

# Kadena F-15C crash report

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***USAF/44th FS F-15C 84-0008 'ZZ' pulls away from a KC-135 after refuelling on September 18, 2014, during Exercise Valiant Shield 2014. This was the aircraft that crashed off Kadena on June 11 last year. US Navy/Mass Communication Specialist 1st Class (SW) Carla Burdt August 2019 #377***

**A** PACIFIC Air Forces Accident Investigation Board (AIB) report into the loss of a US Air Force F-15C near Kadena Air Base, Japan, on June 11 last year, found pilot error caused the crash. Adding to our original story (see *Attrition*, August 2018, p92), the official report – released on April 23 – identifies the aircraft as F-15C 84-0008 'ZZ' from the 18th Wing's 44th Fighter Squadron (FS) 'Vampires' at Kadena.

The mishap pilot (MP) was flying as lead of a two-ship formation during a dissimilar basic fighter manoeuvres (BFM) sortie with an F-22A, the latter assigned to the 3rd Wing/525th FS 'Bulldogs' at Joint Base Elmendorf-Richardson, Alaska. While manoeuvring defensively in relation to the mishap wingman, at approximately 5,400ft (1,645m) mean sea level (MSL) and 180kts (333km/h) indicated airspeed (KIAS), the MP initiated a vertical climb to 65° nose high, 20° of right bank, 39° angle of attack (AOA), and 1.2G, which apexed close to 6,300ft (1,920m) MSL and 105 KIAS (194km/h), before a significant nose drop occurred.

The MP perceived the F-15 was not tracking as desired and initiated an unload of approximately one fist-

width's forward stick with full right rudder. The nose pitched down and to the right to 65° nose low, 110° of right bank, -26° AOA, as G forces decreased from 1.2 to -0.3G. With right rudder still commanded, the MA experienced a negative-G departure from controlled flight with a snap roll entry to the left that transitioned to an inverted, negative-G spin. The MP received no indications of hydraulic, electrical, fuel, engine, structural or flight-control system malfunctions.

Recognising the Eagle's departure from controlled flight, the MP attempted the initial steps of the out-of-control/departure recovery procedure. The rapid motion to the left pinned the MP to the right side of the cockpit, forcing them to remove their hands from the throttles and flight controls. The MP utilised their right hand to push off the right side of the canopy and placed their left hand on top of the stick. They were unable to recover the jet but, due to the forces pinning them to the side of the cockpit, their first attempt at ejection was unsuccessful – instead, the pilot gripped and pulled the emergency manual 'chute handle. This is for use after ejection to manually force pilot separation from the seat. With the seat in the rails, the

emergency manual 'chute handle is locked and cannot be pulled from its stowed position. **This error resulted in further loss of altitude prior to ejection. On the second attempt, the MP successfully pulled the ejection handles and initiated ejection at approximately 1,100ft (335m) MSL, well below the flight manual's minimum uncontrolled ejection altitude of 6,000ft (1,828m) MSL. The pilot was unable to achieve the proper body position for ejection due to lateral and negative G forces generated by the out-of-control MA. Because of the low altitude and ejecting while in a spin, there was insufficient time for full recovery parachute inflation and the pilot was seriously injured on impacting the water at high speed.**

The jet came down approximately 70 miles (112km) south of Kadena AB at 0617hrs local time. The Eagle broke apart upon impact and sank to the ocean floor at a depth of approximately 15,000ft to 16,000ft (457-487m) below sea level with a loss valued at US\$42.36m. A Japan Air Self-Defense Force UH-60J helicopter from Naha International Airport rescued and transported the MP to a military hospital at Camp Foster, Japan.

Evidence for accident reconstruction was limited to the

Rafael Instrument Training System (KITS) data, plus MP and wingman testimony. The removable memory module, which contains video and audio from the MA cockpit, was not recovered. The flight data recorder was retrieved but contained only manufacturer test data and no data from the actual MA, due to faulty wiring. Aircraft trajectory acquired from KITS was further analysed by Boeing engineers to estimate rates and accelerations. The KITS data for this mishap originated from the other KITS pods airborne at the time and not the pod recovered from the MA. When airborne, each KITS pod transmits data on the related data link and records all received information from other airborne pods.

The AIB president found, by a preponderance of evidence, the cause of the mishap was the MP's improper application of forward stick with full right rudder, which resulted in a negative-G departure from controlled flight due to the coupling of aerodynamic forces of yaw and roll. Additional factors that substantially contributed to the accident included spatial disorientation, lack of emergency procedure training for negative-G departures from controlled flight and limited time to analyse the situation.