

# FOUR INNOVATIONS FOR GREATER FLIGHT SAFETY

## **ALDIS** A world first in weighing and balancing

It happened in 1980 aboard a commercial jet in Chicago, the city where ICAO was born. The pilot sensed something was amiss when, on take-off, acceleration along the runway was slower than expected and lift off required more effort than usual.

En route climb was poor and cruise at 35,000 feet required boosting engine power to maintain a lower than normal air speed. Descent and landing, however, were normal.

Back on the ground, a deplaning passenger asked jokingly if the plane felt heavy and then went on to explain that most of the passengers were coin collectors on their way to a convention and that all had brought coins on board in their hand luggage.

On investigation, it was discovered that their hand luggage added up to almost one and a half

tons of unreported weight! Also that, had the balance been critical, a tragic accident could have resulted.

Then there was the case of Canadian pilot, **Captain Robert Pearson**, who is on record as stating that, had he been aware of his aircraft's true weight prior to take-off, he would have avoided the near disaster which occurred at Gimli, Manitoba in 1983, namely, running out of fuel at 41,000 feet, later to become the subject of the best selling book "*Freefall*".

Both incidents underscore, in dramatic fashion, the critical importance of airlines and pilots having *confirmation* of the current practice of estimated/calculated weight and balance of the aircraft prior to take-off. In other words, the exact statistics free of any possible human error.

Determined to make this a reality, following 10 years of intensive research and development, is **Aldis Technologies Inc.** of LaPrairie, Québec, on the South Shore of Montréal. Conceived as a result of what has become known as the "Gimli Glide" made by Captain

Pearson and aided by his First Officer, **Maurice Quintal**, the ALDIS system is a world first.

Basically, it is a patented system which, unlike previous others, confirms - as opposed to merely calculating and estimating - the load condition of a large number of different types of aircraft or, conversely, a limited number of different types of aircraft.

The former is designed for installation in holding bays or taxiways prior to the threshold or in the vicinity of, take-off runways so as not to impede traffic flow, the latter for installation at airport gates. Apart from enhancing flight safety, the system is expected to become an optimization tool, providing increased flight efficiency.

Advantages of the ALDIS system over tried but rejected "on board" weighing systems, which can cost millions of dollars per aircraft, are its highly accurate - within one half of one percent or better - easily serviced and reliable technology. Furthermore, the system takes into account wind, temperature and humidity conditions during the weighing process.

At press time, negotiations with **Aéroports de Montréal** were progressing for the installation of a prototype ALDIS system at one of the city's two airports, Mirabel or Dorval. This prototype, following testing, will be upgraded so as to provide a total commercially acceptable system.

Initially, carriers will be invited to use the system free of charge. Full testing is scheduled to last at least one year to cover the four-seasons weather conditions in the city.