemakers, there are even bigger fish to fry. Singapore Airlines has asked Seattle and Toulouse for proposals to supply 19 aircraft and options on another 22. They are to replace the carrier's fleet of 17 Airbus A310s, which seat around 200 passengers.

Cathay Pacific Airways is close to announcing a deal in April or May for eight to 10 aircraft, A340/A330s or B777s, for "immediate use", according to chief executive David Turnbull (see main story). Later in the year, the major manufacturers' new models will figure prominently in an order of 15-20 aircraft for delivery from 2003 onwards. Mr Turnbull indicated Cathay could be a launch customer for the A3XX.

Qantas also has requested submissions on a 300-seater jet to fill a size gap between its current B767 and B747 types. The airline's cockpit crew favour Boeing's B777, but the A340 is being considered.

A long-awaited move by Indian Airlines (IA) is finally underway, with the carrier inviting Airbus and Boeing to vie for a \$2 billion order for 40 aircraft. Both manufacturers have put in their bids.

The order will involve 15 100-seat aircraft, 17 180-seat aircraft and eight 150-seat aircraft. Boeing has pitched its B717 for the 100-seater

segment against Airbus' A318/319 versions.

For the 150-seater, Airbus has put up its popular A320 against Boeing's B737-800. In the case of the 180-seater, the competition is between the A321 and B737-900.

Another carrier reportedly close to placing an order is Malaysia Airlines (MAS), with some analysts saying it is looking at as many as 80 wide-body and single aisle jets. But if an order is forthcoming it is likely to be smaller than this. Insiders suggest that on the long-haul routes MAS is keen on the yet to be launched Boeing 777X, but is evaluating the A340-600 and shorter-bodied A340-500. The airline is looking for replacements for 40 B737-400/500s and could order around 45 New Generation Boeings, with options on 15.

Several other Asian carriers are interested in the B777X or Airbus' longer haul A340 derivatives that will give them extended range and allow them to open more non-stop routes.

Taiwan's EVA Air wants the B777X and both of Japan's majors, Japan

Airlines and All Nippon Airways, are being heavily lobbied by Boeing and Airbus salesmen.

EVA has signed a Letter of Intent (LOI) with Boeing for seven B777s, including four longrange B777-200LRs.

In Australia, Qantas is not only aiming to buy more capacity. It has announced seven Boeing B767-300s will be leased from alliance partner British Airways (BA). Deputy chief executive Geoff Dixon said the planes will arrive in Australia between June and next March.

The move is aimed at allowing Qantas to maintain its current capacity share on domestic

routes and provide for market growth. It will also permit the carrier to introduce new services between Australia and Singapore, connecting with BA and Qantas 747-400 services to the United Kingdom and Furone

Another potential buyer of new planes from Australasia is Ansett, although it is not yet known how the purchase of half the airline by Air New Zealand (it now becomes the carrier's sole owner) from Rupert Murdoch's media group, will affect fleet plans.

Both Boeing and Airbus have been competing heavily for two years to win an order for domestic and long-haul aircraft from Ansett, which is badly needed to improve operational economics. However a decision has been deferred repeatedly by the Ansett board. One unknown in the race to sell capacity to Asia-Pacific airlines is the potential impact of a launch by Airbus of its long-awaited giant, the A3XX.

The European planemaker has already spent US\$600 million on development, a figure expected to rise to US\$1 billion by mid-2001.

Airbus officials appear privately confident they can pin down orders for the 600-seater before the end of this year.

If it goes ahead, the plane would enter service in 2005.



Malaysia Airlines continues to be the subject of speculation with orders tipped for 40 – 80 aircraft

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options	Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)
Aboitiz Air (Philip	pines)				Air Fiji			
YS-11-100	RR Dart 543-10K	1	-	-	DHC-6-300 Twin Otter	PWC PT6A-27	1	-
YS-11-600R	RR Dart 543-10/10K	2	-	-	DHC-6-200	PWC PT6A-20	1	-
Air Archipels (Free	nch Polynesia)				Leased in Air Vanuatu			
Cessna Conquest 11		1	-	-	Beech Baron 95-C55	Cont IO-540	1	-
Beech King Air 200	Gar. TPE331-SA 2520	1	-	-	Y-12 Mk-II	PWC PT6A-27	3	-
Air Asia (Malaysia	ı)				EMB 110-P1	PWC PT6A-34	2	-
B737-300	CFM56-3	2	-	-	BN2A-20 Islander	Lyc O-540-K1B5	3	-
Leased in: GECAS					Air Great Wall (Ch	ina)		
Air Caledonie (Ne	w Caledonia)				B737-200	P&W JT8D-17A	3	-
ATR42-320	PWC PW121	4	-	-	TU-154		2	-
Do 228-212	Gar. TPE331-SA 2520	1	-	-	Air HongKong			
Aircalin (Air Caled	lonie International,	New Caled	lonia)		B747-200F	GE CF6 50-E2	3	-
A310-325	PWC PW4156A	1	•	-	Leased in: 3 from Catha	y Pacific		
Leased in:					Air-India			
B737-300	CFM56-3B2	1		-	B747-400	P&W PW4056	6	-
Leased in:					B747-300 Combi	GE CF6-80C2B1	2	-
DHC-6-300	PWC PT6A-27	1			Leased in: 1 from Citico	rp leasing Inc		
Air China		•			B747-200	P&W JT9D-7J -7Q	2	-
B747-400C	P&W PW4056	7	_	_	A300B4-100/-200	GE CF6-50C2	3	-
B747-400	P&W PW4056	6	1 (2000)	_	A310-300	GE CF6-80C2A2	8	-
B747-200F/SF	P&W JT9D-7R4G2	3	- (2000)		Leased in: 2			
B747-200 Combi	P&W JT9D-7R4G	1	_	_	Air Kiribati (Kiriba	ti)		
Leased in: 1 Concord A:		•			C-212-200	Gar. TPE331-10R	1	-
B747SP	P&W JT9D-7J	1			Y12 Mk11	PT6A-27	1	-
B767-300	P&W PW4056	4		_	BN-2AIII-2	Lyc O-540-C4B5	1	-
Leased in: 1 Mitsui & Co		7			Air Macau (Macau	,)		
B767-200ER	P&W 4052/JT9D-7R4	6		_	A320-200	IAE V2527-A5	2	-
B777-200LK	P&W PW4090	5		-	Leased in: ILFC			
B737-800	CFM56-4C4	4	7 (2000)		A321-100	IAE V2530-A5	5	-
B737-300	CFM56-5C4	19	7 (2000)	-	Leased in: ILFC			
A340-300	CFM56-5C4	3			Air Maldives			
Leased out: 3 Cathay Pa		3	•	•	A310-200	P&W PW-JT9D	2	-
A318	icinc		8		Leased in: A. I. Leasing I	nc		
L-100-300	AN 501-D22A	2	0	•	Do 228-212	Gar. TPE 331-5A-252D	2	-
BAe 146-100		4	-	•	DHC-8-200	PWC PW123D	1	-
	Lyc ALF502R-5	4 //	-	•	Air Mandalay			
Y-7	WJ 5A-1	7	-	-	ATR 72-212QC	P&W PW 127	2	-
•	Internationall Airlin				Air Marshall Island			
B767-300ER Leased in: 2 (AWAS)		2	-	-	HS 748-2B	RR Dart 536	1	-
Leaseu III. 2 (AVVAS)		_			Do 228-212	Gar. TPE331-5A-252D	2	-
		-			Air Moorea (French		-	
		7			Do 228-212	Garrett TPE331-252D	1	-
				94 11	Leased in: 1	22 01	•	

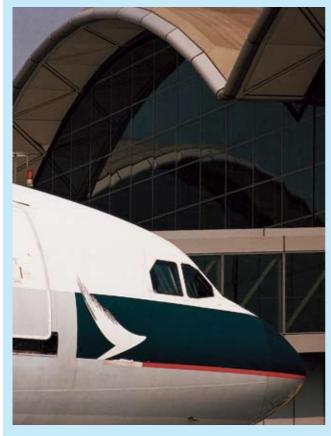


Air Marshall Islar	nds			
HS 748-2B	RR Dart 536	1	-	-
Do 228-212	Gar. TPE331-5A-252D	2	-	-
Air Moorea (Fren	ch Polynesia)			
Do 228-212 Leased in: 1	Garrett TPE331-252D	1	-	-
BN-2A/2B Leased in: 1	Lyc O-540-E4B5	3	-	-
DHC-6-300	PWC PT6A-27	2	-	-
Air Nauru				
B737-400	CFM56-3C1	1	-	-
Air Nelson (New	Zealand)			
Fairchild Metros Leased in: 6 Air New 2	Garrett TPE331-11U-611 Tealand	6	-	•
Saab 340A GE CT7-5A Leased in: 13 Air New	_	13	-	-
Air New Zealand				
B747-400	RR RB211-524E	3	-	-
B747-400 Leased in: 2 ILFC	GE CF6-80C2B1F	5	-	-
B747-200	RB211-524D4U	1	-	-
B767-200ER Leased in: 1 AFL (To N	GE CF6-80A2 ov 2000)	4	-	-
B767-300ER	GE CF6-80C2B6/F toh Aerospace Finance Corp	9	1	•

Options

3

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options
B737-200	P&W JT8D-15A	6	-	-
B737-200QC	P&W JT8D-15A	1	-	-
B737-300	CFM56-3C1	11	-	-
Leased out: 2 Freedom A	Air			
ATR-72	P&W PW127	7	1	-
Leased out: 7 Mount Co	ok Airlines			
Saab 340A	GE CT7-5A2	13	-	-
Leased out: 13 Air Nelso	n			
Fairchild Metros	Garrett TPE331-11U-611	12	-	-
Leased out: 6 Air Nelson	, 6, Eagle Aviation			
Embraer 110 PW PT6		9	-	-
Leased out: 9 Eagle Avia	tion			



Air Nippon				
B737-500	CFM56-3C1	15	3	-
Leased in: 4 Mitsui and Co	o (1), Sumigin Lease (1), Japan Le	easing Corp (1)		
B737-400	CFM56-3C1	-	1	-
B737-200	P&W JT8D-17	4	-	-
Leased in: 7 ANA				
A320-200	CFM56-5A1	8	-	-
Leased in: ANA				
DHC-8-Q300		-	1	-
YS-11A-500	RR Dart 543-10/10K	7	-	-
Leased in: 6 ANA				
Air Niugini (Papua I	New Guinea)			
A310-300	P&W PW4152	1	-	-
Leased in: 1 Gatex				
F28-4000	RR RB183-15H	3	-	-
F28-1000	RR RB183-15	3	-	-
DHC-8-200B	P&W PW123D	1		-

EIIID IZUENJ		3		
Fairchild Metro 23		2	-	-
Air Pacific (Fiji)				
B747-200	RR RB211-524D	2	-	-
Leased in: Qantas				
B767-300ER	GE CF-6-80C2B6	1		
		'	-	-
Leased in: Mukai Kosan				
B737-700	CFM56-7B24	1	-	-
B737-800	CFM56-7B24	2	-	-
Air Philippines				
B737-200	P&W JT8D-7B/-9A/-17	11	_	
Leased in: 4	1 411 3105 757 374 17	• • • • • • • • • • • • • • • • • • • •		
	DOM/ ITOD 2427C	_		
MD-82	P&W JT8D-2127C	2	-	-
Leased in: U-Land Airline	?S			
Air Rarotonga (Coo	ok Islands)			
EMB110	PWC PT6A-34	3	-	-
Leased in: 2				
Air Tahiti Nui(Frend	h Polynesia)			
	ii i Oiyilesia)	1		
A340		1	-	•
ATR72-202	PWC PW124B	3	-	-
ATR42-500	PWC PW127E	3	-	-
Do 228-212	Gar. TPE331-5A-2521	2	-	-
Air Vanuatu				
B737-300	CFM56-3B1	1	_	
	CLINIO-201	'	-	-
Leased in: Qantas				
Saab 2000		1	-	-
Leased in: Saab				
Airlink (Australia)				
DHC-8-100		1	-	-
All Nippon Airway	c			
B747-400	GECF6-80C2B1F	22	1	
			1	- : C (1)
	ease (2), Sumisho Lease (1), Mi	tsui & Co	Int'l (1), Mitsubish	Corp (1),
Sumigin Lease & Partner	s (1)			
B747-200B	GE CF6-50E2	4	-	-
Leased in: 2 Orix Aircraft	Corp			
B747SR	GE CF6-45A2	11	_	
ווכודוט				
Loscod in: 6 Niccho Iwai I		- ''		-
	Leasing (3), Showa Leasing (3)		2 (2222(24)	-
B777-200/ER		13	3 (2000/01)	
	Leasing (3), Showa Leasing (3)		3 (2000/01)	-
B777-200/ER	Leasing (3), Showa Leasing (3)		3 (2000/01)	
B777-200/ER Leased in: 12	Leasing (3), Showa Leasing (3) P&W PW4074	13	3 (2000/01)	-
B777-200/ER Leased in: 12 B777-300 Leased in: 4	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090	13	3 (2000/01)	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300	Leasing (3), Showa Leasing (3) P&W PW4074	13	3 (2000/01) - -	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F	13 5 42	3 (2000/01) - -	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090	13	3 (2000/01) - - -	-
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F	13 5 42	3 (2000/01) 1	-
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A	13 5 42 13	-	-
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5	13 5 42 13 5	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13 5	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13 5	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13 5	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13 5	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13 5 25 1 1 1	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13 5 25 1	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13 5 25 1 1 1 1	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 hilland) P&W PW4056	13 5 42 13 5 25 1 1 1 2	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1	13 5 42 13 5 25 1 1 1 1	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 hilland) P&W PW4056	13 5 42 13 5 25 1 1 1 2	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400 B747-300 Leased in: 2 SIA	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 hiland) P&W PW4056 P&W JT9D-7R4G2	13 5 42 13 5 25 1 1 1 2 2 2	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400 B747-300 Leased in: 2 SIA B767-300ER	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 hiland) P&W PW4056 P&W JT9D-7R4G2 GE CF6-80C2	13 5 42 13 5 25 1 1 1 2 2 1 1	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400 B747-300 Leased in: 2 SIA B767-300ER B767-200ER	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 hiland) P&W PW4056 P&W JT9D-7R4G2 GE CF6-80C2 CF6-80A2	13 5 42 13 5 25 1 1 1 2 2 2 1 3	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400 B747-300 Leased in: 2 SIA B767-300ER	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 hiland) P&W PW4056 P&W JT9D-7R4G2 GE CF6-80C2	13 5 42 13 5 25 1 1 1 2 2 1 3 7	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400 B747-300 Leased in: 2 SIA B767-300ER B767-200ER	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 hiland) P&W PW4056 P&W JT9D-7R4G2 GE CF6-80C2 CF6-80A2	13 5 42 13 5 25 1 1 1 2 2 2 1 3	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400 B747-300 Leased in: 2 SIA B767-300ER B767-200ER B767-200	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 hiland) P&W PW4056 P&W JT9D-7R4G2 GE CF6-80C2 CF6-80A2 CF6-80A	13 5 42 13 5 25 1 1 1 2 2 1 3 7	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400 B747-300 Leased in: 2 SIA B767-300ER B767-200ER B767-200 B737-300 A320-200	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 Ailland) P&W PW4056 P&W JT9D-7R4G2 GE CF6-80C2 CF6-80A2 CFM56-3B1 CFM56-5-A1	13 5 42 13 5 25 1 1 1 2 2 2 1 3 7 22 20	-	
B777-200/ER Leased in: 12 B777-300 Leased in: 4 B767-300 Leased in: 15 B767-200 A321-100 Leased in: 1 A320-200 Leased out: 7 Air Nippon Angel Airlines (Tha B737-500 Fairchild Dornier 328-100 Raytheon Beechjet 400A Ansett Australia B747-400 B747-300 Leased in: 2 SIA B767-300ER B767-200ER B767-200 B737-300	Leasing (3), Showa Leasing (3) P&W PW4074 P&W PW4090 GE CF6-80C2B2F CF6-80A V2530-A5 CFM56-5A1 villand) P&W PW4056 P&W JT9D-7R4G2 GE CF6-80C2 CF6-80A2 CFM56-3B1	13 5 42 13 5 25 1 1 1 2 2 1 3 7 22	-	

In Service On Order Mar 31, 00 (Delivery Date)

Options

Airline/Aircraft

Airnorth (Australia) Emb 120ERJ

Engines

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options	Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options
			(Delivery Date)	Орионз		-	Wai 51, 00	(Delivery Date)	Орцопз
BAe 146-200F	Lyc ALF502R-5	2 4	-	-	Berjaya Air (Mala		1		
BAe 146-300 F28-4000	Lyc ALF502R-5 RR Spey 555-15P	2	-	-	BN-2 Islander Y-12	Lyc IO-540 KIB5 PWC PT6A-27	1	-	
Ansett New Zeala	• •	2	•	•	Challenger 601-3R	GE CF34-3A1	1	-	
BAe 146-300	Lyc ALF502R-5	9	_		DHC-7	PWC PT6A-50	2		
Leased in: 9 AWAS (7), A		Ĭ			Biman Banglades		-		
BAe 146-200F	Lyc ALF502R-5	1		-	DC 10-30	GE CF6-50C2	4	-	
Leased in: AWAS	•				A310-300	P&W PW4156A	3		
DHC-8-100	PWC PW120A	4	-	-	F28-4000	RR Spey 555-15P	1	-	-
Leased in: 3 DHC (5 year	rs)				BAe ATP	PWC PW126	2	-	
BAe Jetstream 32EP		-	3	-	Bouraq Indonesia	a Airlines			
Archana Airways (•				B737-200	P&W JT8D-15	6	-	-
LET L-410 UVP-E	Walter M601E-21	4	1 2	-	Leased in:				
Fairchild Dornier 328-10		-	2	•	HS 748-2A	RR Dart 534-2	3	-	-
Ariana Afghan Air B727-100C	P&W JT8D-7/9	2			HS 748-2B	RR Dart 536-2	1	-	-
B727-100C B727-200	P&W JT8D-179	1		-	IPTN 212-100		3	-	-
AN-12	1447105 15	1		_	IPTN N250		-	5	•
AN-24RV	Ivchenko AI-24	2	_	_	Cathay Pacific Air		10		
AN-26	Welleriko / II Z I	2	•	-	B747-400 Leased in: 2 ILFC	RR RB211-524G/H	19	•	•
YAK-40	Ivchenko AI-25	1		-		DD DD311 F34C3	,	2 /2000/01\	
DHC-6-300 Twin Otter		1	-	-	B747-400F B747-200F	RR RB211-524G2	2 4	2 (2000/01)	•
Asiana Airlines					B747-200F B777-200	RR RB211-524D4 RR Trent 800	4	-	-
B747-400	GE CF6-80C2B1F	2	-	-	B777-300	RRTrent800	7		10 (Up to
B747-400 Combis	GE CF6-80C2B1F	6			2004)	Millentooo	,	_	10 (0) 10
B747-400F	GE CF6-80C2B1F	4	-	-	A340-300	CFM56-5C4	14	1	6
Leased in: 1 Singspiel (T					A330/340	CI WISO SCT	17	(Up to 2003)	v
B767-300/ER	GE CF6-80C2B2F	11	-	-	Leased in: 3 from Air (China		(Op to 2003)	
B767-300F	GE CF6-80C2B6F	1	-	-	A330-300	RR Trent 772	12	3	
B737-400/500	CFM56-3C1	23	2	-	Cebu Pacific Air (Philippines)			
A321	IAE V2530-A5	3	2	-	DC-9-41	P&W JT8D-9D	8	-	
Asian Spirit (Philip DHC-7	PWC PT6A-50	2			Leased in: J.G. Summit	t Group			
YS-11A	RR Dart 543-10	3		-	Changan Airlines	(China)			
LET 410	Walter M601E-21	2		1	Y-7	WJ5A-1	5	-	-
Bangkok Airways		-		•	China Airlines (Ta	niwan)			
ATR72-200	PWC PW124B	7	2	-	B747-400	P&W PW4056	13	-	-
Leased in: 2 Grampus, 4	GIE (3 to 2000, 1 to 2003)				Leased in: 7				
ATR42-300	PWC PW121	1	-	-	B747-400F	GE CF6-80C2B1F/5F 2	13	4	
Leased in: 1 GIE					B747-200F	GE CF6-50E2/	, 8	-	-
				S	Lagrand in: 6-1 CCAA (P&W JT9D-7A/7Q/7R4G2/			
						To Feb 2009), 4 Atlas (To Jan/Fe			
					B747-200B B737-800	P&W JT9D-7A/7Q CFM56-7B26	1 10	5	
				-	MD-11	P&W PW4460/4462	4		
1 5 C				1	Leased in: 4 used by N		7		
				-	A300-600R	P&W PW4158	12	_	
Parties	47		11700		Leased in: 12	1 411 11 11 11 11 11 11 11 11 11 11 11 1			
			1.		A340-300	CFM56-5C4	-	7	1
39	1.1	A	wie.		A330-300		-	-	4
123		H	5761	lie !	China Eastern Air	rlines			
1				10 0	A340-300	CFM56-5C4	5	-	-
-	THE R	-	AND DESCRIPTION	L. Daniel Co.	Leased in: 1 BOT Finar	ncial Corp			
3	_	unice	(4)	-	A300-600R	GE CF6-80C2A5	10	-	-
	40	THE SECTION I	•	-1	Leased in: 3				
			1		A320-200	CFM 56-5B4	8	7	-
400			mar.		Leased in: 5		_		
MA TO SERVE	4				B737-300	D014/ ITOD 2474	6	•	-
			PER		MD-82	P&W JT8D-217A	5	-	-
700	9	100		-	MD-11/11F	P&W PW4460	6	-	•
	0			-	MD-90	VALUE A. A.	9	-	

Y-7

WJ5A-1

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options	Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options
China Hainan Airli B737-300	nes (Haikou) CFM56-3C1 munication Bank of China	5	-	-	China Southwest A B757-200 Leased in: 5 GECAS (3)	kirlines (Chengdu) RR RB211-535E4	13	-	-
B737-400	CFM56-3C1	7	-	-	B737-300	CFM56-3B1/B2	20	-	-
Leased in: ILFC B737-800	CFM56-7	5		-	Leased in: 5 GECAS (2), IL B737-800	.FC (3) CFM56-7	1	-	
Leased in:	D014/	_	4.5	20	A340-300		3	-	-
Fairchild 328JETS Fairchild Metro 23 Leased in: 2	P&W Gar. TPE331-12 UHR	3 5	16 -	20 -	Tu-154M	Soi D-30KU-154	4	-	-
Leariet 60	P&W PW305A	1			Y-12	PWC PT6A-27	4	-	-
Beechjet 400	TOWTWOODA	1		-	An-24B	Ivchenko AI-24A	3	•	-
Raytheon Hawker 800XF		1			China United Airlin	. , ,	8		
nayareon navner ocoza					B737-300 Tu-154M	CFM56-3B1 Sol D-30KU-154	6 16	•	-
					II-76M	301 D-30KU-134	14	•	-
					II-7 OIVI	Canadair CL601		-)	-
				11	China Vinhua Airlin		GE CF34-A-1A/3	SA 5	-
					China Xinhua Airlir B737-300 Leased in: 1 Boullioun	CFM56-3B1/2	6		-
					B737-400	CFM56-3	3		-
137 E H		A STATE OF			Leased in: 3 Bouillioun	ines (Chirs)			
					China Xinjiang Airl B737-300		2		
					B757-200	CFM56-3 RB211-535-E4	6	3	-
100000					TU-154	D-30KU	5	3	-
			100	Name and	IL-86	Hk-86	3	•	-
			Secretary Supplement		ATR-72	HK-00	5	•	•
							J	-	-
B=2175	•				Dragonair (Hong K A320-200	IAE V2500-A1	6	6 (2000-2005)	-
B=2175	•				A320-200		6	6 (2000-2005) 1 (2000)	-
B=2175 China Northern Ai	rlines (Shenyang)				A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300	IAE V2500-A1 ed out: 1, Transasia			- - 2
MD-90	IAE V-2525-D5	11			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC	IAE V2500-A1 ed out: 1, Transasia IAE V2500	2	1 (2000)	- 2
MD-90 MD-82	IAE V-2525-D5 P&W JT8D-217A/C	25			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan)	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700	2 5	1 (2000)	- 2
MD-90	IAE V-2525-D5				A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand)	2 5 2	1 (2000)	- 2
MD-90 MD-82 A300-600R	IAE V-2525-D5 P&W JT8D-217A/C	25			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34	2 5	1 (2000)	- 2 -
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5	25 6			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land	2 5 2 9	1 (2000)	2
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5	25 6 10			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land	2 5 2	1 (2000)	2
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5	25 6 10 11 4			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines	2 5 2 9 6	1 (2000)	2
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian)	25 6 10 11			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123	2 5 2 9 6	1 (2000)	- 2 - -
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 3	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1	25 6 10 11 4			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10	2 5 2 9 6	1 (2000)	2
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 3 A320 Leased in: 2	WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4	25 6 10 11 4 3			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10	2 5 2 9 6	1 (2000)	- 2
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 3 A320 Leased in: 2 BAe 146-100	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1	25 6 10 11 4			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan)	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R	2 5 2 9 6	1 (2000)	
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 3 A320 Leased in: 2 BAe 146-100 Leased in: 1	WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5	25 6 10 11 4 3 11			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan) B747-400	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land uirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C2B1F	2 5 2 9 6 10 2 2	1 (2000)	
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 3 A320 Leased in: 2 BAe 146-100 Leased in: 1 BAe 146-300 Y-7-100	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5 Lyc LF507-1H WJ 5A-1	25 6 10 11 4 3			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan)	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C281F GE CF6-80C281F	2 5 2 9 6	1 (2000)	2
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 2 BAe 146-100 Leased in: 1 BAe 146-300 Y-7-100 China Southern Ai	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5 Lyc LF507-1H WJ 5A-1 rlines (Guangzhou)	25 6 10 11 4 3 11 3 7 5			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan) B747-400 B747-400 Combi	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C281F GE CF6-80C281F	2 5 2 9 6 10 2 2	1 (2000)	- 2 - - -
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 3 A320 Leased in: 2 BAe 146-100 Leased in: 1 BAe 146-300 Y-7-100	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5 Lyc LF507-1H WJ 5A-1	25 6 10 11 4 3 11 3			A320-200 Leased in: 5 ILFC Leased A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indiference) F27-200 EVA Air (Taiwan) B747-400 B747-400 Combi Leased in: 12 of the 15 B	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land uirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C281F GE CF6-80C281F 747s	2 5 2 9 6 10 2 2	1 (2000) 2 (2001)	
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 2 BAe 146-100 Leased in: 1 BAe 146-300 Y-7-100 China Southern Ai B777-200A/B	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5 Lyc LF507-1H WJ 5A-1 rlines (Guangzhou)	25 6 10 11 4 3 11 3 7 5	2		A320-200 Leased in: 5 ILFC Leased In: 5 ILFC Leased In: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan) B747-400 B747-400 Combi Leased in: 12 of the 15 B B747-400F B767-300ER	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C2B1F GE CF6-80C2B1F 747s GE CF6-80C2B1F	2 5 2 9 6 10 2 2 5 10	1 (2000) 2 (2001)	
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 2 BAe 146-100 Leased in: 1 BAe 146-300 Y-7-100 China Southern Ai B777-200A/B Leased in: 8 B757-200 Leased in: 15	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5 Lyc LF507-1H WJ 5A-1 rlines (Guangzhou) GE90-76BG01 RR RB211-535E4	25 6 10 11 4 3 11 3 7 5			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (Nev EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan) B747-400 B747-400 Combi Leased in: 12 of the 15 B B747-400F B767-300ER Leased in: 4 B767-200 MD-11	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C2B1F GE CF6-80C2B1F GE CF6-80C2B1F GE CF6-80C2B6F	2 5 2 9 6 10 2 2 5 10	1 (2000) 2 (2001)	- 2
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 2 BAe 146-100 Leased in: 1 BAe 146-300 Y-7-100 China Southern Ai B777-200A/B Leased in: 8 B757-200	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5 Lyc LF507-1H WJ 5A-1 rlines (Guangzhou) GE90-76BG01	25 6 10 11 4 3 11 3 7 5			A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan) B747-400 B747-400 Combi Leased in: 12 of the 15 B B747-400F B767-300ER Leased in: 4 B767-200 MD-11 Leased in: 1	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C2B1F	2 5 2 9 6 10 2 2 5 10 - 4 4 3	1 (2000) 2 (2001)	
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 3 A320 Leased in: 2 BAe 146-100 Leased in: 1 BAe 146-300 Y-7-100 China Southern Ai B777-200A/B Leased in: 8 B757-200 Leased in: 15 B737-300 Leased in: 13 B737-500	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5 Lyc LF507-1H WJ 5A-1 rlines (Guangzhou) GE90-76BG01 RR RB211-535E4	25 6 10 11 4 3 11 3 7 5	·		A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (New EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan) B747-400 B747-400 Combi Leased in: 12 of the 15 B B747-400F B767-300ER Leased in: 4 B767-200 MD-11 Leased in: 1 MD-11F Leased in: 2	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C2B1F	2 5 2 9 6 10 2 2 5 10	1 (2000) 2 (2001)	
MD-90 MD-82 A300-600R Leased in: 2 AWAS A321 Y-7 China Northwest A A300-600R Leased in: 1 GECAS A310-200 Leased in: 3 A320 Leased in: 2 BAe 146-100 Leased in: 1 BAe 146-300 Y-7-100 China Southern Ai B777-200A/B Leased in: 8 B757-200 Leased in: 15 B737-300 Leased in: 13	IAE V-2525-D5 P&W JT8D-217A/C P&W PW4158 WJ5 Airlines (Xian) GE CF6-80C2A5 P&W JT9D-7R4E1 CFM56-5B4 Lyc ALF 502R-5 Lyc LF507-1H WJ 5A-1 rlines (Guangzhou) GE90-76BG01 RR RB211-535E4 CFM56-3C CFM56-3C IAE V2527-A5	25 6 10 11 4 3 11 3 7 5 9 18 22	2		A320-200 Leased in: 5 ILFC Leas A321 Leased in: 2 A330-300 Leased in: 3 ILFC Druk-Air (Bhutan) BAe 146-100 Eagle Airlines (Nev EMB-110P1 Leased in: 9 Air New Zea Fairchild Metro III Leased in: 6 Air New Zea Eastern Australia A DHC-8-100/200 BAe Jetstream 31 Elbee Airlines (Indi F27-200 EVA Air (Taiwan) B747-400 B747-400 Combi Leased in: 12 of the 15 B B747-400F B767-300ER Leased in: 4 B767-200 MD-11 Leased in: 1 MD-11F	IAE V2500-A1 ed out: 1, Transasia IAE V2500 RR Trent 700 Lyc ALF502R-5 v Zealand) PWC PT6A-34 land Garrett TPE331-11 land sirlines PWC PW120A/123 Garrett TPE331-10 a) RR Dart 552-7R GE CF6-80C2B1F GE CF6-80C2B1F GE CF6-80C2B1F GE CF6-80C2B1F GE CF6-80C2D1F GE CF6-80C2D1F	2 5 2 9 6 10 2 2 5 10 - 4 4 3	1 (2000) 2 (2001)	

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options	Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options
Far Eastern Air Tra	The state of the s				EMB-110	PWC PT6A-34	3	-	-
B757-200 Leased in: 1 ILFC	P&W PW2037	3	2	-	Cessna U206F Stationair J-AIR (Japan)		1	-	•
B737-200	P&W JT8D-9A	2	-	-	BAe Jetstream Super 31	Gar. TPE331-12UHR	5	-	-
MD-82/83 Leased in: 4	P&W JT8D-217/219	8	-	-	Canadair RJ 200 Leased in: 3 JAL Leasing,	1 Kanematsu Finance Co.	-	2	-
FlightWest Airline	s (Australia)				Jagson Airlines (Ind				
F28-4000 F100		3 2	-	-	Fairchild Dornier 228-201 JALways (Formerly		2	-	•
EMB-120ERJ	PWC PW118A	7		-	B747-200	P&W JT9D-7A	5	-	-
BAe Jetstream J32EPs		4	-	-	Leased out: 5 Japan Airlir				
	national (New Zealar				DC10-40 Leased in: 4 Japan Airline	P&W JT9D-59A	4	-	-
B737-300 Leased in: 2 Air New Zeo	CFM56-3C1 aland	2	•	-	Japan Air Commute				
Garuda Indonesia					YS-11A-500	RR Dart 542-10J/K	12	-	-
B747-400	GE CF6-80C2	3	-	-	Leased in: JAS	CE CT7 OD	10		
Leased in: 1 ILFC (To Ma B747-200	•	4			Saab 340B Leased in: 7 Mitsui Leasel	GE CT7-9B b (2), Kougin Lease (1), Tajii	10 na Airport Te	rminal (1), Centr	al Lease (1),
Leased in: 2 JFS (To Dec	P&W JT9D-7Q 2000)	4	-	-	Diamond Lease (1), Nihor	-	·		
B737-500	CFM56-3-C1	5	-	-	Japan Air System	D014/ D14/4074	7		
B737-400	CFM56-3C1	7	-	-	B777-200 Leased in: 1 Sumigin Leas	P&W PW4074	7	-	-
B737-300 Leased in:	CFM56-3B1	7	-	-	DC10-30	GE CF6-50C2	1	-	-
DC10-30	GE CF6-50C	5		-	Leased in:				
A330-300	RR Trent 700	6	3	-	A300B4-2C	GE CF6-50C2R ase (3), Mitsubishi Corp (2), I	8 Konin Lease I	- '1)	-
Leased in: 6	C MI 555 4511	•			A300B2K-3C	GE CF6-50C2R	9	-	
F28-4000 F28-3000	Spey Mk555-15H Spey Mk555-15H	2		-	Leased in: 2 Mitsui & Co				
Hazelton Airlines	' '	J			A300-600R	P&W PW4158 (2), Kogin Lease (2), Nihon L	18	1	-
Saab 340A/B	GE CT7-9B	8	-	-	MD-90-30	IAE V2525-D5	16		
Leased in: 1 Finans Skan Fairchild Metro 23	ndic AB, 1 NAB, 2 Scania, 2 Ha Gar. TPE331-12 VAR	ndelsbanken 3			MD-81	P&W JT8D-217A/C	21	-	-
Leased in: 3 State Bank	Udi. IPESS I-12 VAN	3	•	-	·	Service (7), Nihon Lease (2),		(1), Sumigin Leas	e (1)
Indian Airlines					MD-87 Leased in: 2	P&W JT8D-217/AC	8	-	-
A300B4/B2	GE CF6-50C2/C	11	-	-	YS-11	Dart MK54Z-10J/E	12	-	-
A320-200	IAE V2500-AI	31	_	_	Japan Airlines	GE GEG 00 GDD4E	20	•	
Leased out: 1	IAL \$2500 AI	31			B747-400 Leased in: 15 Nikko Leas	GE CF6-80C2B1F se (5), Iissho Iwai (3), Kong	39 in Lease (3).	8 Sumiain Lease (2	- 2). Caldwell
B737-200	P&W JT8D-17A	6	-	-	Aircraft (1)		(-7)	, J	,,
Islands Nationair (DHC-6-300 Twin Otter	Papua New Guinea) PWC PT6A-27	3			B747-300	P&W JT9D-7R4G2	14	-	-
BN-2A-21 Islander	Lyc IO-540K1B5	2		-	Leased in: 2 Leased o B747-200B	P&W JT9D-7A	5	_	
Beech Baron 55/58	Cont IO-550-C	1	-	-	Leased in: 4 Leased ou		,		
Beech 200 Super King Ai	r PWC PT6A-41	3	-	<u> </u>	B747-200B	P&W JT9D-7Q	8	-	-
1000				Marie	Leased in: 3 Mitsibishi Co. B747-200B	rp (2) Leased out: 2 JAA P&W JT9D-7R4G2	3		
45.00					B747-200B (F Mod)	P&W JT9D-7R4G2	1	-	-
No. of Contract of				5.00	B747-200F	P&W JT9D-7A	5	-	-
10	SINGAPO		4		Leased in: Sumisho Lease B747-200F	P&W JT9D-7Q	2		
	2717-6	IRE AL	RLITES	1000), Sjowa Leasing (1), Sumish		_	·
	The COURT	con coes			B747-200F	P&W JT9D-7R4G2	2	-	-
			06000	oceace.	Leased in: 2 Showa Leasir B747-100B SUD	ng (1), Sumigin Lease (1) P&W JT9D-7A	2		
0		1			B747-100B SUD B747-100/B	P&W JT9D-7A P&W JT9D-7A	3		
					Leased in: Mitsibishi Corp	(1), Japan Air Charter (1)			
		1000	1		B767-300	P&W JT9D-7R4D	12	- (1)	-
			25		Leased in: 5. Nikko Lease B767-300	(2), Kogin Lease (1), World GE CF6-80C2B4F	Leasing Corp 10	(1 <i>)</i> .	-
		6	0 0			(1), Mitsubishi Corp (1); Lea		1A	
					B767-200	P&W JT9D-7R4D	3	-	-
					Leased in: 1. Nikko Leas	e			

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options	Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options
B777-200	P&W PW4077	5	5	-	MD-82/83	P&W JT8D-217A/C/219	11	-	-
Leased in: 3	D014/ D14/4000	-			Fokker 100 Leased in: 2. Orix Aircrat	RR Tay 650-15	10	-	-
B777-300 B737-400	P&W PW4090 CFM 56-3C1	5 8			Lao Aviation	t Corp (2)			
Leased out: 4, JEX; 1, JT		Ü			An 24RV	Ivchenko AI-24	1	-	-
MD-11	P&W PW4460	10	-	-	ATR72	P&W PW127	1	-	-
	Corp (5), Kogin Lease (1), Fuy		(1)		Y-12-II	PWC PT6-27	5	-	-
DC 10-40	P&W JT9D-59A	17	-	-	Leased in: Harbin (CATIC				
Leased out: 4, JALways	•				Y-7-100C3 Leased in: XAC	WJ5A-1	3	-	-
Japan Asia Airway B747-300	ys P&W JT9D-7R4G2	1	_	_	Leaseu III. AAC				
Leased in: Japan Airline		'							
B747-200	P&W JT9D-7A/7Q	2	-	-					
Leased in: 2, Japan Airl	ines				A.				
B747-100	P&W JT9D-7A	1	-	-	M.				
Leased in: Japan Airline		2			W				
B767-300 Leased in: 3, Japan Airl	P&W JT9D-59A ines	3	•	•	V				
DC10-40	P&W JT9D-59A	4	_	-	THE RESERVE AND ADDRESS OF		The second second		Phillips
Leased in: 4								Design of the last	
Gulfstream IV	RR Tay 611-8	3	-	-					1
Japan Express (JE)						, EVALIT G	gg , 2017	1	The same
B737-400	CFM 56-3C1	4	-	-	AMERICA	-	- 11	U-0	25
Leased in: 4, Japan Airli Japan TransOcean							15	1	
B737-400	CFM56-3C1	7	2			Company of the last of the las	-	H-aX	
	se (2), Japan Air Lines (1).	,	-				-		
B737-200	P&W JT8D-17	7	-	-				-0	
Leased in: 3. Nissho Iwa	ni Corp (1)				Marie Consultant				
Jet Airways (India						SOUTH THE PARTY NAMED IN	Sales Fill	THE RESERVE	-0.00
B737-300 Leased in: 4 AWAS	CFM56-3B1/2	4	-	-	Malaysia Airlines B747-400	D 0 / M D / M / O E C / C F C F C O O	C2 15	6	
B737-400/500	CFM56-3C1/3B1	17	_		B747-300	P&W PW4056/GE CF6-80 P&W JT9D-7R4G2	1	-	-
), Nissho Iwai Corp (2), Boeing		olding (2)		B747-200F	RR RB211-524D4	2	-	_
B737-700/800		8	-	-	B777-200	RR Trent 890B	11	4	2
ATR 72-500		1	4	-	Leased in: 6				
Jiangnan General		2			B737-300F	CFM56-3C1	2	-	-
Y-11 Y-5	HS6-A HS5	3 5		-	B737-400 Leased in: 4. Leased out:	CFM56-3C1	45	-	-
Kendell Airlines (A		,		-	B737-500	CFM56-3C1	6	_	_
Saab 340A	GE CT7-5A2	8	-	-	Leased in: 2. Leased out		v		
Saab 340B	GE CT7-9A2	8	-	-	A330-300	P&W PW4168	10	-	-
Fairchild Metro 23	Gar. TPE331-12 UAR	7	-	-	MD-11F	P&W PW4462	1	-	-
Canadair RJ-200	GE CF34-381s	4	8	12	Leased in:		, .		
Korean Air B747-400	P&W PW4056	26	1 (2001)	_	Fokker 50	PWC PW125B	10	-	-
Leased in: 1. Indosuez A		20	1 (2001)	•	DHC Mandala Airlines (PT6A-27	5	•	•
B747-400F	P&W PW4056	3	4 (2000/01)	-	B737-200	P&W JT8D-15/17	9		
B747-300	P&W JT9D-7R4G2	2	-	-		PT. Pann (2),, Sub lease from			
B747-200B	P&W JT9D-7A	1	-	-	Mandarin Airlines	(Including Formosa	Airlines,	Taiwan)	
Leased in: 1	DOWN ITOD TAYOUTDAGS	0			B747-400	P&W PW4056	1	-	-
B747-200F Leased in: 1. Indosuez	P&W JT9D-7A/Q/7R4G2 Airfinance	8		•	B737-800	CFM56-7B26	3	-	-
B777-200	P&W PW4090	3	2 (2000)	-	Fokker 50 Fokker 100	P&W PW125B RR Tay 65-15	7 2	•	-
B777-300	P&W PW4090	3	3 (2000/01)	-	Saab 340A/B	GE CT7-5A2	2		
B737-800	CFM56-7B24	2	16 (2000-01)	-	Fairchild Dornier 228-202		1		-
A330-300	P&W PW4168/A	7	5 (2000/01)	-	Fairchild Dornier 228-212		2	-	-
A330-200	P&W PW4168	3	•	-		Airlines (Indonesia			
A300-600/R Leased in: 3	P&W PW4158	23	•	•	B737-200	P&W JT8D-15	3	-	-
A300BF	CF6-50CE	1	_	_	Fokker 100	RR Tay 650-15	3	•	-
MD-11F	P&W PW4460	4	-	-	F28-4000 Leased in: 6. Leased out	RR Spey 555-15H 1	10	•	-

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options	Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options
- April 1		2			Pacific Airlines MD-82 Leased in: U-Land Airline	P&W JT8D-217C	2	-	-
and lambda.	E	-			Pakistan Internatio	nal Airlines			
				"	B747-200	P&W JT9D-7A	6	-	-
				9 65	B747-200 Combi	GE CF6-50E2	2	-	-
					B747-300	RR RB211-524C2	5	-	-
					Leased in: 5 Cathay Pacifi		c		
- Trees	The Kingle 77"	Coldrator		NO. OF STREET	B737-300 A300-B4	CFM56-3B1 GE CF6-50C2	6 10	•	-
	-	4.47	- 100		Leased in: 2 GECAS (1), IN		10	•	-
				200	A310-300	GE CF6-80C2A8	6	-	_
The Kingle TT Calebration	TO LEASE TO SERVICE STATE OF THE PARTY OF TH		_		F27-200/400	RR Dart 532-7	13	-	-
STREET, STREET	THE REAL PROPERTY.				DHC-6-300	PWC PT6A-27	2	-	-
p-10				1	Pelangi Air (Malays	ia)			
	1	NAME OF TAXABLE PARTY.	-		Fokker 50	PWC PW125B	2	-	-
					Fairchild Dornier 228-202	Gar. TPE331-5-252	3	-	-
	- de				Pelita Air Service (I	ndonesia)			
1/5/					Fokker 100	RR Tay 650-15	1	•	-
Address over the same that		The state of the s			Leased in: GECAS				
F27-500	RR Dart 532/6-7	8	-	-	Fokker 70	RR Tay 620-15	1	•	-
F27-Cargo	RR Dart 7	2	-	-	F28-4000/6000	RR Spey 555-15P	3	-	-
CN-235	GE CT7-7A	14	•	-	Leased in: 1 GECAS	DIA/C DTC A FO	-		
CASA 212	Gar. TPE 331-10-511	6	•	-	DHC-7-103 C212-200	PWC PT6A-50	5 2	•	-
DHC-6-300/200 ATP	PWC PT6A-27	9 4	•	-	Gulfstream III	Garrett TPE331-511C RR Spey 511-8	1		-
MBA (Papua New (P&W PW120A	4	•	-	BAe 146-200	Lyc ALF502-R5	1		
Do-228-202	Gar. TPE 331-525-5	6	_	_	IPTN 212	Lyc ALI 302 N3	10		_
DHC-6-300	PWC PT6A-27	5		-	Philippine Airlines		10		
DHC-8-100	P&W PW120	3		_	B747-400	GE CF6-80C2B1F	4		
DHC-8-200	P&W PW123	1		1	Leased in: 4	G1 6.0 00 622	·		
Cessna Citation 550	PWC JT15D-4	1		-	B737-300	CFM56-3B1/3B2/3C1	8	-	-
Mount Cook Airlin		·			Leased in: 4				
ATR 72-212	PWC PW127	7	-	-	A340-300	CFM56-5C	2	-	-
Leased in: 7, Air New Zea	aland				Leased in:				
MIAT Mongolian A	irlines				A330-300	CF6-80E1A2	8	-	-
B727-200	P&W JT8D-9A/17	3	-	-	Leased in: 6		_		
A310		1	-	-	A320-200	CFM56-5B4/P	3	-	-
Y-12	PWC PT6-27	5	•	-	Leased in: 3	(14)			
An-24	Ivchenko AI-24	11 3	•	-	Polynesian Airlines B737-300	CFM56-3C1	1		
An-26 An-30	Ivchenko AI-24BT	3 1	•	-	DHC-6-300	PWC PT6A-27	2		-
Mi-8	Ivchenko AI-24BT TVD-117A	2	•	-	BN-2A Islander	Lyc O-540-E4C5	1		-
Myanmar Airways		J			Qantas Airways	2,000,000,000			
F28-4000	RR Spey 555-15P	2	-	-	B747-400	RR RB211-524G	24	-	11
F28-1000	RR Spey 555-15	1	-	-	B747-300	RR RB211-524D4U	6	-	-
F27-600	RR Dart 532-7	3	-	-	B747-200B/ SCD	RR RB211-524D4U	5	-	-
F27-400	RR Dart 532-7	1	-	-	Leased out: 2 (Air Pacific)				
F27-100	RR Dart 514-7	1	-	-	B747SP	RR RB211-524B2	2	-	-
Myanmar Airways					B767-300ER	GE CF6-80C2B6	21	1 (2000)	-
B737-400	CFM56-3C1	2	•	-		g Corp (2), Dai-Ichi Kangyo Ba			
Leased in: MAS					B767-200ER B737-300	P&W JT9D-7R4E CFM56-3B2	7 16	-	-
Necon Air (Nepal)	DD Dort 522/6-2	2			B737-400	CFM56-3C1	22		-
HS748 ATR-72	RR Dart 533/6-2	3 1	•		Leased in: 1 ILFC	CLIVIDO-DCT	22	_	-
NEPC Airlines (Indi	a)	1	•	·	BAe146-100		6		-
F27-500	RR Dart 552-7R	8	_	4	BAe146-200		7	-	-
Leased in: 2	501. 552 /11	J			BAe146-300		2	-	-
Nippon Cargo Airli	nes (Japan)				DHC-8-100		17	-	-
B747-200F	GE CF6-50E2	7	-	-	DHC-8-200		3	-	-
Leased in: 2					BAe Jetstream 31		1	-	-
B747-100SRF	GE CF6-50E2	1	-	-	BAe Jetstream 32		1	-	-

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options	Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options
Shorts SD 360		4			Shandong Airlines	(China)			
Royal Air Camboo	lge (Cambodia)				B737-300	CFM56-3B1/3B2	5		-
B737-400 Leased in: MAS	CFM56-3B1	1	-	-	Saab 340A Leased in:		8	-	-
ATR72	PWC PW124C	3	_	_	Canadair RJ200		_	5	_
Leased in: 3	1 WC1 W12+C	J			Y-7	WJ5A	1	-	
Y12	PT6A-27	2	_	_	Shanghai Airlines		·		
Royal Brunei Airli		_			B757-200	P&W PW2037	7	-	-
B757-300ER	RR RB211-535E4	2	-	-	B767-300	P&W PW4056	3	-	-
Leased out: 1 Qatar Ai	rways				B737-700	CFM56-381	3	3	-
B767-300ER Leased out: 1 Region A	P&W PW4056 Air	6	-	-	Leased in: 2 Canadair RJ200			3	_
B767-300ER	GE CF6-80C2	2			Shenzhen Airlines	(China)		J	
Royal Nepal Airlin		_			B737-300	CFM56-3B1/2/C1	6		
B757-200/C	RR RB211-535E4	2		-		ang (2), Fluggesellscaft (2),		ife Capital Corp ((1)
DHC-6-300	PWC PT6A-27	8	-	_	B737-700	3	2	-	
Pilatus PC6-B2H4	PWC PT6A-27	1	-		Sichuan Airlines (C	China)			
Royal Tongan Airl					A320-200	IAE V2527-A5	5	-	-
BAe 748-2B	RR 536	1	_	-	Leased in: ILFC				
Leased in: Mt. Cook Air	rlines				A321	IAE V2500	2	-	-
DHC-6-300	PWC PT6A-27	2	-	-	Y-7-100	WJ5A-1	5	-	-
Ryukyu Air Comm	nuter (Japan)				Tu-154M	Soi A-30KU	4	-	-
DHC-8-100		2	2	-	SilkAir (Singapore)			
DHC-6-300	PWC PT6A-27	4	-	-	A320-200	V2500-A5	3	1	7
Leased in: 4 Japan Tran	sOcean				A319	V2500-A5	2	2	3
Sabang Merauke	Raya Air Charter (In	donesia)			Singapore Airlines	;			
C-212-100	Garrett TPE331-5-251C	2	-	-	B747-400	P&W PW4056	35	6	10
F-27-200	RR Dart-7 MK532-7	1	-	-	Leased in: 3 Itoh Aerosp	ace Corp (2), Sumitomo Ba	nk Leasing & Fi	nance (1)	
Leased in: 1					B747-400F	P&W PW4056	8	2	
Piper PA31-350	Lyc TIO-540-J2BD	1	-	-		ease Company (1), Mitsui &	Co (1), Showa I	easing Company	(1)
Sahara India Airli					Leased out: 3				
B737-200	P&W JT8D-15	4	1	-	B777-200/ER	RR Trent 800	13	22	21
Leased in: 2 PLM Int'l		_	_		B777-300	TT Trent 800	5		•
B737-400	CFM56-3C-1	2	2		A340-300E	CFM56-5C4	15	2	-
Leased in: ILFC					A340-500	RR Trent 553	-	5	5
Shaheen Air (Paki	stan)				A310-300	P&W PW4152 ing (1), C. Itoh Aerospace (15 (1) Mitsubishi (- 'I	-
B737-400 Leased in:		1	-	-		•	i), iviitsubisiii ()	
Leaseu III.					Skippers Aviation DHC-8-100	(Australia)	2		
					Emb 120ERJ		1	•	-
A STREET, AND				500	Fairchild Metro 23		6		
THE RESERVE				9	Skymark Airlines (lanan)	U		
					B767-300ER	Japany	2	1	_
					Skyline NEPC Airlin	nes (India)	-		
141					B737-200	P&W JT8D-17/17A	1		-
	4	<u>O3</u>			Skywest Airlines (
ALCOHOL: N					Fokker 50	PWC PW125B	5	-	-
The state of the last					Solomon Airlines				
The second second				- 1- 11	B737-300 CFM56-3C1		1		-
					Leased in: Qantas				
				HL721	DHC-6-310	PWC PT6A-27/34	2	-	-
TO SECOND		34		HLIZI	DHC-5-310	PWC PT6A-27	1	-	-
Table 1900	00	- Toron	-	-	BN-2A-8/9 Islander	Lyc O-540-E4C5	2	-	-
1 P 10 P	MHM P	Total Section	THE PARTY IN	- 1	Southern Australia				
1000 11 22					DHC-8-102	PWC PW120A	3	-	-
	0	Har	Derect Control		BAe 146-200	Lyc. ALF 502R	3	-	-
LID	3	THE PERSON			Leased in: 3				
100	1""		Name of the last		Srilankan Airlines				
	THE RESERVE OF THE PERSON NAMED IN		To District	THE REAL PROPERTY.	A340-300	CFM56-5C2	4	-	-
		11/		1	Leased in: 1				
No. of Concession, Name of Street, or other Persons, Name of Street, or ot	17 1 1 1 1 Car	1 1	A TOTAL		A330	IAE V/2500 A4	-	9	-
San			7 - 1		A320-231	IAE V2500-A1	2	•	-

Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options	Airline/Aircraft	Engines	In Service Mar 31, 00	On Order (Delivery Date)	Options
St. Company	The State of the S	V 100	Company of		DHC8-400	PW 150A	-	6	-
				200	Fairchild Dornier 228-212	Garrett TPE 331-5A	3	-	-
The same					BN-2A-26	AVCO Lyc 0-540	3	-	-
- W		1	-	TIT	U-Land Airlines	·			
	100		5		MD-82	P&W JT8D-217C	3	-	-
The real Property lies, the last		-		-	Leased out: 1 Vietnam's Pa	acific Airlines			
s. dox	LKAIR -	100	3	The same of the	Vanair (Vanuatu)				
		-	- Phi		DHC-6-310	PWC PT6A-27	5	-	-
0	THUSAL BY		MAIN CAR IN	100	BN-2A Islander	Lyc O-540-4C5	2	•	-
THE RESIDENCE OF THE PARTY OF T	THE REAL PROPERTY.	THE REAL PROPERTY.	La dimen		Vietnam Airlines				
# XXXXX				1	B767-300ER	CF 6	3	•	-
					Leased in: 4	CENTEC ED 4	40		
L1011-500	RR RB211-524B4	2	THE PARTY OF THE P		A320-200 Leased in: 10	CFM56-5B4	10	•	-
L1011-300 L1011-100	RR RB211-22B02	1	•	•	Fokker 70	Tay MK 620-15	2		
L1011-100	RR RB211-22B02	1	-		ATR 72-202	PWC PW124	5		_
Sunflower Airlines		•			Leased in: 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	,		
BN-2A Islander	Lyc O-540-E4C5	3	-		Wuhan Airlines (Chi	ina)			
BN2A-27Islander	Lyc 0-540-E4C5	1	-	-	B737-300	CFM56	6		-
DHC-6-110	PWC PT6A-20	2		-	Leased in: 3 ILFC				
DHC-6-300	PWC PT6A-27	1		-	Y-7-100	WJ5A-1	4	-	-
Beechcraft 65	Lyc IO-720-A1B	1	-	-	Y-5	HS 5	2	-	-
Shorts 330	PWC PT6A-45R	1	-	-	Xiamen Airlines (Ch	ina)			
Cessna - 172M	Lyc 0-320-E2D	1	-	-	B757-200	RR RB211-535E4	5	•	-
Cessna - 152	Lyc 0-235-L2C	1	-	-	B737-200/F	P&W JT8D-17A	5	-	-
Sunstate Airlines (Queensland, Austral	lia)			Leased in: 2 GECAS				
Shorts 360	PWC PT6A-65R	4	-	-	B737-500	CFM56-3C1	6	•	-
DHC-8-100	PWC PW120A	5	-	-	Leased in: 4 ILFC (2), Braat				
DHC-8-300		-	1	-	B737-700	P&W JT8D	4	6	-
Thai Airways Interi					Yunnan Airlines (Ch				
B747-400 Leased in: 2	GE CF6-80C2B1F	14	•	•	B737-300	CFM56-3B1/3C1	14	•	-
	CE CEC 00C2D4	2			Leased in: 4 AWAS (3), GE		2		
B747-300 B777-200	GE CF6-80C2B1 RR Trent 870	2 8	•	•	B767-300ER B737-700	RR RB524-211 CFM 56	3 4	•	-
Leased in: 4	NN ITEIIL 0/U	0	•	•	Zhejiang Airlines (C		4	•	-
B777-300	RR Trent	4	2(2000)	_	A320-200	CFM 56-5B4-2	4	1	_
B737-400	CFM56-3C1	11	-		DHC Dash-8-300	PWC PW127	3		_
Leased in: 4					Leased in: 1 AGES		, and the second		
MD-11	GE CF6-80C2D1F	4		-	Zhongyuan Airlines	(China)			
A330-300	P&W PW4164	11	1 (2000)	-	B737-300	CFM56-3C1	5		-
Leased in: 3					Y7-100	WJ5A-1	2	-	-
A300-600	GE CF6'P&W4158	18	-	-					
Leased in: 5					FIF	ET CENSUS	INI FO	CLIS	
ATR72	PWC PW124	2	-	-					
TransAsia Airways	(Taiwan)					ohotos: Rob Finlaysor		-	
A320	IAE V2500-A1	5	-	-	Page 39: Air China	a: leased out three	A340s to Ca	athay Pacific	
A321-131	IAE V2500-A5	6	-	-	Page 40: Cathay P	acific Airways: maj	jor new aird	raft orders e	xpected
ATR 72	PWC PW124B	10	-	-	this year				
Transmile Air Servi	· · · · · · · · · · · · · · · · · · ·	2			Page 42: Asiana A	irlines: strong reco	verv after e	economic do	wnturn
B737-200 Leased in: Leased out:	P&W JT8D-9A	2	-	-	_	_	•		
B737-200F	P&W JT8D-9A	5			Page 43: China Ea		siaunched	joint ventu	re cargo
Leased in: 1 Leased or		J	•	•	company				
B727-200	P&W JT8D-15	1	_	_	Page 44: Singapor	_	stakes in A	Air New Zeal	and and
Cessna Grand Caravan I	PWC PT6A-114	2		-	Thai Airv	vays			
	ing Great China Airline	_	n Airlines, of	Taiwan)	Page 45: EVA Air:	outstanding cargo	performer		
MD-90-30	IAE V2525-D5	14	-	-	Page 46: Thai Ain	ways Internationa	l: several a	irlines inter	ested in
Leased in: 7					sharehol	-	several e		cstca
BAe 146-300	Lyc ALF502R-5	3	-	-			laa.t	6 lm	-66-+
Leased in: 1					Page 47: Korean A			ı ın upgrade	orsafety
DHC8-311	PW 123	12	-	-		mes and operatior			
DHC8-200	PW123	1	-	-	Page 48: Silk Air: v	wholly-owned sub	sidiary of Si	ingapore Air	lines

'Caravan-ing' in Asia

By Patrick Garrett

essna's Caravan sales people are look ing forward to a bumper year in the Asia-Pacific. Take China, for example.

Caravan world-wide sales director, Bob Conover, told *Orient Aviation* that in mid-March one mainland airline signed a Memorandum of Understanding for options on up to 40 of the rugged little aircraft. Government ratification was expected by the end of the month. Until that time Mr Conover was playing his cards close to his chest.

Mr Conover rates Indonesia as a "very strong market" and expects Cessna to clinch new sales there later this year. "We had an aircraft on display at Asian Aerospace 2000, in Singapore in February, and after the show it flew to Jakarta for a two-week 'demo' tour. There's a lot of activity in Indonesia right now."

In Bangladesh, the army is interested in the Caravan. In India, Cessna has been "constantly talking to several prospective customers". There also is "very strong" interest in the Philippines.

Mr Conover said it tended to be countries with poor air service infrastructure that were most interested in the Caravan; the ones with few large airstrips and low budgets. "They're looking to be able to provide just essential services, not just for passengers, but also for mail and moving spare parts and components around the islands.

It is the countries that are traditionally financially weakest which are looking the most promising for Caravan sales.

"They don't need big US\$4-6 million aircraft," said Mr Conover. An "average" Caravan costs slightly over US\$1.5 million and \$192 per hour in direct operating costs.

"With the old airplanes the operators have to spend so much money on servicing them and keeping them operational. They gain no value. A customer can spend the same amount of money and buy a Caravan.

"We're excited about the opportunities that seem to be presenting themselves in the region. In the mid-nineties business was starting to look very, very good for the Caravan and then came the 'Asian Flu'. Now the countries are rebounding quite well. The fundamentals are looking good and we've seen regulatory changes that are favourable to our type of



The Cessna Caravan: resurgence of interest in the Asia-Pacific

aircraft."

New Zealand has just followed Australia in allowing single engine turboprops to operate IFR carrying passengers. The Caravan is delivered with seats for nine passengers, the maximum allowed for aircraft certified under FAR Part 23 in the U.S. irrespective of engines or other factors. Once abroad, local rules apply. Some mirror U.S. regulations, but in Australia and Indonesia passenger capacity can be increased to 12.

Mr Conover said three basic models were represented in the Asia-Pacific region; the Standard 675, the Amphibian and the Grand Caravan. In the Maldives, for instance, five Amphibians are kept busy ferrying passengers out to luxury hotels, while in Eastern Malaysia two Caravans launched Transmile's airmail service into remote areas, cutting delivery times from seven to 10 days to "this afternoon".

No other manufacturer produces a direct competitor to the Caravan, said the sales chief. "There are other manufacturers building single engine turbine airplanes, but they all have a different application. They are either pressurised, high altitude or more complex. The Caravan is a basic utility aircraft.

"We have 1,125 airplanes out in the marketplace today and we're still experiencing better than 99.85% despatch reliability. And

that's on aircraft from new to 15-years-old. FedEx is operating 262 of our airplanes every day and it still maintains an incredible despatch reliability."

The rise of e-commerce means slow mail services are no longer acceptable, he said. "Every country in the world needs to send small packages from major cities to outlying areas. The Caravan is an absolute natural. It's the perfect airplane for the mission."

Cessna has five Caravan demonstration pilots, one based in Singapore. "The reliability of the aircraft is such that we do not send an engineer or any sort of technical person on our demo teams. The airplane just flies and when it hits 100 hours we get the next inspection done and it just keeps going," said Mr Conover.

Rugged reliability is one of the Caravan's key selling points. Cessna manufactures around 100 each year.

The sales pitch differs markedly from the standard aerospace tale of "complexity" and "cutting edge technology".

"We just reverse the story!" said Mr Conover. "We like to go into Third World countries and talk to the people about the airplane's reliability and how they don't need a lot of sophisticated training and spares. The airplane is extremely basic and very, very reliable."

Still pushing back the boundaries

Now EJI, the quiet achiever, is considering Asia-Pacific expansion

By Patrick Garrett

here is an "airline" that will fly to some 92 countries this year, using a fleet of 265 aircraft to make around a quarter of a million flights – yet few people outside the aviation industry will have heard of it.

In the last three years it has placed an astonishing 45% of the world-wide orders for aircraft in its category and it has a back order currently for 549 aircraft. That makes it the biggest single customer for five of the world's jet manufacturers.

Indeed, one of the few commercial aviation leagues the "airline" does not top is "passenger volume", because – despite the fleet size – it has very few seats to fill. The company in question is U.S.-based Executive Jet Incorporated (EJI), operator of the NetJets programme, the brand leaders in fractional ownership.

EJI has been pushing back the boundaries of business jets since it ordered a dozen of the very first Learjets in the sixties. Present chairman, Richard Santulli, acquired the company in 1986 and is credited with conceiving the concept and operational mechanics of fractional aircraft ownership.

In August 1998, legendary investor Warren Buffett bought the company for a rumoured US\$725 million after a brisk 20 minute "chat" with Mr Santulli, thereby allying EJI with immense resources to back ex-pansion.

In the last two years NetJets has added bases in Europe and the Middle East. Now, according to senior vice-president Kevin Russell. "I think you'll see us operating aircraft in the Asia-Pacific within the next two years," he told *Orient Aviation*.

"If it hadn't been for the recession in the fall of 1998, we'd be on target to be in Asia probably at the end of this year."

Ironically though, recessions have proved to be good for NetJets. The scheme first really took off in the U.S. during a phase of economic uncertainty. Suddenly revenue from



New York City, sir? The Falcon 2000 is in EJI's portfolio

the NetJets programme exceeded that from EJI's traditional charter work.

It is possible then that after the shock of the Asian downturn and the end of "guaranteed" growth, local companies will be attracted to the flexibility and reduced outlays of the NetJets programme.

Mr Russell said the effects of the Asian recession were not limited to this region. The sudden downturn highlighted the need for prudence amongst U.S. companies reliant on Asian business. "The recession actually helped our business become even better in the U.S. because more companies realised they were dependent on a growing percentage of their business coming from new world markets such as Asia.

The company has made no decision on where to locate an Asia-Pacific operating base. Mr Russell told Orient Aviation, "We will go to the location that makes the most business sense." However, EJI believes Asia is not an easy market to crack. Admitted Mr Russell: "Stretching from Korea to India and down to Australia it creates a tremendous challenge to

provide fractional ownership."

A lack of dedicated general aviation fixed base operators (FBOs), restrictions on flight and airport operating hours and airspace sometimes controlled by the military adds to the problems.

EJI is certain to team up with local partners. The NetJets Europe programme, based in a 2,750 sq. metre operations centre in Oeiras, Portugal, is a joint offering from Executive Jet, Zimex Aviation and Air Luxor. For the Middle East operation, which started in June, 1999, Executive Jet partnered with Gulfstream and National Air Services, of Saudi Arabia. Last year that operation added 12 Falcon 2000s and 14 Hawker 800 XPs to existing orders for 14 Gulfstream IV-SPs.

However, in Asia no partners have yet been agreed upon. "We're having conversations," said Mr Russell.

"This is not 'let's throw two pilots, a flight attendant, and a Citation plane into Hong Kong and say: 'We're in the fractional ownership business – give us a call!'. We don't do that. We've invested over a billion dollars in

Europe and \$850 million in the Middle East."

To offer a truly functional fractional scheme, schedulers need a fleet of "core" aircraft to meet the US guarantee of aircraft availability anywhere in the country, 365 days a year, within four-to-six hours of an order. Customers are charged only for the time they fly. There are no deadhead, repositioning or landing charges. Instead, they pay a fixed monthly amount that is guaranteed for five years. NetJets take care of the aircraft's management, maintenance and all employee responsibilities.

NetJets fractional owners purchase an interest in a specific aircraft from the Citation, Hawker, Gulfstream, Falcon or Boeing Business Jet (BBJ) catalogue. A quarter share in a Gulfstream IV SP costs US\$7.6 million, plus \$41,000 in monthly management fees and \$2,900 per occupied hour for up to 200 hours annually. EJI also guarantees to repurchase a share if a client decides to leave the programme.

At first glance fractional ownership might not appear such an enormous leap of faith. However, mathematician Richard Santulli is credited with creating something very special. "Richard Santulli is to business aviation as Bill Gates is to the computing industry," enthused Mr Russell.

Mr Santulli, a former maths professor and a principal of Goldman Sachs, wanted to buy a business jet for himself, but realised he would only ever need 100, or 125, perhaps up to 150 hours flying time a year for business and pleasure.

Mr Santulli looked at the situation and decided he could not justify purchasing a jet. So he created the concept of fractional aircraft.

"Mr Santulli created the most affordable way of owning a business jet with guaranteed availability, guaranteed costs and guaranteed liquidity," Mr Russell said. "Charter and full aircraft ownership can't provide those items."

Fractional ownership also takes care of the complex personnel and regulatory issues. Last year EJI handled 7500 pilot applications and hired 450. Each pilot spends 22 days every year in training. "No one in business aviation comes close to that," claims Mr Russell. FlightSafety Boeing, which Warren Buffett acquired in 1996, handles EJI's training.

Following their acquisition EJI began construction on a new headquarters and support centre at Port Columbus International Airport. The facility also houses their computerised Aviation Management System (CAMS), which automates almost every facet of maintenance and flight scheduling, as well as the tracking of domestic and international flights. The

new 60,600 sq. metre centre was a \$25 million investment.

According to the *International Herald Tribune* newspaper, Mr Buffett is a "master of spotting undervalued growth-oriented businesses." And an Asia-Pacific operation could make an ideal expansion into virgin territory.

Executive Jet and Boeing Business Jets launched a joint venture in October, 1997, but Kevin Russell said the venture does not effect EJI's independence. The Boeing Business Jet (BBJ) arrives in the NetJets fleet this year.

"Boeing realised that they needed to have someone like NetJets to partner with them, because nobody can provide the operating efficiencies that we provide in managing and operating a fractional ownership programme," he said.

"There is an opportunity for large cabin business jets. But a large cabin bizjet is a US\$45

place in the world economy in recent years mean the next multi-millionaire shopping for a corporate jet could just be some student with a hot web-site. NetJets print advertising therefore casts the net wide, beyond traditional "big business" to catch the new entrepreneurs. In a sense, since it is not selling whole aircraft, EJI advertising and marketing is actually edging closer to the upper end of the traditional airline market.

But Mr Russell warned airline premium customers to check their bank balances before contemplating joining. "Your business class passenger better be a wealthy business class passenger, because even fractional ownership is expensive. You cannot cross-compare to commercial airlines!

"We have three primary markets. The high net-wealth individual who flies for quality of life, that's 20% of our fliers. Public companies – some of them use more than 3,000 hours a



Executive comfort: an interior view of the Gulfstream IV-SP

million investment and Boeing recognised there were a certain amount of people and companies that could justify [it]. But they also recognised there were a great deal more people who needed an aircraft of that nature on an occasional basis to meet their needs for international travel. They came to us and proposed a relationship where they would also take a piece of the risk of investing in core fleet aircraft.

"You need to have a core fleet, planes that you don't sell fractional shares in, that are there to back up and provide the 100% guarantees of availability. You can't just say: 'Okay, I've got one jet, now I want to start selling fractional shares in it'."

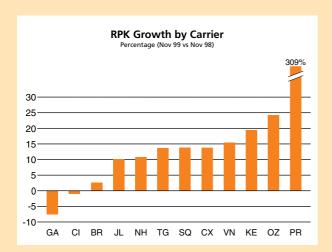
Today, private companies beat big corporations as the biggest client bloc at NetJets. And the dramatic changes that have taken year – 30%. The remaining 50% are private companies and private entrepreneurs whose spirit and dynamic nature has spurred the economy throughout the world in the last 10 years."

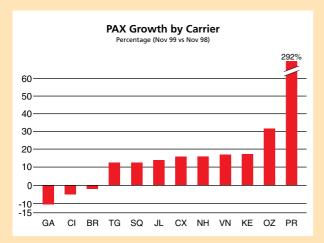
NetJets knows which sectors it will focus on in the Asia-Pacific. "The two biggest growth areas today are financial services and IT," said Mr Russell.

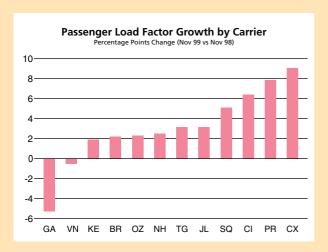
Although the company is squarely focussed on servicing the private sector, it drew its original inspiration, and also some early board members, from the US Air Force's Special Air Missions Squadron. In the first board noted generals sat alongside figures from showbiz, including actor Jimmy Stewart.

Today, the star attraction at EJI promotions is instead Mr Buffett, America's third-richest man.

RECORDS CONTINUE TO FALL







he consolidated passenger traffic and number of passengers carried by Association of Asia Pacific Airlines (AAPA) member carriers in November again showed impressive growth. Revenue passenger kilometres (RPKs) soared by 13.5%, surpassing the previous record posted in October. Passengers carried (PAX) grew by 12.4%. Capacity expanded at its fastest rate (6.8%) since the 1997-98 crisis period. Consequently, the load factor (PLF) reached 72.6%, the highest November PLF in a decade.

The performance was the result of outstanding individual performances by the majority of member airlines. Ten posted high growth rates in RPK and PAX; eight of them also logged positive PLF growth.

Although Philippine Airlines (PR) ranked number one in terms of RPK growth (308.8%) and PAX (291.9%), its actual figures were still approximately 30%-35% less than pre-crisis levels.

Asiana Airlines (OZ) registered the second highest RPK and PAX expansion at 24.6% and 31.6% respectively. The performance of the other Seoul-based carrier, Korean Air (KE), was equally noteworthy with passenger traffic up 19.7% and PAX rising 17.7%. The figures are confirmation of the speedy recovery of the two Korean airlines. It should be noted Korean Air has breached its pre-crisis RPK level for the third consecutive month and Asiana Airlines has surpassed its pre-crisis level for the second straight month.

Other member airlines continued to perform at an unusually strong pace as they logged double-digit RPK growth: Vietnam Airlines (VN, 15.2%), Cathay Pacific Airways (CX, 13.9%), Singapore Airlines (SQ, 13.9%), Thai Airways International (TG, 13.8%), All Nippon Airways (NH, 10.8%) and Japan Airlines (JL, 10.2%).

At the other end of the spectrum, Garuda Indonesia (GA, -7.7%) and Taiwan-based China Airlines (CI, -1%) posted negative RPK growth. The second Taiwan-based carrier, EVA Air (BR), reported mediocre results with RPK growth of only 2.4%. All three posted a decline in PAX, which ranged from -2.0% to -10.3%.

Cathay Pacific Airways (9.0 percentage points) and Philippine Airlines (7.8 percentage points) recorded the highest increases in load factor among members. Eight airlines registered a load factor above 70%, led by Thai Airways International (77.2%), Singapore Airlines (76.5%) and Vietnam Airlines (75.8%). Interestingly, Thai Airways International, Singapore Airlines, Asiana Airlines, Japan Airlines, Korean Air and EVA Air logged their best November load factors for 10 years. Cathay Pacific Airways and China Airlines registered their best load factors since November 1991 and November 1992 respectively.

Cargo Results

Freight traffic growth in November 1999 remained strong at 18.5%. Capacity grew at 16.5%, resulting in a 1.2 percentage point increase in load factor to 72.4%.

All airlines performed exceptionally well, logging positive freight tonne kilometre (FTK) growth. Eleven member airlines posted an FTK increase of at least 10%.

Although Philippine Airlines logged the highest FTK growth of 283.2%, it declined by almost 90% in the same period last year. Its

current FTK level is still 50% below the 1997-98 pre-crisis level.

Strong regional exports to the U.S. boosted the freight traffic of nine member airlines: China Airlines (33.4%), Asiana Airlines (27.8%), Vietnam Airlines (26.5%), EVA Air (26.3%), All Nippon Airways (25.0%), Korean Air (23.2%), Japan Airlines (13.8%), Cathay Pacific Airways (13.2%) and Singapore Airlines (11.9%).

In terms of freight load factor (FLF) increases, Cathay Pacific reported the biggest improvement, at 12.0 percentage points. The majority of member airlines posted freight load factors of between 70.8% and 84.5%. China Airlines (84.5%), EVA Air (84.1%) and Asiana Airlines (81.7%) recorded the highest FLFs. At the other extreme, Vietnam Airlines (45.8%) and Philippine Airlines (38.9%) logged the lowest load factors.

Results for the 12 months to November 30, 1999

Passenger traffic during the period grew by 10.3% and passengers carried rose by 11.1%. A moderate increase in capacity (3.6%) resulted in a 4.4 percentage point improvement in load factor to 72.4%.

Eight member airlines registered across-the-board increases in all passenger traffic measures. Seven of the eight posted double-digit RPK growth: Asiana Airlines (17.6%), Korean Air (15.3%), Thai Airways (14.4%), Singapore Airlines (12.9%), All Nippon Airways (12%), China Airlines (12%) and EVA Air (11.1%).

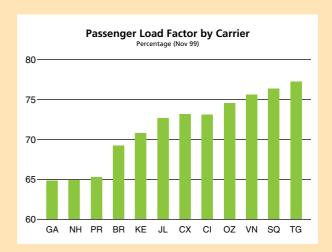
Except for Philippine Airlines, all member carriers recorded an increase in load factor. Garuda Indonesia had the highest increase, at 12.2 percentage points, following a 22.8% reduction in capacity. Asiana Airlines also posted a remarkable improvement in load factor - 10.6 percentage points. Ten members logged a load factor of 70% or higher. Asiana Airlines and Vietnam Airlines reported the two highest PLF, at 76.7% and 75.5%, respectively. Philippine Airlines (63.3%) and All Nippon Airways (67%) recorded the lowest load factors.

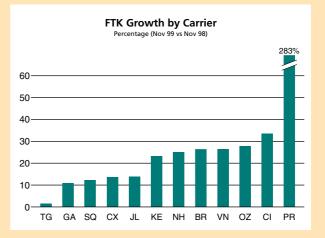
Cargo Results

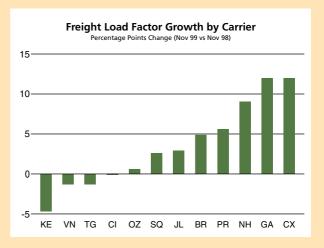
Freight traffic in the 12-month period rose by 12.5%. Capacity increased at a slightly more moderate pace of 11%, and resulted in a 0.9-percentage point improvement in load factor to 69.1%.

Except for Philippine Airlines and Garuda Indonesia, whose freight traffic declined by 28.1% and 23.2%, respectively, all member airlines reported positive growth in the period. Seven member airlines reported remarkably high FTK growth: Asiana Airlines (25.2%), EVA Air (23.6%), All Nippon Airways (19.4%), China Airlines (16.1%), Singapore Airlines (12.5%), Cathay Pacific (12.1%) and Korean Air (10.4%).

In terms of load factor growth, Cathay Pacific Airways posted the most substantial increase - 7.0 percentage points to 70.3%. Four other member airlines registered a FLF better than 70%: China Airlines (83.5%), EVA Air (78.7%), Korean Air (76.1%) and Asiana Airlines (75.4%). Philippine Airlines was the worst performer with a FLF of 30.6%.







Summary

Based on November's results, the aviation industry continued its unusually strong momentum as it headed towards the end of the year. Consolidated passenger traffic for November, considered the leanest month in the industry, showed a number of historic highs: highest RPK and capacity growth in the post-crisis period and highest November passenger load factor in the decade. Consolidated freight traffic, although not expected to establish new marks after the record-setting performance in the previous month, also did remarkably well. Consequently, results for the 12-month period ending November 1999 in passenger and cargo traffic were very impressive due to the consistently strong showing for each of the months within the period.

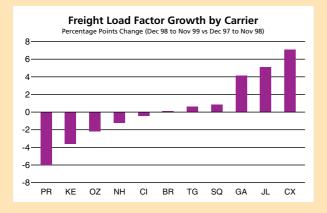
With this strong pace of growth, it is expected traffic on a consolidated basis will have fully recovered to the 1997-98 pre-crisis level before the end of the calendar year. It also is expected that the majority of the member airlines will have reached this same recovery milestone.

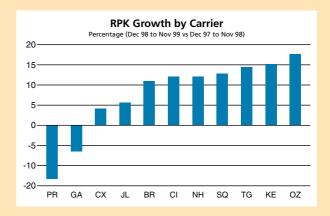


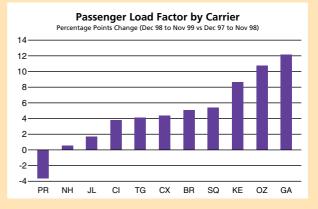
China Airlines: strong cargo growth

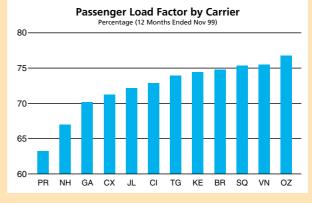


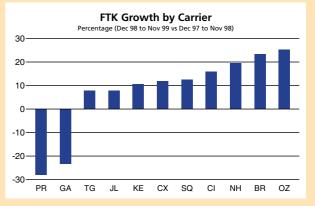
Philippine Airlines: the only AAPA airline not to increase load factor in the 12 months under review



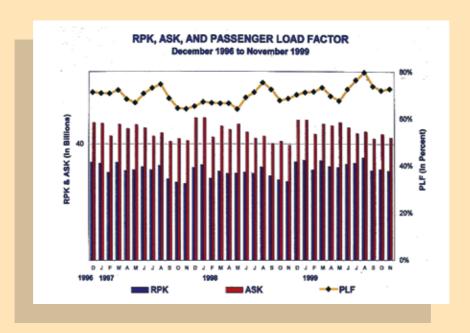


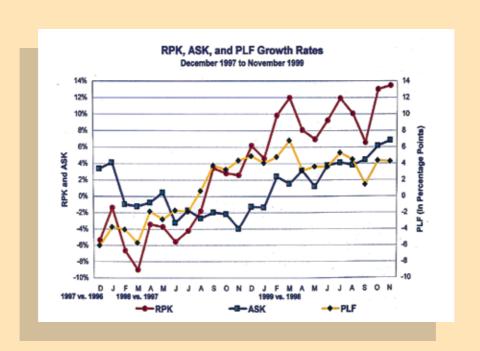




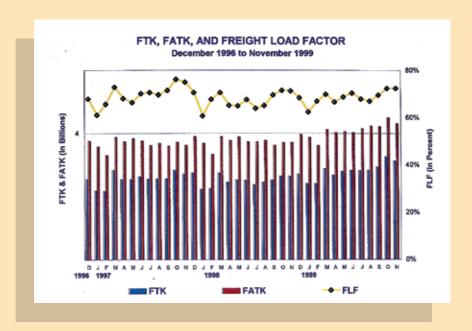


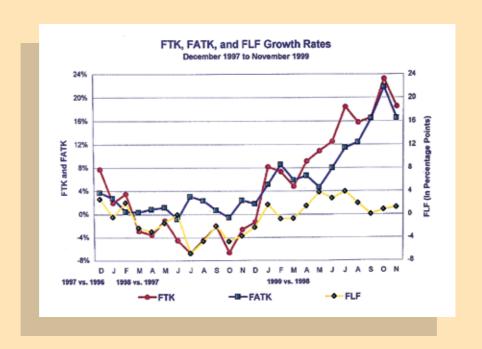
Monthly international PAX statistics of AAPA members





Monthly international cargo statistics of AAPA members





		AAPA monthly		international		al stat	statistics		(MIS) *IN THOUSANDS	
		RPK (000)	ASK (000)	PLF %	FTK (000)	FATK (000)	FLF %	RTK (000)	ATK	PAX
	NOV-99 OCT-99 SEP-99 AUG-99	30,623,296 31,175,644 30,826,538 35,194,712	42,159,310 43,334,337 41,816,612 44,200,406	72.64 71.94 73.72 79.63	3,127,816 3,259,228 2,933,674 2,835,640	4,319,548 4,509,502 4,219,790 4,237,149	72.41 72.27 69.52 66.92	5,993,283 6,182,021 5,825,260 6,118,377	8,200,012 8,497,363 8,070,099 8,313,201	7,264 7,295 7,076 8,172
1999 to	JUL-99 JUN-99 MAY-99	33,306,052 33,057,236 31,960,045	43,611,994 45,627,007 47,348,342	76.37 72.45 67.50	2,816,925 2,829,103 2,793,281	4,156,936 4,024,718 4,065,038	67.76 70.29 68.71	5,914,619 5,902,079 5,773,053	8,183,895 8,222,369 8,413,688	7,819 7,522 7,330
1998	APR-99 MAR-99 FEB-99 JAN-99	32,155,728 34,227,332 30,893,703 34,284,350	46,297,805 46,818,276 43,302,725 48,281,164	69.45 73.11 71.34 71.01	2,677,524 2,877,111 2,414,267 2,413,981	4,023,679 4,122,554 3,610,183 3,871,605	66.54 69.79 66.87 62.35	5,669,420 6,047,421 5,261,692 5,575,361	8,268,167 8,426,876 7,574,648 8,311,763	7,426 7,763 7,191 7,481
	DEC-98 TOTAL	33,805,220 391,563,433	48,273,612 543,835,124	70.03 72.00	2,711,950 33,355,288	3,970,275 48,783,366	68.31 68.37	5,819,042 69,703,603	8,372,488 98,727,582	7,700 89,831
	NOV-98 OCT-98 SEP-98 AUG-98	26,990,228 27,586,522 28,932,189 31,983,275	39,467,192 40,822,105 40,033,009 42,567,064	68.39 67.58 72.27 75.14	2,639,608 2,644,917 2,516,228 2,449,649	3,707,278 3,702,176 3,622,028 3,769,563	71.20 71.44 69.47 64.98	5,122,571 5,184,429 5,195,046 5,405,716	7,317,358 7,461,543 7,344,604 7,675,693	6,466 6,561 6,558 7,461
1998 to	JUL-98 JUN-98 MAY-98 APR-98	29,763,469 30,263,787 29,882,897 29,755,772	41,885,162 43,967,789 46,786,290 44,883,718	71.06 68.83 63.87 66.30	2,378,607 2,514,464 2,518,814 2,453,566	3,729,019 3,726,437 3,884,192 3,771,834	63.79 67.48 64.85 65.05	5,129,145 5,312,776 5,273,916 5,212,267	7,570,262 7,732,083 8,151,421 7,882,379	6,904 6,795 6,741 6,890
1997	MAR-98 FEB-98 JAN-98 DEC-97	30,575,411 28,131,428 32,770,842 31,844,853	46,112,047 42,280,272 48,943,219 48,894,782	66.31 66.54 66.96 65.13	2,744,004 2,248,817 2,231,332 2,748,860	3,892,857 3,324,838 3,680,418 3,899,399	70.49 67.64 60.63 70.49	5,577,233 4,851,231 5,268,989 5,699,407	8,094,151 7,192,933 8,159,997 8,348,642	6,964 6,489 7,091 7,314
	TOTAL	361,597,393	533,924,774	67.72	30,360,302	44,928,793	67.57	63,813,502	93,796,880	82,718
	NOV-97 OCT-97 SEP-97 AUG-97	26,309,823 26,834,051 27,969,457 32,565,007	41,101,674 41,727,675 40,829,573 43,735,913	64.01 64.31 68.50 74.46	2,710,721 2,832,822 2,569,189 2,562,241	3,618,852 3,722,489 3,596,058 3,681,754	74.91 76.10 71.44 69.59	5,182,531 5,325,555 5,170,215 5,578,402	7,378,970 7,529,453 7,312,962 7,661,961	6,333 6,459 6,460 7,550
1997 to	JUL-97 JUN-97 MAY-97 APR-97	31,066,431 32,040,636 31,037,075 30,807,978	42,605,854 45,425,520 46,559,497 45,219,804	72.92 70.53 66.66 68.13	2,550,902 2,633,630 2,546,410 2,544,608	3,616,972 3,757,756 3,838,451 3,739,549	70.53 70.09 66.34 68.05	5,425,668 5,603,114 5,431,046 5,404,919	7,493,850 7,883,779 8,071,740 7,847,301	7,233 7,250 7,100 7,313
1996	MAR-97 FEB-97 JAN-97 DEC-96	33,599,094 30,135,591 33,232,107 33,650,024	46,670,864 42,696,237 47,001,275 47,298,022	71.99 70.58 70.70 71.14	2,825,859 2,172,416 2,188,475 2,551,798	3,879,309 3,309,918 3,581,885 3,759,715	72.84 65.63 61.10 67.87	5,959,385 4,973,106 5,289,208 5,695,782	8,115,181 7,193,963 7,859,914 8,060,632	7,762 7,195 7,406 7,867
	TOTAL	373,222,802	534,469,518	69.83	30,611,395	44,203,963	69.25	65,319,129	92,819,149	86,733
	NOVO	12.46	6.02		tage point		1.21	17.00	12.00	12.25
	NOV-99 OCT-99 SEP-99 AUG-99	13.46 13.01 6.55 10.04	6.82 6.15 4.46 3.84	4.25 4.36 1.45 4.49	18.50 23.23 16.59 15.76	16.52 21.81 16.50 12.40	1.21 0.83 0.05 1.94	17.00 19.24 12.13 13.18	12.06 13.88 9.88 8.31	12.35 11.19 7.89 9.53
Dec 98 to Nov 99	JUL-99 JUN-99 MAY-99 APR-99 MAR-99	11.90 9.23 6.95 8.07 11.94	4.12 3.77 1.20 3.15 1.53	5.31 3.62 3.63 3.16 6.80	18.43 12.51 10.90 9.13 4.85	11.48 8.00 4.66 6.68 5.90	3.98 2.82 3.87 1.49 -0.70	15.31 11.09 9.46 8.77 8.43	8.11 6.34 3.22 4.89 4.11	13.25 10.70 8.74 7.79 11.47
	FEB-99 JAN-99 DEC-98	9.82 4.62 6.16	2.42 -1.35 -1.27	4.81 4.05 4.90	7.36 8.19 -1.34	8.58 5.19 1.82	-0.76 1.72 -2.19	8.46 5.81 2.10	5.31 1.86 0.29	10.82 5.49 5.27
Dec 97	NOV-98 OCT-98 SEP-98 AUG-98 JUL-98	2.59 2.80 3.44 -1.79 -4.19	-3.98 -2.17 -1.95 -2.67 -1.69	4.37 3.27 3.77 0.68 -1.86	-2.62 -6.63 -2.06 -4.39 -6.75	2.44 -0.55 0.72 2.38 3.10	-3.70 -4.66 -1.97 -4.61 -6.74	-1.16 -2.65 0.48 -3.10 -5.47	-0.83 -0.90 0.43 0.18 1.02	2.11 1.57 1.52 -1.17 -4.55
to Nov 98	JUN-98 MAY-98 APR-98 MAR-98 FEB-98	-5.55 -3.72 -3.42 -9.00 -6.65	-3.21 0.49 -0.74 -1.20 -0.97	-1.70 -2.79 -1.83 -5.68 -4.05	-4.52 -1.08 -3.58 -2.90 3.52	-0.83 1.19 0.86 0.35	-2.61 -1.49 -3.00 -2.36 2.00	-5.18 -2.89 -3.56 -6.41 -2.45	-1.92 0.99 0.45 -0.26 -0.01	-6.28 -5.05 -5.79 -10.28 -9.81
	JAN-98 DEC-97	-6.65 -1.39 -5.36	-0.97 4.13 3.38	-4.05 -3.75 -6.02	3.52 1.96 7.72	0.45 2.75 3.72	-0.47 2.62	-2.45 -0.38 0.06	-0.01 3.82 3.57	-9.81 -4.24 -7.03

MUDDLE IN MANILA

f it had not actually happened the bizarre events which occurred over the Pacific Ocean last month, when the Philippines refused a Taiwanese B747 freighter entry into its airspace, would have been regarded as more fitting for a film script than real life.

Perhaps that's apt, given Philippine President Joseph Estrada's former life as a movie star. The action, in retaliation for what Manila claims are violations of capacity agreements by Taiwan's EVA Air and China Airlines, was not only bizarre, it raises safety questions. It should send shudders down the spines of the region's air authorities.

Manila's dramatic gesture was its way of saying in no uncertain terms: 'we've re-imposed our ban on direct flights between our two nations'. Rightly or wrongly, a decision to break off air links is fair enough. Doing it the Philippines way was definitely not.

The captain, happily cruising towards Manila, must have had quite a shock, to say the least, when controllers refused him entry into Philippines air space. Did they ask him if he had enough fuel to re-route, I wonder? Thankfully, he had plenty, but turning around and flying all the way back to Taipei was the last thing he wanted to do.

No aviation authority should have the right to do what Manila's Civil Aeronautics Board (CAB) did? Sovereignty issues aside, and perhaps excluding times of war, surely we live in an age when such differences of opinion can be sorted out through negotiation rather than such drastic manoeuvres.

Taiwan Civil Aviation Administration director, Chang You-heng, said his office was informed of the new ban after midnight so it was unable to pass the news on to EVA. Unaware of the decision, the carrier's staff and crew went merrily about its business ignorant direct air traffic to Manila had been halted.

While it is difficult to believe a senior official of Taipei's CAA could not contact a senior EVA executive at such a late hour in an emergency, the point is the ban was re-started with immediate effect. Under the interim agreement that allowed flights to restart in February after a four-month hiatus, each side was supposed to give 12-month prior written notice if it decided to suspend flight operations again.

So once again here was Manila simply



TURBULENCE

By Tom Ballantyne

ignoring internationally accepted norms and a formal agreement whenever it felt like it. It is not acceptable practice and it must cause anyone involved in negotiations with the Philippines to pause and ponder whether there is really any point in continuing.

This situation is even more worrying when one considers Manila has threatened to raise similar issues with several other neighbours, such as South Korea, Hong Kong and Singapore.

There are two important points to be made. The first concerns the issue itself, the question of sixth freedom traffic carried beyond bilateral ports to third destinations such as the U.S.

We all know (apart from Manila apparently) that it is common practice and everyone does it. Increasingly, liberalisation is going to make any protest against such trade meaningless.

The quicker Philippine Airlines realises the way back to commercial success is through becoming more competitive rather than running to its friends in the national government every time it thinks its getting a raw deal, the faster it will be able to complete its current financial rehabilitation.

No one is suggesting there is no room for disagreement, particularly between nations with disparate cultures and political agendas. Perhaps PAL thinks it does have a beef when it accuses Taiwanese operators of "poaching" its passengers from Manila and flying them on, through Taipei, to other destinations.

It says EVA and CAL are even circulating leaflets in Manila promoting their flights to the U.S. and the Middle East. If true, that would be a little provocative.

But the bottom line is that under the now abandoned agreement, PAL had exactly the

same rights as its rivals. Is it EVA or CAL's fault that PAL got itself into such a dismal operational state it was unable to take advantage of the bilateral?

You can bet your life that if the situation was reversed PAL would not be complaining but would, as all competent airlines would do, take as much advantage of the situation is it possibly could.

The second fact people seem to forget is that after safety, the passenger is the most important element of the airline world. Did anyone at the CAB or PAL give serious thought to the thousands of travellers once again stranded by the impasse and forced to rush around looking for alternative flights through Hong Kong or elsewhere.

PAL said it is making alternative arrangements for all its customers. CAL and EVA will do likewise. But that does not do anything to improve the industry's image. Passengers want safe and reliable air services and they want consistency.

By far the largest number of travellers affected by the Philippines' latest about-turn are the thousands of Filipino workers who earn their wages overseas, a third of a million in Taiwan alone. Perhaps the government thinks they will just "cop it sweet" without complaining.

But imagine if you are a European or American traveller, on business or otherwise, and you are told you cannot fly from Taipei to Manila, or vice-versa. You are probably going to give it a miss and decide not to fly with PAL or CAL or EVA again.

The Manila muddle may not only harm airlines in the Philippines and Taiwan. It could also tarnish the reputations of other carriers in the region. The quicker both sides stop slamming doors on each other, the better for everyone.