

BY RICK DARBY

Part 135 Sightseeing Flight Accident Rates Improve

Air medical flights had lower rates than other categories.

The numbers of fatal accidents and fatalities in U.S. Federal Aviation Regulations (FARs) Part 135 revenue flights increased in 2008 compared with 2007, according to data published by the Air Charter Safety Foundation (ACSF).^{1,2} A year-to-year increase was also found in Part 135 non-revenue flights.

The ACSF analyzed accident and incident data obtained from the U.S. National Transportation Safety Board (NTSB) and flight activity data obtained from the U.S. Federal Aviation Administration (FAA). The organization says that the study is “a critical step toward identifying trends in Part 135-related accidents” but was “limited in its analysis due to limitations on the data currently collected by the NTSB and FAA.”

For example, the report says, no accident rates could be determined for cargo versus passenger flights because the FAA does not make

FARs Part 135 Accident Rates, 2004–2007

Accidents/100,000 Hours	2004	2005	2006	2007
Air medical	1.69	0.50	0.57	0.98
Cargo/passenger	2.09	1.86	1.42	1.54
Sightseeing	2.23	2.56	2.37	1.18
Other/unknown			N/A	N/A
Total	2.04	1.70	1.39	1.54

FARs = U.S. Federal Aviation Regulations

Note: Cargo and passenger flights are combined because the U.S. Federal Aviation Administration does not distinguish between them in compiling flight hours for Part 135 operations. Activity data for 2008 is not yet available.

Source: Air Charter Safety Foundation

Table 1

that distinction in recording flight hours of Part 135 operators. Therefore, cargo and passenger flights were grouped together in calculating accident rates (Table 1).

Although U.S. helicopter emergency medical services flights during 2009 were the subject of comprehensive risk-reduction initiatives by government and industry, the ACSF found that in every year from 2004 through 2007, revenue air medical flights — not necessarily emergency or helicopter operations — had lower accident rates than the other categories.³ In 2007, for example, this category had 0.98 accidents per 100,000 hours. That was 36 percent lower than the combined cargo/passenger category, and 17 percent lower than for sightseeing flights.

Sightseeing flights had the highest accident rate of any category throughout 2004–2006 but showed a significant improvement in 2007. The 2007 rate, 1.18 accidents per 100,000 flight hours, was about half the 2006 rate of 2.37.

The rates for non-revenue flights were not determined, and all other data compared only numbers of accidents and fatalities.

More fatal revenue flight accidents occurred in 2008 than in any year since 2004, and the number of fatalities was highest in the five-year period (Table 2). Total accidents, however, were down 8 percent in 2008 from the previous year as well as from the average for the previous four years. One-third of the total accidents in 2008 were fatal.

Cargo and passenger revenue flight accident numbers were tallied separately (Table 3). The 21 cargo flight accidents in 2008 compared with an average annual of 23 in the four previous years. For passenger flights, the 26 accidents in 2008 matched the average in the previous four-year period. Sightseeing flights in 2008 had fewer accidents than in any year going back to 2004.

The percentages of oil rig–related flight accidents among total passenger aircraft accidents varied widely, from a high of 30 percent in 2004 to a low of 8 percent in 2008. On average for the five-year period, transportation to and from

FARs Part 135 Revenue Flight Fatal Accidents, 2004–2008

	2004	2005	2006	2007	2008
Fatal accidents	23	11	10	14	19
Non-fatal accidents	43	54	42	48	38
Total accidents	66	65	52	62	57
Fatalities	64	18	16	43	66

FARs = U.S. Federal Aviation Regulations
Source: Air Charter Safety Foundation

Table 2

FARs Part 135 Revenue Flight Accidents, by Purpose of Flight, 2004–2008

	2004	2005	2006	2007	2008
Air medical	8	3	4	9	6
Cargo	26	25	16	24	21
Passenger	27	28	23	24	26
Sightseeing	5	9	7	6	4
Other/unknown	0	0	2	1	1
Total	66	65	52	64	58

FARs = U.S. Federal Aviation Regulations
Note: One air medical accident in 2008 involved two aircraft. Therefore, although the total number of accidents in 2008 is 57, this and the following data reflect 58 aircraft and flights. Two separate cargo-related accidents in 2007 involved two aircraft. Therefore, although the total number of accidents in 2007 is 62, this and the following data reflect 64 aircraft and flights.
Source: Air Charter Safety Foundation

Table 3

FARs Part 135 Revenue Flight Accidents, by Flight Conditions, 2004–2008

	2004	2005	2006	2007	2008
VMC	36	49	36	41	37
IMC	11	3	3	5	5
IMC/VMC	1	1	2	1	1
NVMC	10	8	7	12	9
NIMC	8	4	4	4	4
Unknown	0	0	0	1	2
Total	66	65	52	64	58

FARs = U.S. Federal Aviation Regulations; VMC = visual meteorological conditions; IMC = instrument meteorological conditions; IMC/VMC = mixed conditions; NVMC = night VMC; NIMC = night IMC
Source: Air Charter Safety Foundation

Table 4

oil rigs represented 18 percent of revenue flight accidents.

In every year of the study period, the majority of accidents in revenue flights occurred

in visual meteorological conditions (VMC; Table 4, p. 49). Accidents in instrument meteorological conditions — as a percentage of all accidents where the flight conditions were reported — ranged from 5 percent in 2005 to 17 percent in 2004.

Takeoff, cruise and landing were the most common phases of flight reported in revenue flight accidents throughout the study period (Figure 1). Accidents in these phases totaled 64, 72 and 67, respectively. The number of takeoff accidents, which had averaged 15 from 2004 through 2007, dropped to six in 2008.

The report includes the distribution of revenue flight accidents by aircraft type (Figure 2). There was good news about helicopter accidents. Nine accidents in 2008 involved single-engine helicopters, compared with an average of 16 for the four prior years in the study period. The two accidents involving twin-engine helicopters were an improvement over the annual average of four in the four previous years.

The report also includes data for non-revenue flights

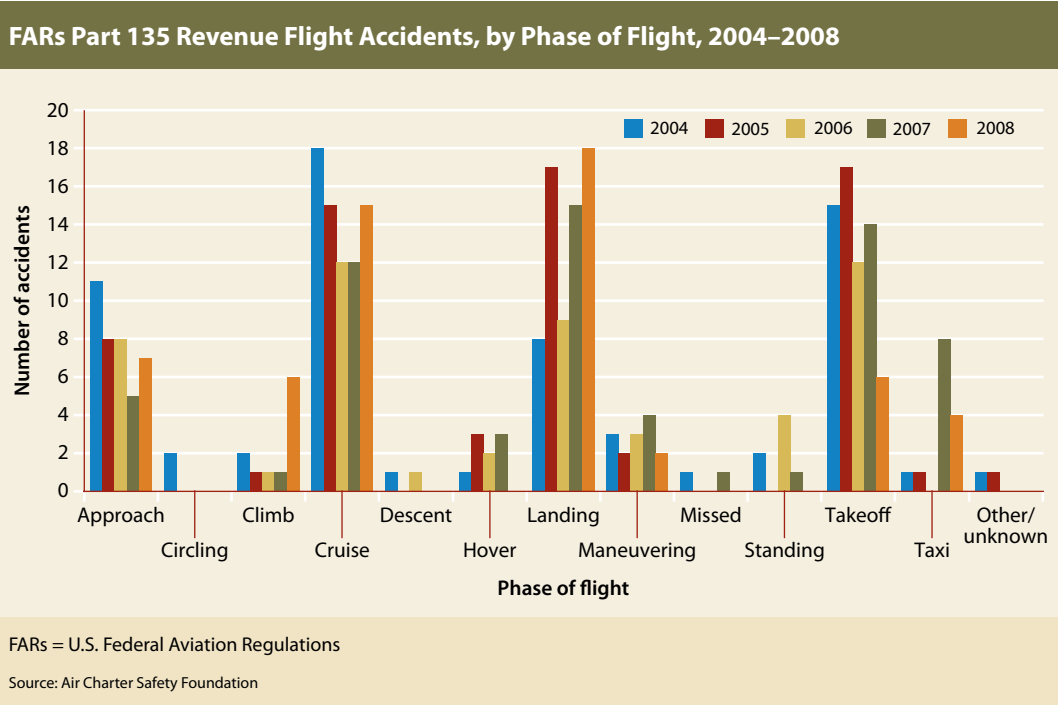


Figure 1

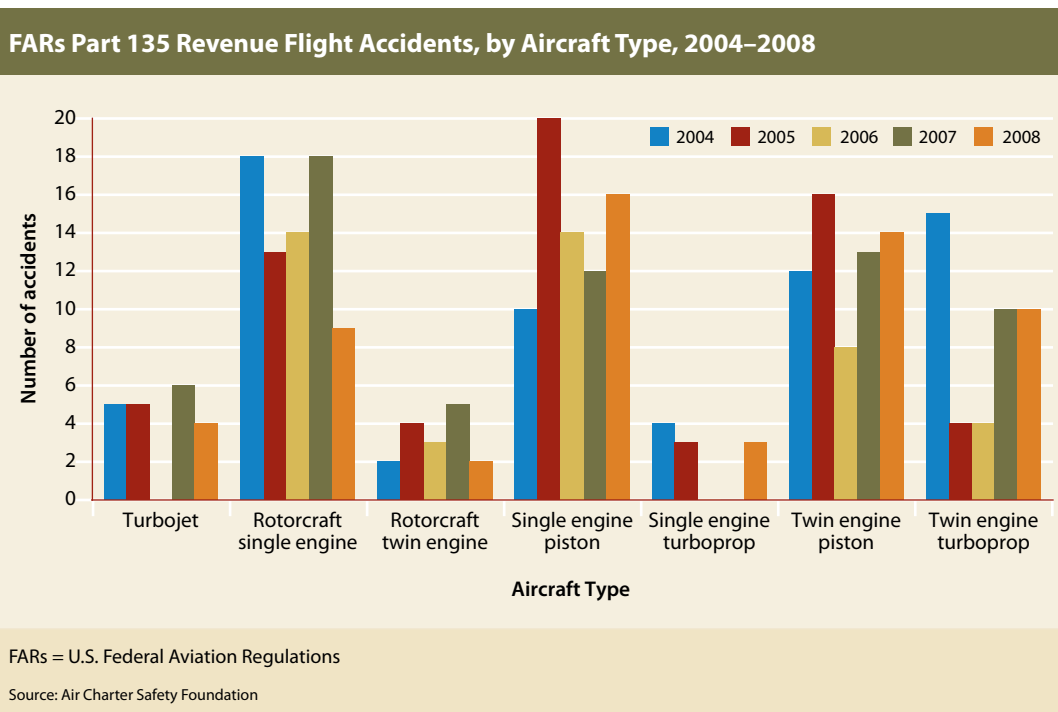


Figure 2

flown by Part 135 certificate holders under FARs Part 91. Those include positioning, maintenance ferrying, instructional flights and miscellaneous others.

Jacqueline Rosser, ACSF executive director, told ASW, “Basically, we wanted to capture the ‘lost’ accidents. There are many accidents that occur while deadheading/positioning, but because those are not labeled as Part 135 operations by NTSB, they become lost in the general aviation accident data, when really those flights were the responsibility of the [Part 135] certificate holder. Until now, the number of Part 135 certificate holder–controlled and Part 91–flown accidents was an unknown. Identifying those events allows us to help operators better understand the risks for those flights and, hopefully, we can mitigate those risks.”

Fatal non-revenue accidents increased to four in 2008 from two in 2007, but the 2008 number was lower than the average of eight in the four previous years (Table 5). Total non-revenue accidents, tabulated at 19 for 2008, were also higher than the previous year and lower than the annualized 26 in 2004 through 2007.

The number of fatalities increased in 2008 to 11, compared with five in 2007. The previous four-year average was 14. Fatal accidents represented 34 of 123, or 28 percent, of all non-revenue flight accidents during the five years studied.

Air medical operations contributed the largest number of non-revenue accidents during the study period, 44 (Table 6). Non-revenue passenger flight accidents, which numbered 14 in 2004 and 15 the following year, were reduced to two in 2007 and three in 2008.

Among non-revenue flights during the study period, 76, or 62 percent, occurred in VMC. ➤

Notes

1. FARs Part 135 is titled *Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons On Board Such Aircraft*.

FARs Part 135 Non-Revenue Flight Fatal Accidents and Fatalities, 2004–2008					
	2004	2005	2006	2007	2008
Fatal accidents	13	9	6	2	4
Non-fatal accidents	25	22	18	9	15
Total accidents	38	31	24	11	19
Fatalities	24	15	11	5	11
FARs = U.S. Federal Aviation Regulations					
Source: Air Charter Safety Foundation					

Table 5

FARs Part 135 Non-Revenue Flight Accidents, by Purpose of Flight, 2004–2008					
	2004	2005	2006	2007	2008
Air medical	13	9	11	4	7
Cargo	2	2	3	1	0
Passenger	14	15	4	2	3
Sightseeing	2	0	0	0	0
Other/unknown	7	5	6	4	9
Total	38	31	24	11	19
FARs = U.S. Federal Aviation Regulations					
Source: Air Charter Safety Foundation					

Table 6

2. Air Charter Safety Foundation. “Part 135 Accident/Incident Review, 2004–2008.” Released Dec. 10, 2009. Free to members; nonmembers can order a copy for \$25 from Jacqueline Rosser, 888.723.3135 (U.S.).
3. Air medical flights “are typically conducted in airplanes and are frequently not emergency- or trauma-related flights. Helicopter emergency medical services operations could be of an emergency nature or might be hospital or medical facility transfers.”
4. Other than rates available in 2004–2007, the annual numbers give only a general idea of the significance of changes for safety because of the lack of information about risk exposure, such as flight hours or departures in a given period. Small numbers particularly may reflect random variation. Numbers have been rounded off to the nearest whole number, including when they involve a fraction of exactly 0.5.