Reporting Occurrences

Our safety system relies on the reporting and investigation of occurrences to find out what caused them. That information enables us to put measures in place to prevent accidents.

Now there's a shift to look more closely at the risks in our aviation activities, as Mark Hughes, CAA General Manager Operations and Airworthiness, explains.

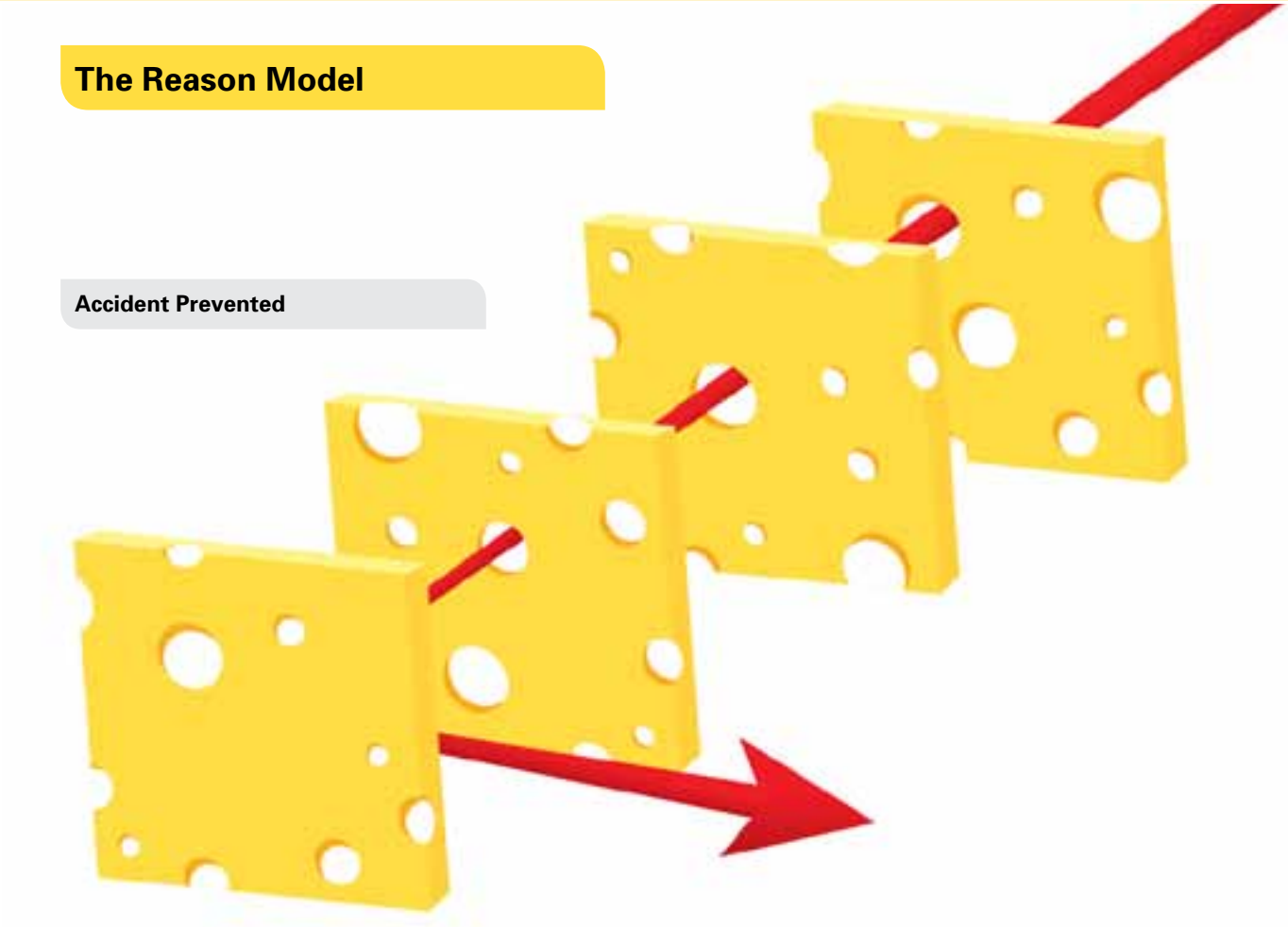
"Safety has been traditionally viewed as an *absence of harm* and measured by accident statistics. Now, safety is considered as an *acceptable level of risk*. This change is quite empowering and requires those involved in aviation to assess and manage risk to prevent accidents, and avoid the human and economic consequences of such events. This innovation in aviation safety thinking is best exemplified by the Safety Management System (SMS) approach.

"Risk assessment requires an active reporting culture within an aviation organisation. A blame-free reporting environment, called a 'just culture', is necessary to encourage occurrence reporting.

"The promotion and practice of risk reduction must be supported by all participants," says Mark.

The Reason Model

The Reason Model (often referred to as the 'Swiss Cheese' model), developed by Professor James Reason, illustrates how an accident can have many contributing causes, but also that a single defence that we put in place can prevent the accident occurring. The slices of cheese represent various factors that make up your aviation operation. They're



not static, but changing and moving to represent activity. But there are holes, and when they line up, there are enough causal factors for an accident to happen. The holes are the risks in an aviation operation. We need to assess those risks, and build up defences, figuratively plugging the holes in the cheese, so that accidents are prevented.

Incidents are Important

For a number of reasons, many occurrences are not reported. It's important to realise that the data accumulated from many incidents helps to form the bigger picture, as this example shows:

> During a pre-flight inspection, the pilot of a light aircraft felt a restriction in the aileron control system. After a thorough engineering examination, an aileron control cable was found to have failed.
>
> The aircraft operator and the pilot-in-command promptly reported the occurrence.
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> When the CAA investigated, the failure of the cables on this type of aircraft was found to be well known among other operators. The cables often exhibited areas of wear and were replaced at inspection time or at a self-imposed flight time limitation, often without being reported as a defect. Due to poor reporting, the numbers of these occurrences did not seem serious.
>
> Thanks to the few operators that reported, concerns were then raised regarding the cable failure rate of this type in the New Zealand fleet. The aircraft manufacturer and a number of operators, assisted by the CAA, then developed a modification to prevent the wear and possible failure of the cables.

Further illustration of the importance of incident reporting comes from a study of industrial accident data that showed for each fatal, serious, or disabling accident, there were 10 serious incidents, and 360 minor incidents (as shown in the illustration, on page 16). If we can analyse the many incidents, we may be able to put defences in place that will

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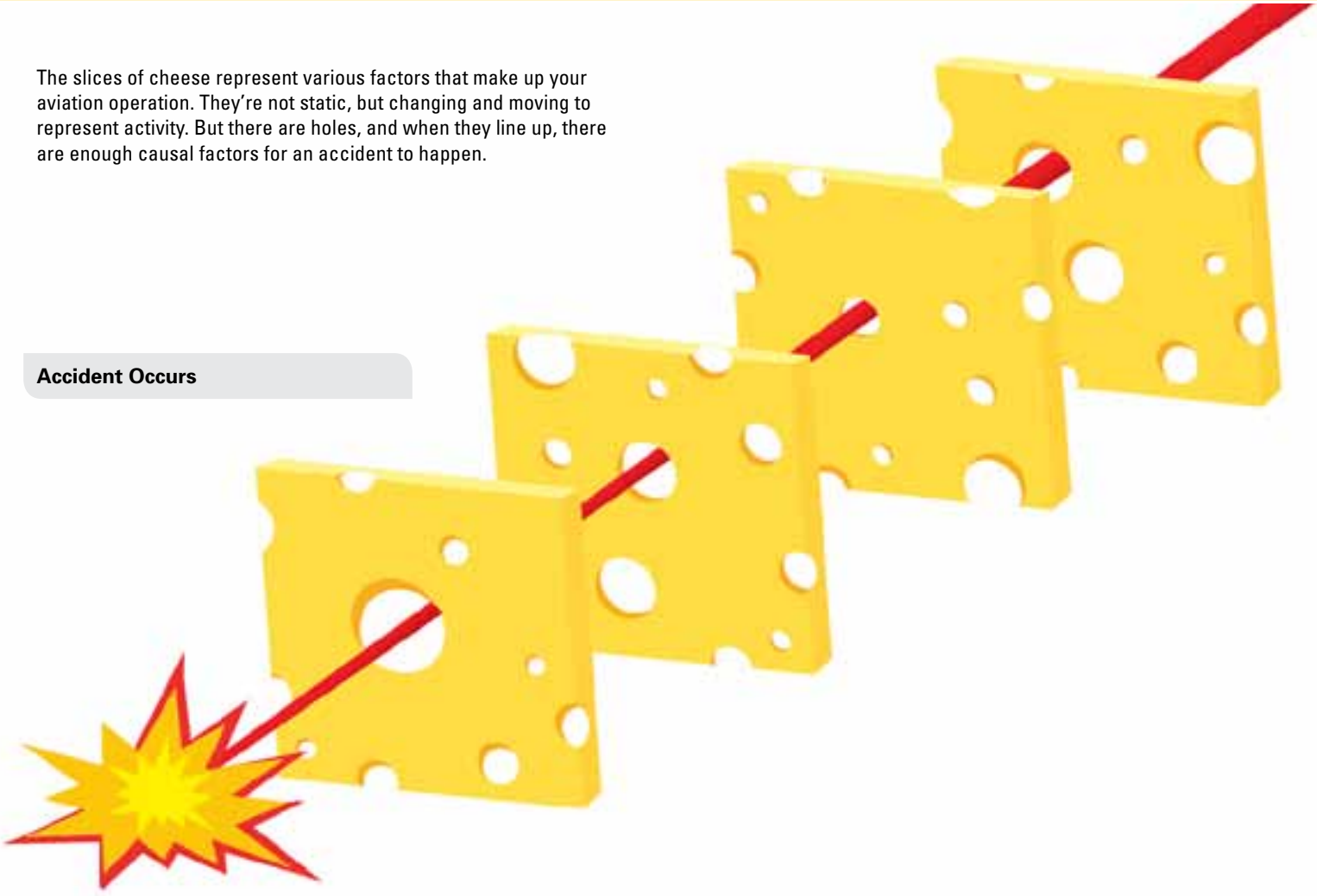


prevent a serious accident.

If you are unsure whether an occurrence should be reported, then it probably should be! And it's so easy to report with our online form.

How to Report

There are two steps: the initial notification, and the follow-up when you provide details.

For the initial notification, call 0508 ACCIDENT (0508 222 433).

The initial notification is required "as soon as practicable". This means the first phone you come to. It does not mean within one day, nor when convenient. It means as soon as you can, and if you have a serviceable mobile phone, you can do it straight away (once any danger to life or property is taken care of).

Within 10 days (14 for an incident) you must report the details. This is easy – you can do it online:

www.caa.govt.nz/report

You will receive an email of your report, asking you to confirm or amend the details.

There are also forms on the web site that you can email or fax into the CAA.

There are a few things you need to be familiar with. It's really important that you read Part 12 *Accidents, Incidents, and Statistics* – it's not a large document. The definitions of an accident and incident are in the Civil Aviation Act 1990 – you need to know these to know when it's compulsory to report. And you'll find the guidance in AC12-1 helpful, especially Appendix A, the examples of incidents that need to be reported.

Sport and Recreation

Adventure aviation activities under Part 115 are within the Part 12 reporting umbrella, and sport and recreation operations must report accidents under Part 12, but there is a difference when it comes to incidents. Notification and reporting is not required for incidents associated with operations conducted under Parts 101, 103, 104, 105, and 106 (Rule 12.1(b)). These include parachute, hang glider, glider, and microlight operations. We still need to learn safety lessons though, so participants are encouraged to report incidents to their respective Part 149 organisations.

Accident/Incident Pyramid

A study of industrial accident data showed that for each fatal, serious, or disabling accident, there were 10 serious incidents, and 360 minor incidents. If we can analyse the many incidents, we may be able to put defences in place that will prevent a serious accident.

Photo: ©istockphoto.com/fatido

Definitions

Occurrence is a generic term for an accident or incident, both of which are defined in the Civil Aviation Act 1990 as follows:

Accident means an occurrence that is associated with the operation of an aircraft and takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, being an occurrence in which:

(1) a person is fatally or seriously injured as a result of:

(i) being in the aircraft; or

(ii) direct contact with any part of the aircraft, including any part that has become detached from the aircraft; or

(iii) direct exposure to jet blast –

(iv) except when the injuries are self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to passengers and crew; or

(2) the aircraft sustains damage or structural failure that:

(i) adversely affects the structural strength, performance, or flight characteristics of the aircraft; and

(ii) would normally require major repair or replacement of the affected component –

(iii) except engine failure or damage that is limited to the engine, its cowlings, or accessories or damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents, or puncture holes in the aircraft skin; or

(3) the aircraft is missing or is completely inaccessible.

Incident means any occurrence, other than an accident, that is associated with the operation of an aircraft and affects or could affect the safety of operation.

Part 12 further categorises incident types as Aircraft, Aerodrome, Airspace, Bird, Cargo security, Dangerous goods, Defect, Facility malfunction, Promulgated information, and Serious. ■

It's More than **Vector**

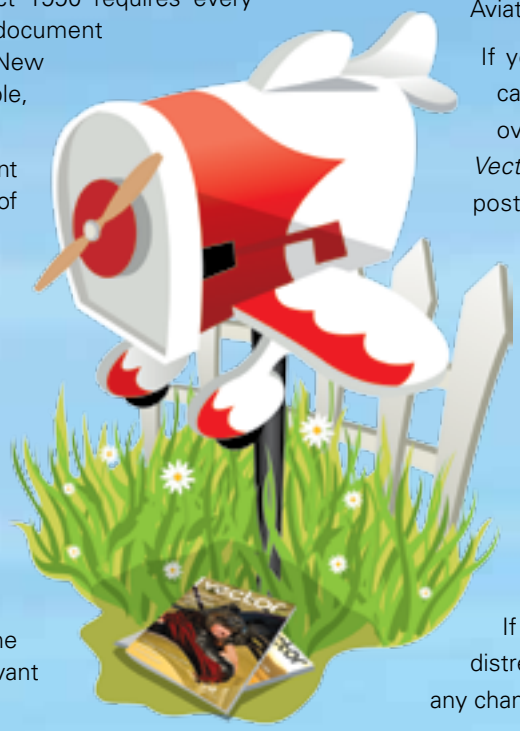
Thanks for letting us know your new address – we get a flurry of messages after every *Vector* mailing. But the wording of the emails clearly shows that many do not understand the legal obligations of holding a New Zealand aviation document.

Section 8 (2) of the Civil Aviation Act 1990 requires every applicant for a New Zealand aviation document to supply an "address for service" in New Zealand including, where applicable, telephone and facsimile numbers.

The Act also requires aviation document holders to notify the Director **promptly** of any changes to the address for service, telephone number or facsimile number.

You can do this by emailing info@caa.govt.nz.

An "address for service" is a physical address. You can have mail sent to a different address if you like, but maintaining a current physical address for service with the CAA is a legal requirement under the Act. This applies to both individuals and organisations, whether based in New Zealand or overseas. The requirement is specified on relevant application forms.



If you live overseas, or plan to relocate overseas, you must nominate a physical address in New Zealand. This could be the address of a lawyer, a family member, or an aviation organisation. In doing so, you accept that delivery to that address is formal notification for the purposes of the Civil Aviation Act 1990.

If you use a separate postal address, that can be a New Zealand address or an overseas address, but be aware that *Vector* magazine is sent only to New Zealand postal addresses.

Applicants under the Trans Tasman Mutual Recognition Act also need to comply with the Civil Aviation Act 1990, and the relevant forms (24061/09 and 24061/10) reflect this.

You also need to advise other organisations that you do business with, of your change of address. If you subscribe to *AIP New Zealand*, for example, you need to contact Airways. If you operate an aircraft with a 406 MHz distress beacon, you must notify RCCNZ of any changes to your contact details. ■