Picture credit: Dennis HKG

WEAPONS OF MASS DESTRUCTION

Brian Michael Jenkins *and* **Bruce Butterworth** *report on airliner sabotage by pilot murder-suicide and explain why, though rare, they are events not without precedent*

Just over one year on from the tragedy that saw China Eastern Flight 5735 inexplicably crash, there is still no formal report from the investigating authorities as to the cause of the accident – or indeed if the findings will ever be made public. The Boeing 737-89P was on a domestic passenger flight when it suddenly dived from 29,000 to 8,000 feet, recovered briefly, and then hit the ground killing all 132 people on board, including nine crew members. The near vertical impact reportedly drove the plane's "black boxes" five feet into the earth, which, given that they were placed in the tail, gives an idea of the force of the crash.

In May 2022, unnamed western investigating authorities ruled out aircraft structural causes and suggested a crew member may have intentionally caused the plane to hit the ground. We do know that commercial aviation has achieved an amazing safety record, and indeed, our latest data suggests that aviation is incredibly safe and getting safer and more secure. However, pilot murder-suicides are not as rare as one may think, and they are certainly lethal.

The International Air Transport Association (IATA) estimates that from the beginning of 2004 until June 2022 there were there were more than half a billion airline flights (601,000,000) globally. We also know that commercial airliner crashes caused by suicidal pilots (essentially suicides that include the mass murder of passengers and crews) while extremely rare, are not without precedent.

Pilot-suicide should be considered a mode of sabotage or alternatively an act of mass-murder by suicide

The investigation of airline crashes is a painstaking process. It is based on evidence and careful analysis meant to systematically eliminate possible causes one by one, typically leaving a primary cause and several contributing ones. Improvements in aircraft design, manufacturing and maintenance, air traffic control, avionics (including various alerts), crew training, government regulation and learning from past accidents and incidents have made air travel progressively safer. As safety has improved, the remaining few crashes are more complex, and investigations are often more difficult – and contentious.

Despite the dramatic growth in global air travel from under 500-million passengers a year in the early Seventies to 4.5-billion in 2019, before the pandemic reduced all travel, the number of air fatalities has followed a downward path. While global air travel increased nine-fold, the number of commercial airline crashes with fatalities declined nearly 80 percent from 226 during the Seventies to 49 percent in the 2010s. The simpler causes that brought down airliners in the past – bad weather including turbulence and wind shear, mechanical failure, pilot error – are being reduced, pushing crash investigators to consider unusual or more complex interactions of factors. In addition, and separately, they have had to consider intentional acts, including terrorist bombings, missile attacks or less obvious forms of sabotage, including pilot murder-suicide.

At the same time, the imposition of procedures including stricter passenger and baggage screening measures, improvements in passenger screening and explosives detection technologies, armoured cockpit doors and passengers ready to fight back have reduced the number of bombings and attempted hijackings (some with hoax weapons or devices). According to our review, terrorist and criminal success has also declined. Since 9/11, there have been 91 attempts to hijack or destroy an airliner by a bomb or attack it by armed assault, killing a total of 427 passengers and crew. In short, the trend for attacks and fatalities since the 9/11 disaster have been downward.

DESPITE THE DRAMATIC GROWTH IN AIR TRAVEL, THE NUMBER OF AIR FATALITIES HAS FALLEN

Just three single events account for all but two known fatalities. One of these was the 2002 arson aboard an airliner in China by a mentally disturbed person, killing all 112 passengers and crew. In 2004, two Chechen extremists carried out simultaneous suicide bombings on two Russian airliners after taking off from Moscow's Domodedovo International Airport, killing 88 persons. Russian investigators reportedly found that local Russian police had detained the bombers and turned them over to the counterterrorist officers at the airport, who let them go. The bombers then bought their tickets from a black-market dealer at the airport who also helped at least one of them to bribe officials and board the plane without going through security.

The third attack occurred in 2015, when jihadist extremists smuggled a bomb on board a Russian jet flying holidaymakers home from Egypt; 224 died in the subsequent crash. Various theories were put forward to explain the incident. British, American and Russian investigators concluded that the plane was brought down by a bomb, a finding that the Egyptian government initially was reluctant to accept, although Egyptian authorities arrested several members of the ground staff for laxity or complicity.

If we exclude Russia, China and the developing world and look only at airliners operated by the economically more advanced countries, there were just 15 attempts and no fatalities. Indeed, with few exceptions for all airliners, most attacks have been poorly planned and executed. As terrorists haven't stopped trying, it is so far an amazing success story. Many recent attempted hijackings involve phony claims of explosives or weapons by disturbed individuals, and also knives or sharp objects.

That leaves us with pilot-suicide, which can be considered a mode of sabotage or alternatively, an act of mass-murder by suicide. Irked by having to go through airport security checkpoints in the same way as passengers, commercial airline pilots often (and correctly) point out that if they wanted to sabotage their aircraft, they do not need to smuggle a weapon on board to do so. We trust pilots with our lives, and they keep us safe, often demonstrating cool courage and extraordinary skill in emergencies and in other challenging situations, many of which are handled so well they go unnoticed.

Out of more than one-billion commercial flights over the past 40 years, we have documented only six incidents of airline crashes deliberately caused by pilots. In February 1982, a Japan Airlines captain deliberately plunged his DC-8 into the water just before landing at Tokyo, killing 24 of the 174 passengers and crew. The captain survived. Found not guilty by reason of insanity, he was released after years of psychiatric treatment. In August 1994, a Royal Air Maroc captain deliberately crashed his aircraft, killing all 44 on board. In December 1997, a SilkAir captain, possibly when the co-pilot left the cockpit, deliberately flew the 737 he was piloting into a mountain – 104 died in the crash. In October 1999, after the captain had left the cockpit, the co-pilot of an EgyptAir 767 on a trans-Atlantic flight directed the aircraft toward the ocean. When the captain came back and tried to pull the aircraft up, the co-pilot shut the engines off and crashed the plane; 217 died. In November 2013, the captain of an Air Mozambique Embraer 190 crashed the aircraft when the co-pilot left the cockpit; 33 died in the crash. In March, 2015, a Germanwings co-pilot, having locked the cockpit door after the captain left, drove an Airbus A320 into the side of a mountain in the Alps, killing all 150 on board.

PLANE CRASHES CAUSED BY SUICIDAL PILOTS WHILE RARE, ARE NOT WITHOUT PRECEDENT

In four of the six crashes, we know or suspect that the pilot or co-pilot waited until they were alone at the controls before deciding to crash the plane. The 1982 JAL crash involved a struggle in the cockpit between the captain and other crew members. Looking at the erratic flight pattern just before the incident, some air crash experts suggest that a struggle also may have occurred in the recent case in China. After the Germanwings incident, US and other authorities required that no single pilot be left in the cockpit alone; but not all countries do so now. We will see if this changes if it appears that the China Eastern crash is another such case. Germany instituted a two-person rule after the Germanwings crash, but lifted the rule two years later.

A finding of pilot suicide, with the resulting deaths of all or many passengers aboard, is almost always disputed. Governments are sometimes loath to admit the possibility. The Egyptian government, for example, never accepted that a suicidal pilot brought down the EgyptAir flight, and initially rejected the conclusion of investigators that a bomb had been smuggled aboard the Russian jet in 2013. National pilot associations have also contested findings of pilot suicide.

These six incidents killed 572 people in total, which averages at about 95 per incident. The inclusion of last year's China Eastern Flight, (if that is the ultimate conclusion of the current investigation), would bring the total to seven events resulting in 704 fatalities – an average of over 100 per incident.

DEADLY FORCE

With the notable exception of the four 9/11 hijackings, which killed an average of 749 people in the air or on the ground, that makes pilot sabotage by suicide deadlier – in terms of average deaths per incident – than terrorist attacks against airliners. By contrast, since 1980, and looking only at bombings which happened more frequently before 9/11 and are more lethal, there have been 52 attempts resulting in 1,481 deaths or an average of 28.5 fatalities per attack. So, the trend for both attacks and fatalities are downward But since all but the 1982 Japan Airlines incident and its 24 fatalities happened in the last three decades, since the beginning of 1992, the trend is upward.

Fortunately, crashes resulting from pilot murder-suicide are highly improbable – true statistical black swan events that, while not completely without precedent, do little to alter the fact that air travel is safe. However, additional research and efforts are still needed to reduce the chances of this kind of event ●

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