Swiss Watch

Accidents and incidents involving large Swiss-registered aircraft increased in 2005, but there were no fatalities for the fourth year in a row.

BY RICK DARBY

For the fourth consecutive year, large Swiss-registered aircraft — with maximum takeoff weights greater than 5,700 kg/12,500 lb — were involved in no fatal accidents in 2005, the Swiss Aircraft Accident Investigation Bureau said.[1] The rate of accidents and serious incidents[2] in the category increased compared with 2004, and was the third highest in the 1996–2005 period (Table 1).

The accident and serious incident rate for 2005 was 2.90 per 100 aircraft, compared with 1.61 for 2004 and an average of 2.09 for the previous nine years.[3] The spike in fatality rates in 1998 is attributable to the accident involving Swissair Flight 111 on Sept. 2, 1998, near Peggy's Cove, Nova Scotia, Canada. That event killed all 229 occupants after a fire began above the McDonnell Douglas MD-11's cockpit ceiling and spread rapidly, resulting in loss of control while the flight crewmembers were attempting an emergency landing.

Nevertheless, as Table 1 shows, the overall rate of accidents and serious incidents in the year of the Swissair Flight 111 accident was among the lowest in the 1996–2005 period, and the average of 2.68 from 1999 through 2005 has exceeded the average of 0.98 for 1996 through 1998.

The number of accidents and serious incidents involving Swiss-registered airplanes in the medium category of 2,250 kg–5,700 kg (4,960 lb–12,500 lb) increased from two in 2004 to three in 2005 (Table 2). The number of helicopter accidents and serious incidents in 2005, four, was half that of 2004.

Among accidents and serious incidents involving all types of Swiss-registered aircraft — airplanes, helicopters, gliders, balloons and airships — airplanes in the large category nearly doubled their proportion, from 13 percent in 2004 to 24 percent in 2005. Airplanes in the medium category represented 6 percent of the total in 2004 and 10 percent in 2005. Helicopters, involved in 25 percent of the total number of accidents and serious incidents in 2004, were involved in 14 percent of 2005's total.

The distribution of accidents and serious incidents by flight phase is shown in Table 3

Rate Up in 2005

Accidents, Serious Incidents, Fatalities and Rates, Swiss-Registered Aircraft,* 1996–2005

Year	Registered Aircraft	Accidents and Serious Incidents	Accidents and Serious Incidents per 100 Aircraft	Fatalities
1996	232	2	0.86	0
1997	229	2	0.87	0
1998	246	3	1.22	229**
1999	256	7	2.73	0
2000	285	7	2.46	31
2001	306	11	3.59	26
2002	304	6	1.97	0
2003	257	9	3.50	0
2004	248	4	1.61	0
2005	241	7	2.90	0

* Aircraft with maximum takeoff weight greater than 5,700 kg/12,500 lb

** Fatalities in 1998 resulted from the accident involving Swissair Flight 111.

Source: Swiss Aircraft Accident Investigation Bureau/Flight Safety Foundation

Table 1

Helicopter Accidents and Serious Incidents Down 50 Percent

Accidents and Serious Incidents Involving Swiss-Registered Aircraft in Switzerland and Abroad, and Non-Swiss-Registered Aircraft in Switzerland, 2004–2005

	Accidents and Serious Incidents Involving Swiss-Registered Aircraft								Accidents and Serious Incidents Involving Non-Swiss-Registered Aircraft			
	In Switzerland				Abroad				In Switzerland			
	Total		Persons Injured		Total		Persons Injured		Total		Persons Injured	
	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004
Airplanes with MTOW 2,250 kg (4,960 lb)–5,700 kg/12,500 lb	2	0	1	0	1	2	0	1	0	0	0	0
Airplanes with MTOW > 5,700 kg/12,500 lb	3	1	0	0	4	3	0	0	0	1	0	0
Helicopters	4	8	2	5	0	0	0	0	0	0	0	0
Total	**9**	**9**	**3**	**5**	**5**	**5**	**0**	**1**	**0**	**1**	**0**	**0**

MTOW = Maximum takeoff weight

Source: Swiss Aircraft Accident Investigation Bureau

Table 2

(page 52). For airplanes in the large and middle categories, those during landing increased in 2005 from the previous year, but for helicopters they decreased. In four of five phases, from "starting and climb" through "landing," helicopters had fewer accidents and serious incidents in 2005 than in 2004.

The report indicated the numbers of airprox incidents[4] investigated by the bureau annually between 1998 and 2005 (Figure 1, page 52). The nine airprox incidents for 2005 were the lowest number since the two in 1998, a 36 percent reduction from the 14 in 2004 and a 53 percent reduction from the 19 in 2003.

Fewer Helicopter Accidents, Incidents in Most Flight Phases

Flight Phase, Accidents and Serious Incidents Involving Swiss-Registered Aircraft in Switzerland and Abroad, and Non-Swiss-Registered Aircraft in Switzerland, 2004–2005

	Ground and Rolling, Hovering Flight		Starting and Climb		Cruise		Descent and Approach		Landing	
	2005	2004	2005	2004	2005	2004	2005	2004	2005	2004
Airplanes with MTOW 2,250 kg (4,960 lb)–5,700 kg/12,500 lb	0	0	0	1	0	0	0	0	3	1
Airplanes with MTOW > 5,700 kg/12,500 lb	2	1	2	1	1	2	1	1	1	0
Helicopters	1	0	1	2	1	2	1	3	0	1
Total	**3**	**1**	**3**	**4**	**2**	**4**	**2**	**4**	**4**	**2**

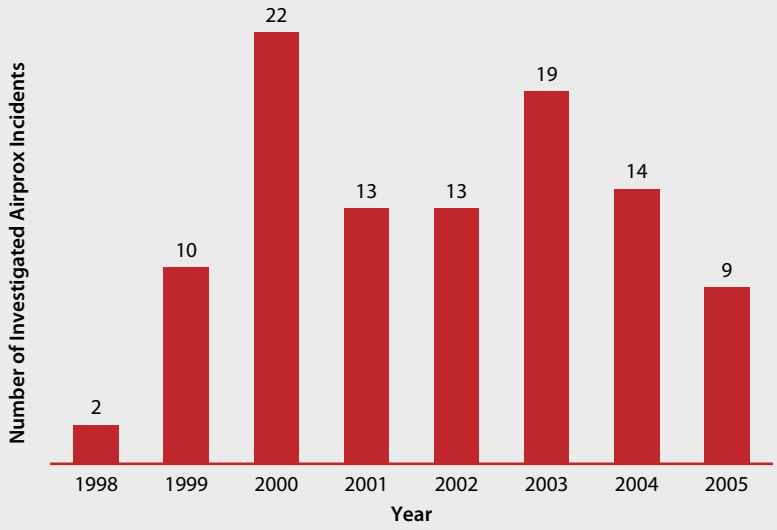
MTOW = Maximum takeoff weight

Source: Swiss Aircraft Accident Investigation Bureau

Table 3

Airprox Incidents Down

Investigated Airprox Incidents, Switzerland, 1998–2005



Airprox incident is defined as "a situation in which, in the opinion of a pilot or of the air traffic control personnel, the distance between aircraft moving under their own power as well as their relative positions are such that the safety of the aircraft involved could be endangered in flight or on the ground in the aircraft-moving area."

Source: Swiss Aircraft Accident Investigation Bureau

Figure 1

Notes

1. Swiss Aircraft Accident Investigation Bureau. *Statistics Concerning Accidents and Serious Incidents Involving Swiss-Registered Aircraft in Switzerland and Abroad and Foreign-Registered Aircraft in Switzerland.* Available via the Internet at <www.bfu.admin.ch/en/html/statistiken_tabellen.html>.
2. A *serious incident* is defined as an "occurrence associated with the operation of an aircraft under circumstances which nearly led to an accident."
3. The numbers of accidents and serious incidents, and of registered aircraft, were published in the report. Flight Safety Foundation calculated the rates. The accident investigation bureau stopped publishing flight hours after 1999; therefore, the only rates that could be derived for the whole period were the ratios of accidents and serious incidents to registered aircraft.
4. An *airprox incident* is defined as "a situation in which, in the opinion of a pilot or of the air traffic control personnel, the distance between aircraft moving under their own power as well as their relative positions are such that the safety of the aircraft involved could be endangered in flight or on the ground in the aircraft-moving area."