

## EXECUTIVE SUMMARY

### AIRCRAFT ACCIDENT INVESTIGATION T-38, SERIAL NUMBER (S/N) 66-4323 AND T-38, S/N 64-13290 90<sup>th</sup> FLYING TRAINING SQUADRON (FTS), SHEPPARD AIR FORCE BASE, TX 24 AUGUST 2001

On 24 August, 2001, at approximately 1605 Central Daylight Time (CDT), T-38 S/N 66-4323 (MA1) and T-38 S/N 64-13290 (MA2) collided in flight and crashed approximately 59 miles west of Sheppard AFB, TX. The crew of MA1 was a solo Italian student pilot (MSP1). MSP1 sustained instantaneous fatal injuries during collision. The crew of MA2 consisted of an Italian instructor pilot (MIP), and an Italian student pilot (MSP2). MIP and MSP2 successfully ejected from their aircraft after the collision and were picked up immediately.

The mishap aircraft were number 1 and 2 respectively in a 2-ship formation sortie. The solo student (MSP1) was in the lead position throughout the entire flight. The sequence of events from pre-flight up to collision was normal. The flight entered the working airspace and accomplished the following routine maneuvers: pitchout and rejoin, fingertip maneuvering, close trail, and then began to maneuver in fighting wing. During fighting wing maneuvers, the student in the dual aircraft (MSP2) flew to position at the right 3 to 4 o'clock position of lead, resulting in the requirement to adjust his flight path (lag) in order to maintain proper position within the "cone". The combination of this lag maneuver to the left and lead's entry into a right hand barrel roll maneuver, put the flight into a situation where lead was in the sun relative to number 2. The MIP asked his student if he had sight of lead. MSP2 replied that he had lead in sight. Uncertain that the student could correctly assess angle-off and closure, the IP took control of the aircraft and initiated a negative g maneuver. Simultaneously with this maneuver, both IP and student testified that they saw a shadow or shape off to the right and slightly high, followed immediately by the collision.

MA2's vertical tail collided with the left fuselage and cockpit area of MA1. Seconds after the collision, the MIP sensed that MA2 was not controllable and ordered bailout. Bailout procedures were executed perfectly, and both MIP and MSP2 ejected successfully. Evidence indicates that the solo student (MSP1) sustained instantaneous fatal injuries in the collision and therefore could not attempt ejection. Both aircraft crashed in fields and were destroyed.

There is clear and convincing evidence that three causal factors contributed to this accident. First, none of the three involved crewmembers were able to correctly assess angle-off and closure in time to avoid a collision. For the crew of MA2, the reason involved momentary blindness as MA1 went in line with the sun. For MSP1, it appears that he lost situational awareness with his wingman during this phase. Second, the MIP did not anticipate the sequence of maneuvers which placed the lead in the sun and allowed an uncomfortable situation to mature. His student told him that he had lead in sight, but the MIP was not ultimately convinced that his student was correctly assessing the situation. He took the aircraft and initiated corrective action, but it was too late. Third, the lead pilot (MSP1) was not aware that his sequence of maneuvers resulted in a situation where he was in the sun relative to his wingman and he was not monitoring his wingman during this phase of flight. This accident could have been avoided if any one of these factors had been different.

**Under 10 U.S.C. 2254(d) any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report may not be considered as evidence in any civil or criminal proceeding arising from an aircraft accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.**