UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION
BOARD REPORT

OA-1K, T/N 23-000009

17TH SPECIAL OPERATIONS SQUADRON
492D SPECIAL OPERATIONS WING
WILL ROGERS AIR NATIONAL GUARD BASE, OKLAHOMA

LOCATION: OKLAHOMA COUNTY, OKLAHOMA

DATE OF ACCIDENT: 23 OCTOBER 2025

BOARD PRESIDENT: COLONEL JOSHUA W. PETRY

Conducted IAW Air Force Instruction 51-307

EXECUTIVE SUMMARY
UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION

OA-1K, T/N 23-000009
OKLAHOMA COUNTY, OKLAHOMA
23 OCTOBER 2025

On 23 October 2025, at approximately 14:40 local time, an OA-1K aircraft, tail number 23-000009, experienced a forced landing in a field near Southeast 119th Street and South Sooner Road, Oklahoma County, Oklahoma. The Mishap Aircraft (MA), operated by the 17th Special Operations Squadron (17 SOS) out of Will Rogers Air National Guard Base, under the call sign ZORRO 75, was assigned to the 492d Special Operations Wing, Hurlburt Field, Florida. The two-member Mishap Crew (MC) consisted of one civilian contractor Mishap Instructor Pilot (MIP) attached to the 17 SOS and one active-duty service member Mishap Pilot (MP) assigned to the 17 SOS. While the MC did not sustain injuries, the MA was destroyed upon impact with damages estimated at $17,918,378.

The MC was executing a local training mission, known as an Initial Qualification Training – 1 flight, at three regional airports as part of the Additional Tailwheel Training Course for OA-1K initial cadre. Taxi and takeoff were uneventful, with the MC performing the after-takeoff checklist during their climb and initiating the cruise/ops check after leveling off at 3,500 feet mean sea level/2,300 feet above ground level. The MIP instructed the MP to open the fuselage fuel tank valve to check functionality. The MP inadvertently turned the fuel shutoff valve handle clockwise to "OFF" instead of pulling the fuselage fuel tank valve backward to "ON," resulting in engine fuel starvation and subsequent power loss. Approximately four to five seconds later, the MP noticed the fuel shutoff valve handle in the "OFF" position and turned it counterclockwise back to "ON," but failed to notify the MIP. After the MIP took control of the MA, the MC failed to accurately assess the cause of power loss and prioritized overriding the fuel control unit, made a "mayday" distress radio call, and prepared for an emergency landing.

The Accident Investigation Board President found, by a preponderance of the evidence, the MP's unintended activation of the fuel shutoff valve caused the mishap, which isolated the fuel supply from the aircraft firewall, starving the engine of fuel in flight. Also, by a preponderance of the evidence, the Board President found three substantially contributing factors to the mishap: (1) MP task saturation, (2) communications challenges and ineffective crew resource management, and (3) ineffective task prioritization.

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

SUMMARY OF FACTS AND STATEMENT OF OPINION
OA-1K, T/N 23-000009
OKLAHOMA COUNTY, OKLAHOMA
23 OCTOBER 2025

TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS

17 SOS	17th Special Operations Squadron
137 SOW	137th Special Operations Wing
492 SOW	492d Special Operations Wing
ACW	Air Control Wing
ADB	Aviation Document Booklet
ADO	Assistant Director of Operations
AETC	Air Education and Training Command
AFB	Air Force Base
AFE	Aircrew Flight Equipment
AFI	Air Force Instruction
AFLCMC	Air Force Life Cycle Management Center
AFM	Aircraft Flight Manual
AFMAN	Air Force Manual
AFMES	Armed Forces Medical Examiner System
AFSAS	Air Force Safety Automated System
AFSEC	Air Force Safety Center
AFSOC	Air Force Special Operations Command
AGL	Above Ground Level
AIB	Accident Investigation Board
AIMWTS	Aeromedical Information Management Waiver Tracking System
AMXS	Aircraft Maintenance Squadron
AOA	Angle of Attack
AOR	Area of Responsibility
AFPET	Air Force Petroleum Office
AT	Air Tractor
ATC	Air Traffic Control
ATWT	Additional Tail Wheel Training
Aug	August
BP	Board President
CAPs	Critical Action Procedures
Capt	Captain
CAS	Crew Alerting System
CFR	Code of Federal Regulations
CIP	Contractor Instructor Pilot
CIV	Civilian
CK FULL EIS FOR EXCEEDANCE	Check Full Engine Instrument System for Exceedance
COCO	Contractor Owned, Contractor Operated
Col	Colonel
COMAFSOC	Commander, AFSOC
CONOP	Concept of Operations
CRM	Crew Resource Management
CSO	Combat Systems Officer
CTR	Contractor
CVR	Cockpit Voice Recorder
DAF	Department of the Air Force
DAFG	Department of the Air Force Guide
DAFI	Department of the Air Force Instruction
Det	Detachment
DJ	Djibouti
DO	Director of Operations
DoD	Department of Defense
DOT	U.S. Department of Transportation
DSG	Drill Status Guardsman
ECR	Engineering Change Request
EFB	Electronic Flight Bag
EIS	Engine Information System
ELP	Emergency Landing Pattern
ESIS	Electronic Standby Instrument System
FAA	Federal Aviation Administration
FCF	Functional Check Flight
FCIF	Flight Crew Information File
FCP	Front Cockpit
FCU	Fuel Control Unit
FL	Florida
FLIP	Flight Information Publications
FMC	Fully Mission Capable
FOD	Foreign Object Debris
FS	Flight Surgeon
ft	Feet
FTU	Formal Training Unit
FUEL FLTR	Fuel Filter
FUSE FUEL VLV OPEN	Fuselage Fuel Valve Open
GEN FAIL	Generator Failure
GPS	Global Positioning System
GS	General Service

GTIMS	Graduate Training Integration Management System
GSU	Geographically Separated Unit
HF	Human Factors Representative
HFACS	Human Factors Analysis and Classification System
HQ	Headquarters
HRS	Hours
IAS	Indicated Air Speed
IAW	In Accordance With
IC	Initial Cadre
ICS	Internal Communications System
ILS	Instrument Landing System
IO	Investigating Officer
IP	Instructor Pilot
IQT	Initial Qualification Training
ISB	Interim Safety Board
ISR	Intelligence, Surveillance, and Reconnaissance
KCHK	Chickasha Municipal Airport
KOKC	Will Rogers International Airport
KRQO	El Reno Regional Airport
KSNL	Shawnee Regional Airport
kts	Knots
L3H	L3Harris
L	Local Time
LA	Legal Advisor
LH	Left Hand
LO FUEL PRESS	Low Fuel Pressure
LPU	Life Preserver Unit
Lt Col	Lieutenant Colonel
MA	Mishap Aircraft
Maj	Major
MC	Mishap Crew
MCAP	Medium Control Audio Panel
MDS	Mission Design Series
MFR	Military Flight Release
MIP	Mishap Instructor Pilot
MMS	Mission Management System
MP	Mishap Pilot
MQT	Mission Qualification Training
MSgt	Master Sergeant
MSL	Mean Sea Level
MXSS	Maintenance Support Squadron
Ng	Compressor Speed
NM	New Mexico
NMCMU	Non-Mission Capable Maintenance Unscheduled
NMCMS	Non-Mission Capable Maintenance Scheduled
NOTAM	Notice to Airmen
NVG	Night Vision Goggles
Oct	October
OK	Oklahoma
OKC	Oklahoma City
ORM	Operational Risk Management
Para	Paragraph
PEPP	Physical Examination Processing Program
PFD	Primary Flight Display
PHA	Periodic Health Assessment
PIC	Pilot In Charge
PM	Pilot Member
POL	Petroleum, Oils, and Lubricants
PSI	Privileged Safety Information
PTRM	Pitch Trim
PWC	Pilot Weather Categories
RA	Radar Altimeter
RC	Recorder
RCP	Rear Cockpit
RGB	Reduction Gearbox
RH	Right Hand
RNAV	Area Navigation
RPM	Revolutions Per Minute
RTB	Return to Base
Sep	September
SIB	Safety Investigation Board
SID	Standard Instrument Departure
SME	Subject Matter Expert
SMSgt	Senior Master Sergeant
SO	Safety Officer
SOF	Special Operations Forces
SOG IP	Special Operations Group Instructor Pilot
SOMDG	Special Operations Medical Group
SOS/CC	Special Operations Squadron Commander
SSgt	Staff Sergeant
Stan Eval	Standardization and Evaluation
STC	Supplemental Type Certificate
TAS	True Air Speed
TDY	Temporary Duty

T/N	Tail Number
TO	Technical Order
TOLD	Take Off/Landing Data
TX	Texas
UAE	United Arab Emirates
UPT	Undergraduate Pilot Training
USAF	U.S. Air Force
USSOCOM	U.S. Special Operations Command
VFR	Visual Flight Rules
VNE	Never-Exceed Speed
VOR	Very High Frequency Omnidirectional Range
VOX	Voice Operated eXchange
VUL	Vulnerability Window
WIT	Witness
WRANGB	Will Rogers Air National Guard Base
WSO	Weapon Systems Officer
Z	Zulu Time
Z55	ZORRO 55

SUMMARY OF FACTS

1. AUTHORITY AND PURPOSE

a. Authority

On 14 November 2025, the Air Force Special Operations Command (AFSOC) Commander appointed Colonel Joshua W. Petry to conduct an accident investigation of the 23 October 2025 mishap of an OA-1K aircraft, tail number (T/N) 23-000009 (Tab Y-2 to Y-3). The aircraft was assigned to the 17th Special Operations Squadron (17 SOS), Will Rogers Air National Guard Base (WRANGB), Oklahoma (OK) (Tabs CC-4 and Y-2 to Y-3). The investigation was conducted by an accident investigation board (AIB) pursuant to Air Force Instruction (AFI) 51-307, *Aerospace and Ground Accident Investigations*, at WRANGB from 3 December 2025 to 18 December 2025 (Tabs Y-2 to Y-3 and BB-2 to BB-3). A legal advisor, Captain (Capt); pilot member, General Service-13; medical member, Capt; maintenance member, Senior Master Sergeant; and recorder, Staff Sergeant, were appointed as board members (Tab Y-4).

b. Purpose

In accordance with (IAW) AFI 51-307, this AIB conducted a legal investigation to inquire into all the facts and circumstances surrounding this Air Force aerospace accident, prepare a publicly releasable report, and obtain and preserve all available evidence for use in litigation, claims, disciplinary action, and adverse administrative action.

2. ACCIDENT SUMMARY

The Mishap Aircraft (MA), an OA-1K aircraft, T/N 23-000009, operated by the 17 SOS out of WRANGB, was assigned to the 492d Special Operations Wing (492 SOW), Hurlburt Field, Florida (FL) (Tabs CC-4, CC-6, and EE-2,). The two-member Mishap Crew (MC) consisted of one civilian contractor Mishap Instructor Pilot (MIP) attached to the 17 SOS and one active-duty service member Mishap Pilot (MP) assigned to the 17 SOS (Tabs A-10 to A-11 and G-2 to G-3). On 23 October 2025, the MA took off from Oklahoma City, OK, to execute a local training mission (Tabs K-2 and R-15). Two seconds after leveling off and completing a cruise check, the MA experienced a loss of power (Tabs R-17 and DD-3). MIP took flight controls of the MA and attempted to regain power by instructing the MP to override the fuel control unit (FCU) (Tab V-1.4). Less than one second later, the MIP made a "mayday" call to Air Traffic Control (ATC) (Tab R-17 and DD-3). At approximately 14:40 local time (L)/19:40 Zulu time (Z), the MA experienced a forced landing in a field near Southeast 119th Street and South Sooner Road, Oklahoma County, OK (Tabs A-10 to A-11, DD-3, and EE-2). While the MC did not sustain any injuries, the MA was destroyed upon impact, with damages estimated at $17,918,378 (Tabs A-10 to A-11 and P-2). Civilian property damages included two utility poles, three road signs, and a barbed-wire fence (Tab P-2).

3. BACKGROUND

a. AFSOC

AFSOC's primary mission is to raise and retain disciplined professionals; air commandos ready for any challenge (Tab CC-2). AFSOC provides Air Force special operations forces (SOF) for worldwide deployment and assignment to regional unified commands (Tab CC-2). The command's SOF are composed of highly trained, rapidly deployable Airmen, conducting global special operations missions ranging from precision application of firepower to infiltration, exfiltration, resupply, and refueling of SOF operational elements (Tab CC-2). The command's core missions include battlefield air operations; agile combat support; aviation foreign internal defense; multi-domain operations; precision strike; specialized air mobility; command and control; and intelligence, surveillance, and reconnaissance (Tab CC-2).

b. 492 SOW

The 492 SOW is located at Hurlburt Field, FL and is transforming from a training wing into AFSOC's fifth power projection wing capable of executing SOF strike; SOF mobility; and SOF intelligence, surveillance, and reconnaissance (Tab CC-4 and CC-6). The wing provides mission qualification training in SOF aviation platforms to include AC-130J, U-28, C-146, and OA-1K, as well as medical element personnel (Tab CC-5). The wing is made up of eight squadrons located at Duke Field, FL; Hurlburt Field, FL; Cannon Air Force Base (AFB), New Mexico; and WRANGB, OK (Tab CC-4).

c. 137th Special Operations Wing (137 SOW)

The 137 SOW is an AFSOC Air National Guard unit located at WRANGB, OK and is a force provider organized, trained, and equipped to support combatant commanders across the spectrum of conflict projecting airpower anytime, anywhere (Tab CC-3). The 492 SOW and 137 SOW partner to conduct training on the OA-1K to optimize force structure for future enhanced interoperability with the Air National Guard (Tab CC-8).

d. 17 SOS

The 17 SOS is located at WRANGB, OK, and aligned under the 492 SOW as the formal training unit for AFSOC's OA-1K (Tab CC-9).

e. OA-1K Skyraider II

The OA-1K Skyraider II is a cost-effective crewed aircraft that is adaptable across the spectrum of conflict and is designed to have the ability to support special operations forces as well as the Joint Force through close air support, precision strike, and armed intelligence, surveillance, and reconnaissance (Tab CC-10). The OA-1K is built on the Air Tractor 802U frame and requires a much smaller maintenance package and costs less per flying hour than conventional aircraft or other special operations platforms (Tab CC-9 and CC-10). The OA-1K Block-0 variant is not fully modified and serves as an initial training aircraft (Tab CC-9). The 137 SOW welcomed its first Block-0 aircraft to WRANGB on 29 July 2024 (Tab EE-3). The OA-1K Block-1 variant is missionized with the GARMIN 3000 and serves as a training aircraft (Tab R-20). AFSOC accepted the first missionized OA-1K, on 3 April 2025 (Tab CC-10).

In the Block-0 and Block-1 variants, the fuselage fuel tank valve lever is painted silver and actuated on nearly every flight for a function check and then to feed fuel from the fuselage tank to the engine, as needed (Figures 1 and 4, below, and Tab R-22 and R-102). In both variants, the fuel shutoff valve handle is painted red and designed for emergency use to interrupt fuel to the engine (Tab R-18 and R-109). The fuselage fuel tank valve lever is engaged by pulling/pushing the level back/forward (Tab R-54 and R-145). The fuel shutoff valve handle is engaged by rotating it clockwise (Tab R-54 and R-151). Given space constraints within the cockpits, the fuselage fuel tank valve lever in the front cockpit (FCP) is located five inches below the fuel shutoff valve handle (Figure 2, below, and Tab Z-3). In the Block-1 variant, the fuselage fuel tank valve lever is visually obscured by an inboard power lever (Figure 3, below, and Tab Z-2). The Block-0 variant has a significantly smaller power lever than the Block-1 variant and does not visually obscure the fuel shutoff valve handle (Figure 4, below, and Tab Z-2).

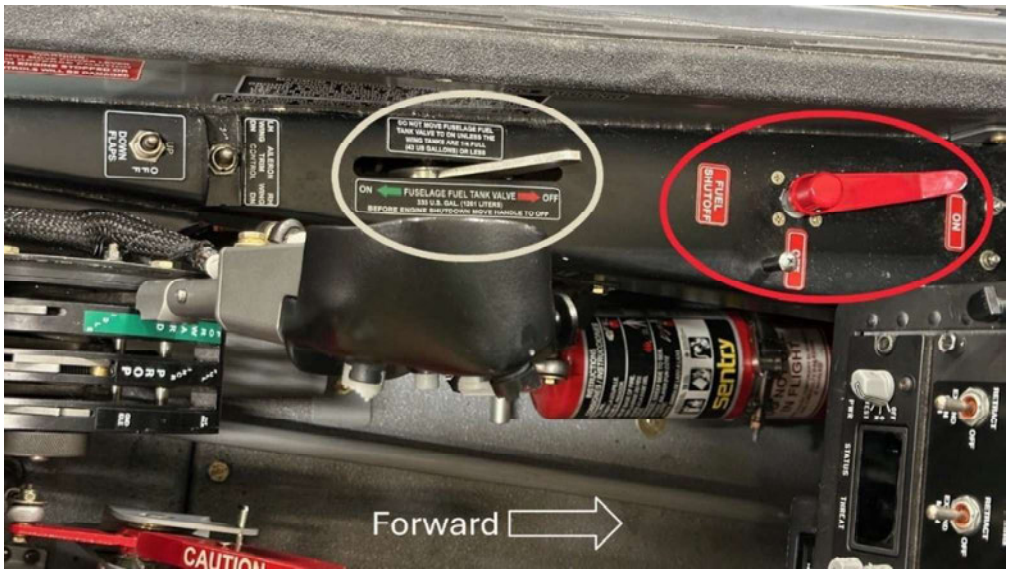

Figure 1. Block-1, FCP, Overhead View (Tab Z-3)

Figure 2. Block-1, FCP, Distance Between Fuel Shutoff Valve and Fuel Fuselage Handle (Tab Z-3)

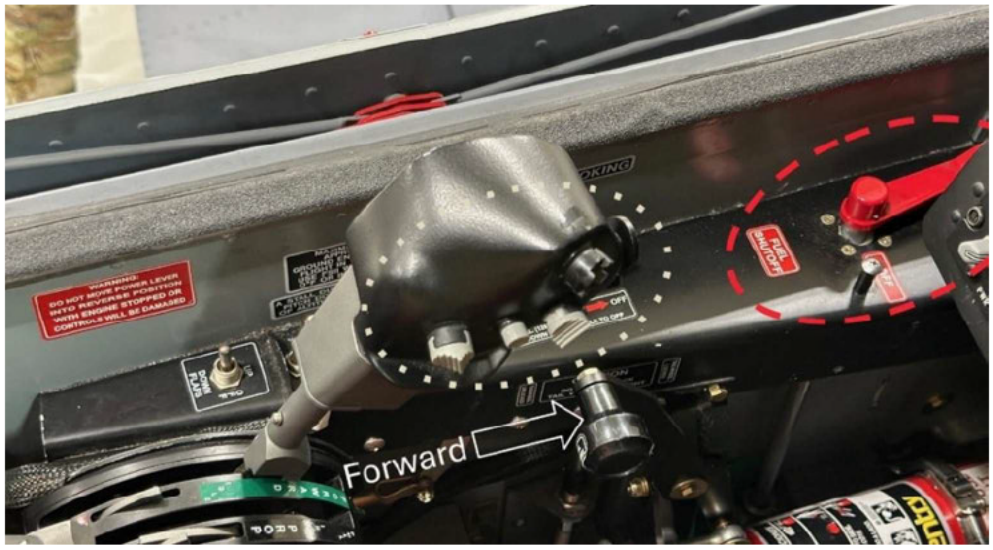

Figure 3. Block-1, FCP, Pilot's Point of View (Tab Z-2)

Figure 4. Block-0, FCP, Pilot's Point of View (Tab Z-2)

4. SEQUENCE OF EVENTS

a. Mission

The MC, under the call sign ZORRO 75, was to execute a local training mission to Shawnee Regional Airport (KSNL), Chickasha Municipal Airport (KCHK), and El Reno Regional Airport (KRQO) (Tabs K-2 and R-15). The mission focused on instrument procedures to include approaches and maneuvers in visual conditions (Tab R-5 and R-15). The mission was an Initial Qualification Training (IQT)-1 flight in the course for OA-1K initial cadre (IC) (Tab R-15 and R-20). The student MP sat in FCP and the MIP sat in the rear cockpit (RCP) of an OA-1K Block-1 aircraft (Tabs R-16 and V-3.2). The mission was scheduled to depart from Will Rogers International Airport (KOKC) at 14:15L and land at 16:15L (Tabs K-2 and R-5). The MC's actual takeoff was delayed to 14:35L due to a pitch trim fault that was cleared before taxi (Tabs R-16, V-3.2, and V-3.9).

b. Planning

Mission planning and briefing began at 12:30L (Tab R-15). The MC was present for the briefing and utilized the 17 SOS crew briefing in the battle book on their electronic flight bag (Tab R-15). The plan was to fly to KSNL for multiple instrument approaches (Tab R-15). After KSNL, the MC planned to proceed to KCHK and fly an instrument approach to a circling maneuver and land (Tab R-15). Following KCHK, the MC planned to fly to KRQO to conduct another instrument approach and return to KOKC (Tab R-15).

c. Preflight

During the mission briefing, the MC signed the Operational Risk Management (ORM) worksheet, completed the flight authorization, checked the notices to airmen, filed the flight plan, and reviewed the weather briefing (Tabs K-4 to K-6, R-16, and AA-2 to AA-3). The MC stopped at

the operations desk and briefed the Supervisor of Flying (Tab R-16). At 13:45L, the MC departed the squadron for the flightline (Tab R-16). The MP entered the FCP while the MIP conducted the preflight inspection of the MA (Tab R-16). No deficiencies were noted during the exterior inspection (Tab R-16). The MIP reviewed the aircraft forms, checked the fuel load, signed as the aircraft commander, and placed the forms into the MA baggage compartment (Tab R-16). No issues were noted during engine start (Tab R-16). After engine start, the MC received a pitch trim fault error (Tabs R-16 and V-3.2). The MC shut down the engine to allow maintenance personnel to reset circuit breakers and clear the fault (Tab V-3.2). The subsequent engine start was uneventful (Tab V-3.2).

d. Summary of Accident

The MC's taxi and takeoff were uneventful, with a takeoff time of 14:35L (Tabs R-16 and V-3.2). The MC planned to climb on departure up to 5,000 feet (ft) mean sea level (MSL), per ATC clearance, but leveled off at 3,500 ft MSL to stay below clouds (Tabs N-15 and R-17). The MC then headed eastbound toward KSNL (Tab R-17). The MP had issues hearing the MIP, exacerbated by engine and wind noise in flight, and diverted his attention to adjust his helmet and volume/intercom settings (Tabs V-3.3 to V-3.5). The MP's communication issues worsened throughout the flight due to increased aircraft noise (Tab V-3.5). The MC performed the after-takeoff checklist during their climb and initiated the cruise/ops check after leveling off, before engaging the autopilot (Tabs N-15 to N-17 and V-3.3).

At 14:39:16L, the MIP instructed the MP to open the fuselage fuel tank valve to ensure functionality, which the MP replied, "Copy that" (Tabs J-17 and N-17). However, there was a notable absence of the white Crew Alerting System (CAS) "FUSE FUEL VLV OPEN" message which would have confirmed the fuselage fuel tank valve as being in the open position (Tab J-17 and DD-3). The MP incorrectly identified the fuel shutoff valve handle as the fuselage fuel tank valve lever and moved the fuel shutoff valve to the "OFF" position (Tabs V-3.9 and DD-10). Once the fuel shutoff valve was moved to the OFF position, fuel supply was isolated from the MA's firewall, starving the engine of fuel in flight (Tab DD-10). After incorrectly moving the fuel shutoff valve handle, the MP immediately redirected his attention to the other side of the aircraft to troubleshoot his communications issues (Tab V-3.6). At 14:39:28L, the first indication of an issue shows up in the form of a "FUEL FLTR" CAS message notifying the MC that pressure across the fuel filter was greater than 2.9 pounds per square inch (Figure 5, below, and Tabs J-17 and DD-6 and DD-9).

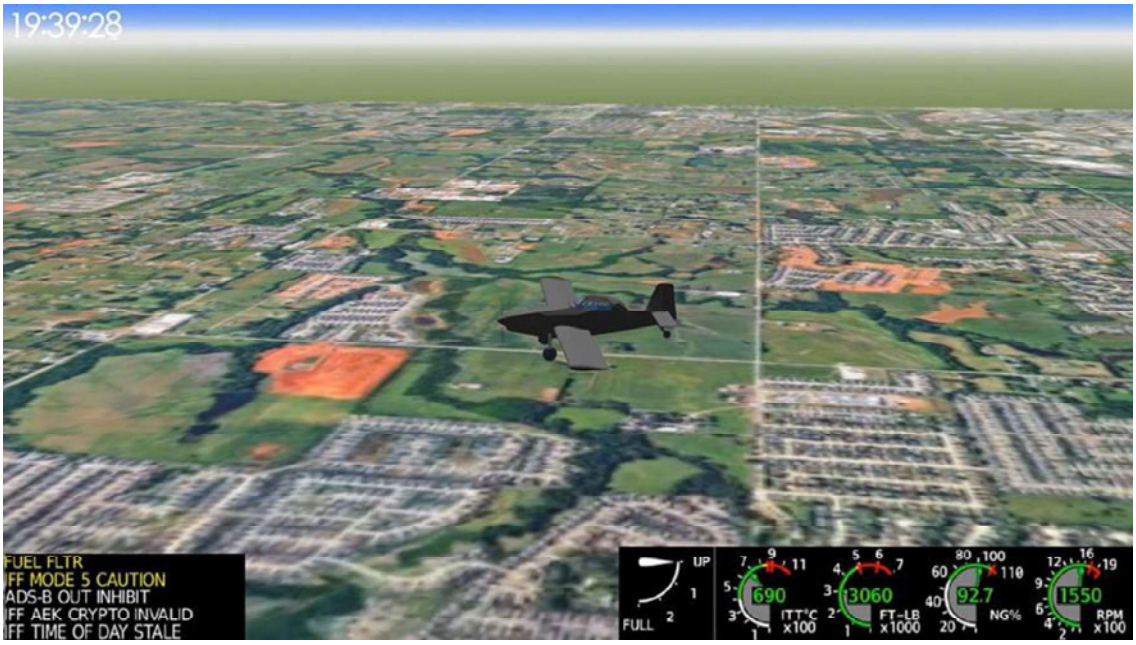

Figure 5. Animation at 14:39:28L (Tab Z-4)

Between 14:39:28L and 14:39:31L several other CAS messages appeared including "LO FUEL PRESS" due to fuel pressure dropping below five pounds per square inch and "CK FULL EIS FOR EXCEEDANCE," indicating an engine parameter exceedance and alerting the MC to check the Engine Information System (EIS) for other indications such as oil temperature, oil pressure, fuel pressure, etc., at which point the MIP said, "Give me a second" (Figure 6, below, and Tabs J-17 and DD-6 and DD-9).

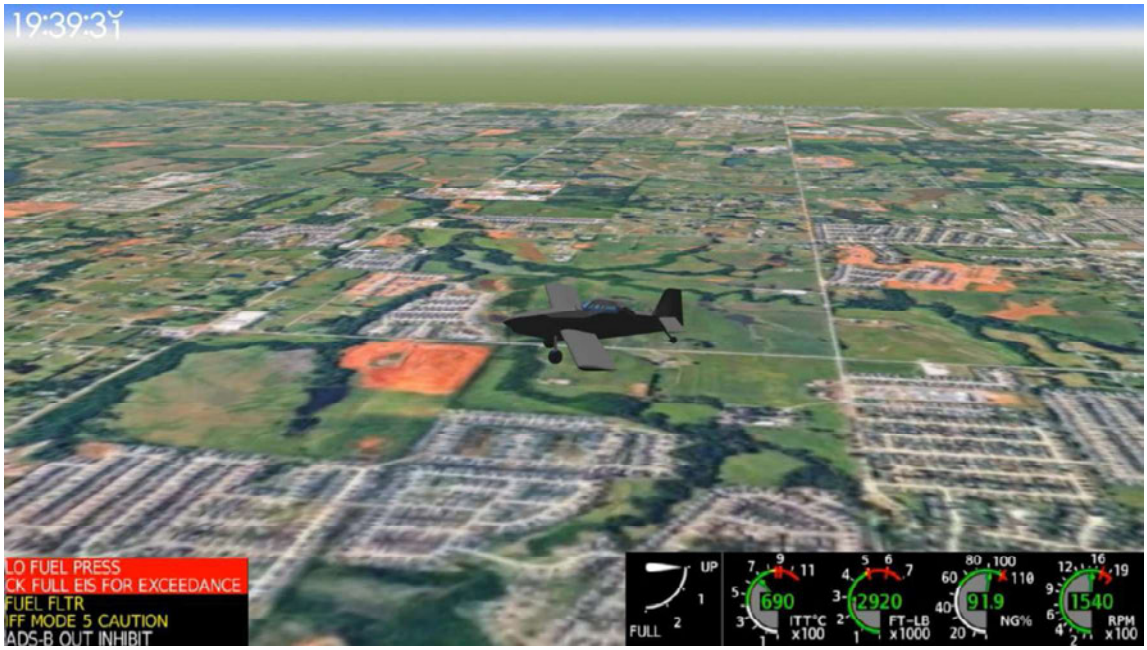

Figure 6. Animation at 14:39:31L (Tab Z-4)

At 14:39:34L, the MIP felt a surge of power and thought the MP pulled the power lever back, so the MIP instructed the MP not to touch the power, stating, "Do not do that. Do not do that" (Tabs J-17 and V-1.3). At 14:39:38L, the MIP stated, "Put that power back in" (Tabs J-17 and N-17). At 14:39:39L, the MP replied, "I didn't touch power" (Tab J-17). Around that time, the MP noticed the fuel shutoff valve was in the "OFF" position and turned it back to the "ON" position (Tab V-3.9 and V-3.10). The MP did not communicate to the MIP that the fuel shutoff valve was the in the "OFF" position or that he turned it back to the "ON" position (Tab V-3.10). At 14:39:40L, the "LO FUEL PRESS" followed by the "FUEL FLTR" CAS messages cleared (Figure 8, below, and Tab Z-4). At 14:39:41L, the MIP stated, "I have flight controls" and the autopilot was disconnected at 14:39:42L (Tab J-18). At 14:39:50L, the MIP instructed the MP to get ready to call for mayday (Tab J-18). At 14:39:52L, the MP responded, "Copy that" (Tab J-19).

Figure 7. Animation at 14:39:52L (Tab Z-4)

At 14:39:54L, the MIP asked the MP if he saw an open area (Tab J-19). At 14:39:57L, the MIP asked again, "Open area?" (Tab J-19). At 14:39:58L, the MP responded, "Off to the right" (Tab J-19). At 14:40:00L, the MIP called for the MP to engage the FCU handle, and MP responded "FCU override" (Tab J-19). At 14:40:05L, the MIP contacted ATC and called "Mayday, mayday, mayday" (Tab J-19). At 14:40:49L, audible distress noises were heard from the MC as the MA initially impacted the ground (Figure 8, below, and Tabs J-14, J-21, and Z-4).

Figure 8. Animation at 14:40:49L (Tab Z-4)

Figure 9, below, illustrates the MA's altitude in MSL (based on pressure altitude) and above ground level (AGL) (based on the radar altimeter (RA)), with time expressed in Z (Tab J-14). The vertical dashed orange line indicates the time of the first CAS message indicating an issue with the MA (Tab J-24). This graphic also shows engine torque and propeller revolutions per minute (RPM) (Tab J-14). From this graphic, engine torque drops off one second after the first CAS message appears and drops off rapidly within four seconds, consistent with total loss of fuel (Tab J-14). The propeller RPM decreases, but does not go to zero, carrying RPM consistent with a windmilling propeller that is not feathered (Tab J-14). This propeller RPM indication continues until the aircraft impacts the ground (Tab J-14). There is a torque spike at 14:40:53L accompanied by a rapid reduction in propeller RPM to zero, consistent with the propeller striking a utility pole guy-wire and barbed-wire fencing (Tab J-14). The propeller blade was bent by the wire strike and the wire wrapped around the propeller hub and engine (Tab J-14).

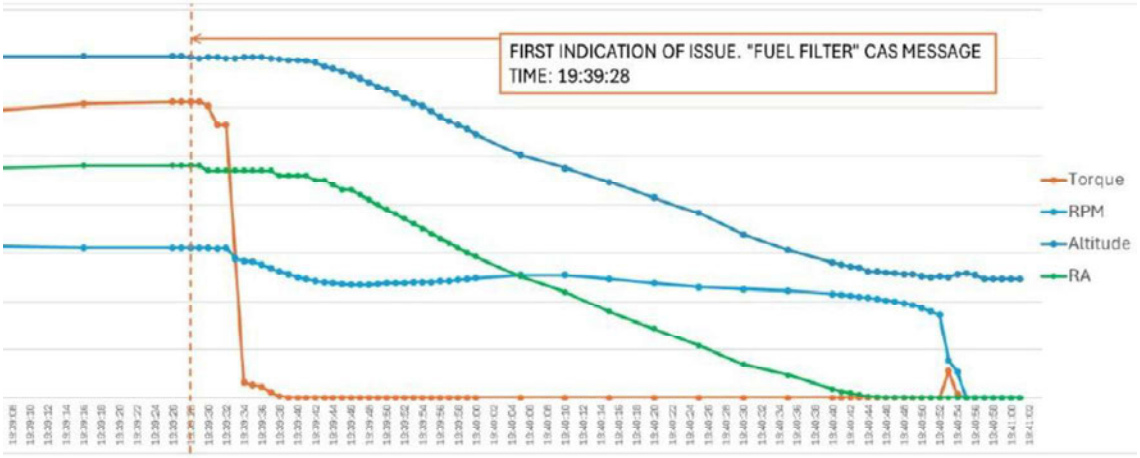

Figure 9. Torque, Propeller RPM, and Altitudes (Pressure and Radar) (Tab J-24)

Figure 10, below, includes a plot of compressor speed (Ng), oil pressure, oil temperature, true air speed (TAS), and indicated air speed (IAS) with time expressed in Z (Tab J-14). The rapid decrease in Ng and oil pressure correlated with the decrease in torque from Figure 4, above, consistent with a loss of fuel and winding down of the engine (Tab J-14 to J-15). Ng began to decrease at 14:39:32L and within eight seconds it was below 50 percent at 14:39:36L (Tab J-15 and J-17). Ng decreased to below 10 percent by 14:39:57L as the engine continued winding down (Tab J-15). Oil temperature climbed slightly after the first indication of the issue, consistent with an engine no longer turning and circulating oil. (Tab J-15). TAS and IAS indications tracked one another until the aircraft impacted the ground (Tab J-15).

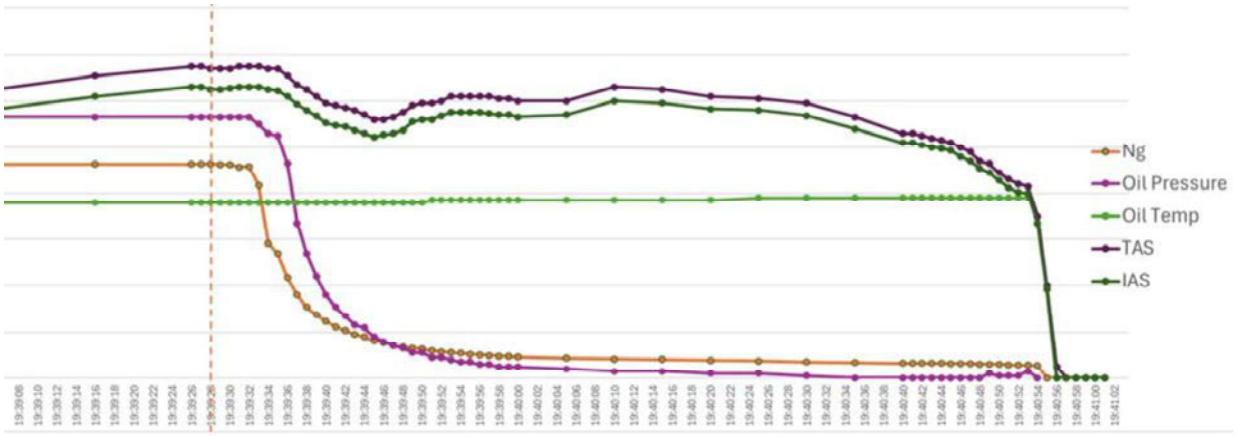

Figure 10. Ng, Oil pressure and Temp, TAS, and IAS (Tab J-24)

Throughout the flight, the fuselage fuel amount never changed (Tab J-15). Had the valve been left open, this value would have declined over time (Tab J-15). The left-hand and right-hand wing tank fuel movement were consistent with normal flight operations as the pilots made heading changes (Tab J-15 and J-24).

e. Impact

At approximately 14:41:00L the MC landed the MA in an open field after impacting a tree, road signs, utility poles, barbed-wire fences, and various uneven, unimproved surfaces (Figures 11 and 12, below, and Tab J-9 and J-22).

Figure 11. Mishap Aircraft Impact Site (Tab Z-5)

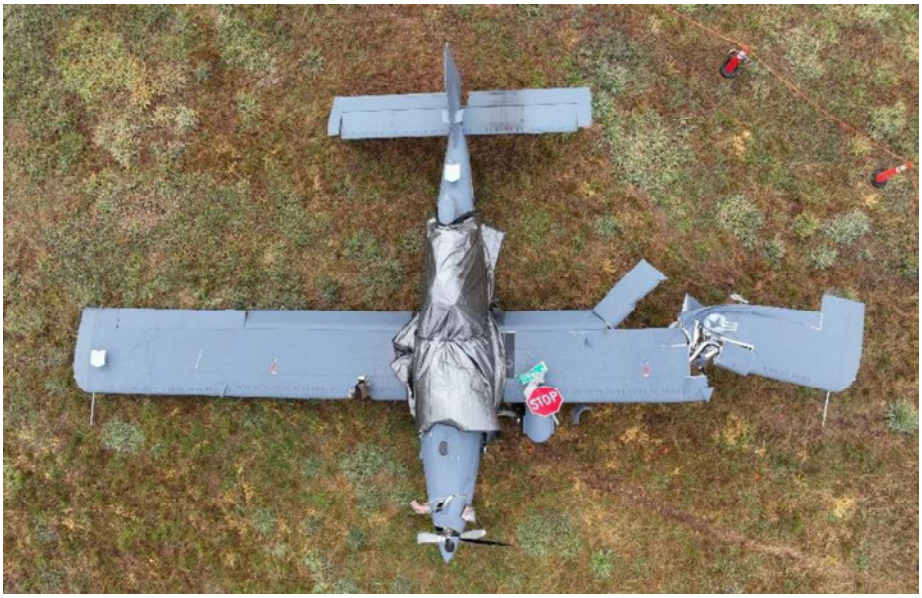

Figure 12. Mishap Aircraft Impact Site (Tab Z-5)

f. Egress

After the MA came to a stop, the MIP directed egress (Tab V-3.8). The MP got out of the MA first, followed by the MIP who ensured the master power switch was off (Tab V-1.5). The MIP called the 17 SOS Commander to report the MC was down safe (Tab R-18).

g. Search and Rescue

After the MIP called "mayday," ATC guided another OA-1K crew, callsign ZORRO 55 (Z55), to the MA's last known position (Tabs N-18 and R-36). The Oklahoma City Police Department arrived on scene first (Tab R-18). Z55 visually located the MA and confirmed the MC were walking around the aircraft and appeared to be unharmed (Tab R-36 to R-37). Local paramedics assessed the MC on the scene with no injuries reported (Tab R-18).

h. Recovery of Remains

Not applicable.

5. MAINTENANCE

a. Forms Documentation

L3Harris (L3H) is a government contractor responsible for maintaining the OA-1K and utilizes contractor-developed maintenance forms, mirroring the structure and functions of Department of the Air Force maintenance forms (Tab DD-12). A review of historical discrepancies, inspections, servicing, and safety releases were documented using this system and were found to be current, detailed, and accurate (Tab DD-12). The review of the active forms showed two information notes; one for a headset impedance work-around and one for ammeter reading deficiency (Tab D-22 and D-23).

b. Inspections

A 12-month inspection was completed IAW 14 Code of Federal Regulations (CFR) 91.409(f)(3) and applicable Air Tractor manuals (Tabs O-157 to O-211 and D-359 to D-364). A 300-hour engine performance check was completed on 12 August 2025 and no defects were noted (Tab D-219). On 14 August 2025, a satisfactory functional check flight was completed on the MA but noted a discrepancy stating, "Aircrew reports ground idle at 59.5" (Tab D-218 and D-223). Maintenance adjusted the low idle setting within limits, safety wired it, and indicated the engine operationally checked good (Tab D-218). The acceptance inspection was completed 14 August 2025, and the aircraft began flying training sorties on 15 August 2025 (Tab D-49 to D-86, D-218, and D-224). A 100-hour inspection was completed at 107.5 hours from 1 through 4 October 2025 IAW 14 CFR 91.409(f)(3) and applicable Air Tractor manuals (Tabs O-157 to O-211 and D-365 to D-380). Daily fuel sampling was accomplished, and the MA was inspected and confirmed airworthy prior to each flight (Tab D-2 to D-17 and D-49 to D-86).

c. Maintenance Procedures

L3H maintenance personnel documented discrepancies prior to performing corrective actions (Tab D-87 to D-315). L3H performed numerous routine maintenance actions on the MA from 15 August 2025 through 23 October 2025 that did not contribute to the mishap (Tab D-87 to D-315). On 23 October 2025, a daily fuel sample and inspection were completed, and no defects were noted (Tab D-20 to D-21).

d. Maintenance Personnel and Supervision

All L3H mechanics were qualified and current to perform aircraft maintenance except for one instance where the individual was not qualified to complete a battery cap check during a 100-hour inspection (Tab DD-12). However, the task inspector was qualified (Tab DD-12). The individual who conducted the preflight mechanic inspection of the MA on 23 October 2025 was properly licensed and certified (Tab DD-12).

e. Fuel, Hydraulic, and Oil Inspection Analysis

The fuel from the MA was inspected and minor abnormalities were noted; however, they did not contribute to the mishap (Tab D-399 to D-412). Additionally, the two trucks responsible for supplying the MA with fuel were tested and contained no abnormalities (Tab D-399 to D-412). No blockage, obstruction, or component failure was identified within the fuel system (Tabs J-4 and FF-27). The MA's hydraulic fluid and oil samples were also tested and contained no abnormalities (Tab D-399 to D-412).

f. Unscheduled Maintenance

All unscheduled maintenance actions and discrepancies were properly documented and corrected prior to the mishap (Tab DD-9). Two informational notes; one for a headset impedance work-around and one for ammeter reading deficiency were in the forms at the time of the incident (Tab DD-9).

6. AIRFRAME SYSTEMS

a. Structures and Systems

During the mishap sequence, the MA struck a tree tip, road signs, utility guy-wires, and barbed-wire fences (Tab J-9). The only preexisting damage to the MA was impact damage to the right horizontal stabilizer strut, which was found with minor impact damage to the leading edge consisting of yellow paint, and the bare metal appeared discolored (Tab FF-13 and FF-25). However, the preexisting damage to the right horizontal stabilizer strut had no impact on the mishap sequence of events (Tab FF-25).

(1) Wings

The left-wing flap was bent, and a section of the aileron, the hinged flap on the trailing edge of the MA's wing, was separated from the wing structure (Figures 13 to 17, below, and Tab J-3). The right wing shows severe impact damage to the leading edge (Figures 18 and 19, below, and Tab J-12).

Figure 13. Mishap Aircraft, Left Wing, Side View (Tab Z-5)

Figure 14. Mishap Aircraft, Left Wing, Front View (Tab Z-6)

Figure 15. Mishap Aircraft, Left Wing, Side View Close-Up (Tab Z-6)

Figure 16. Mishap Aircraft, Left Wing, Side View Close-Up (Tab Z-6)

Figure 17. Mishap Aircraft, Left Wing, View from Cockpit (Tab Z-7)

Figure 18. Mishap Aircraft, Right Wing, Front View (Tab Z-7)

Figure 19. Mishap Aircraft, Right Wing, Rear View (Tab Z-7)

(2) Fuselage and Cockpit

The MA's main fuselage frame suffered crush damage to the skin and multiple bent frame tubes; however, the cockpit had no discernable damage (Tab J-3). The inflatable restraints and seat crush cylinders were inspected and determined to have functioned properly and did not deploy upon impact due to low recorded G-loads (Tab J-13).

(3) Landing Gear

The right main landing gear spring was bent inboard, and the entire assembly folded underneath the fuselage (Figure 21, below, and Tab J-3). Barbed-wire from a fence was found tangled in the left main landing gear (Figure 19, below, and Tab Z-8). The tailwheel sustained little damage (Tab J-3).

Figure 20. Mishap Aircraft, Left Landing Gear, Outward View (Tab Z-8)

Figure 21. Mishap Aircraft, Left Landing Gear, Right Folded (Tab Z-8)

Figure 22. Mishap Aircraft, Tailwheel (Tab Z-8)

(4) Propeller and Engine Assembly

A utility pole guy-wire was wrapped around the propeller reduction gearbox (Figures 23 and 24, below, and Tab J-5). The propeller blades were still attached to the hub, and one propeller blade was bent past 90 degrees (Figures 23 and 24, below, and Tab J-5). A piece of the utility pole guy-wire was embedded in the bent propeller blade (Figures 23 and 24, below, and Tab Z-9).

Figure 23. Mishap Aircraft, Propeller, Front View (Tab Z-9)

Figure 24. Mishap Aircraft, Propeller, Side View (Tab Z-9)

b. Analysis

The Garmin data recorder and cockpit voice recorder (CVR) were recovered after the mishap, with no missing data or relevant faults (Tab J-12 and J-13). The MA was examined by L3H, Air Tractor, Inc., and Pratt & Whitney (Tabs J-2 to J-24 and DD-12). Analysis indicated normal operation of all systems and equipment (Tab FF-34).

7. WEATHER

a. Forecast Weather

The forecast weather for the duration of the flight was insignificant, with surface winds 180 degrees at 12 knots (kts) and sky cover between few to broken clouds at 4,000 ft AGL (Tab F-3). Potential for rain showers and scattered thunderstorms were forecast to arrive after the MC's scheduled land time (Tab F-3).

b. Observed Weather

The observed weather included surface winds of 190 degrees at 11 kts gusting to 22 kts and few clouds at 5,000 ft AGL at takeoff (Tab F-2). The MC leveled off lower than planned at 3,500 ft MSL/2,300 ft AGL due to a reported lower cloud layer from another aircraft (Tabs N-14 to N-15 and R-6).

c. Space Environment

Not applicable.

d. Operations

The MC were within their Pilot Weather Category and aircraft limits of a maximum 20 kt crosswind and total wind limit of 35 kts for taxi, landing, and takeoff (Tabs G-2 and BB-10).

8. CREW QUALIFICATIONS

a. MP

The MP was an unqualified pilot who began flying the OA-1K on 22 August 2025 and accumulated 37.3 OA-1K flight hours in 19 sorties, including 34.1 hours in the OA-1K Block-0 aircraft and 3.2 hours in the Block-1 aircraft (Tab G-22 and G-25 to G-40). Before the MP's OA-1K assignment, he was a U-28 Evaluator Pilot with 2,300.6 flight hours, 650.3 instructor hours, and 35.8 evaluator hours in 479 U-28 sorties and 86 PC-12 sorties (Tab G-22).

Recent flight time is as follows (Tab G-7 and G-25 to G-40):

	Hours	Sorties
30 days	26.6	10
60 days	37.3	19
90 days	37.3	19

Table 1. MP Flight Times

b. MIP

The MIP was a qualified OA-1K Instructor Pilot (Tab G-44). The MIP's total OA-1K time was 551 flight hours (Tabs G-58 and T-3). Total time for all aircraft was 5,448 hours with 2,666.7 instructor hours between the OA-1K, B-300, B-200, DHC-7, and rotary-wing aircraft (Tabs G-58 and T-3).

Recent flight time is as follows (Tabs G-46 and T-2):

	Hours	Sorties
30 days	47.1	21
60 days	76.7	38
90 days	122.9	56

Table 2. MIP Flight Times

9. MEDICAL

a. Qualifications

Based on available medical information, the MP and MIP were medically qualified for flight duties with no noted duty limiting conditions (Tab DD-14). The MP was current on his fly periodic

health assessment (Tab DD-14). The MIP's aeromedical records within military health electronic records were less extensive due to his status as a contractor (Tab DD-14). The medical review did not reveal any evidence or factors related to the MC's medical qualifications that would have caused or contributed to the mishap (Tab DD-13 to DD-14).

b. Health

The MP and MIP were in good health, and there is no evidence the MC's health contributed to the mishap (Tabs V-3.2 and DD-14 to DD-15).

c. Pathology

Toxicology samples were obtained from the MC within a few hours of the mishap (Tabs DD-14, and V-3.4). The MP's blood and urine samples were collected at Tinker AFB, OK, and submitted to the Armed Forces Medical Examiner System, Division of Forensic Toxicology, for analysis (Tab DD-14). Due to his status as a contractor, the MIP's urine sample was collected and breath alcohol test taken at a civilian lab in Oklahoma City, OK, and submitted to another civilian lab in Louisiana for analysis IAW the U.S. Department of Transportation's workplace drug and alcohol testing policy (Tab DD-14). The MC's samples were negative for drugs and alcohol (Tab DD-14).

d. Lifestyle

A review of the non-privileged 72-hour and 7-day histories for the MC provided no evidence to suggest lifestyle factors contributed to the mishap (Tabs R-157 to R-168 and V-4.1 to V-4.12).

e. Crew Rest and Crew Duty Time

Commanders and supervisors must ensure aircrew are provided the opportunity for at least eight hours of uninterrupted sleep and a minimum of 12 non-duty hours before flight duty begins (Tab BB-7). There is no evidence to suggest crew rest or duty time were factors in this mishap (Tabs R-157 to R-165, V-3.2, and V-4.1 to 4.9).

10. OPERATIONS AND SUPERVISION

a. Operations

The operations tempo at the 17 SOS remains relatively high given its unique task to stand up an OA-1K formal training unit using IC; however, there is no evidence operations tempo was a factor in the mishap (Tab R-12, R-37 to R-38, R-70 to R-71, and R-106 to R-108). On 29 July 2024, the 137 SOW welcomed its first basic Block-0 variant of the OA-1K to begin IC flight training (Tabs R-20 and EE-3). On 3 April 2025, AFSOC accepted delivery of its first missionized Block-1 variant of the OA-1K (Tab CC-10).

b. Supervision

The MC had all required authorization, supervision, and documentation for the planned sortie IAW AFI 11-418, *Operations Supervision* (Tabs G-2 to G-59, K-2 to K-7, and BB-45 to BB-51). One

day prior to the mishap, the mission was authorized by the 17 SOS Director of Operations (Tab K-3 to K-4). The MP required an instructor for IQT-1, and the MIP filled that role (Tabs G-5, G-44, and K-4). ORM was low overall, with two individual annotated risks for an upgrade sortie and student pilot in the contact phase (Tab AA-2). The MIP signed the ORM worksheet and turned it into the Supervisor of Flying (Tabs R-16 and AA-2).

11. HUMAN FACTORS

a. Introduction

The AIB considered all human factors relevant to this mishap, as prescribed in the *Department of Defense Human Factors Analysis and Classification System (DoD HFACS) Version 8.0* (Tab BB-12 to BB-44). The *DoD HFACS Version 8.0* is a framework that identifies potential areas of assessment during an accident investigation and lists potential human factors that can play a role in an aircraft mishap (Tab BB-13 to BB-14). A human factor is any environmental, technological, physiological, psychological, psychosocial, or psychobehavioral factor a human being experiences that contributes to, or influences, performance during a task (Tab BB-15 to BB-44).

The framework is divided into four main categories: Organizational Influences, Supervision/Leadership, Preconditions, and Unsafe Acts (Tab BB-44). Each category is subdivided further into related human factor subcategories (Tab BB-44). The human factors relevant to this mishap are defined below (Tab BB-17 to BB-18, BB-20, and BB-28).

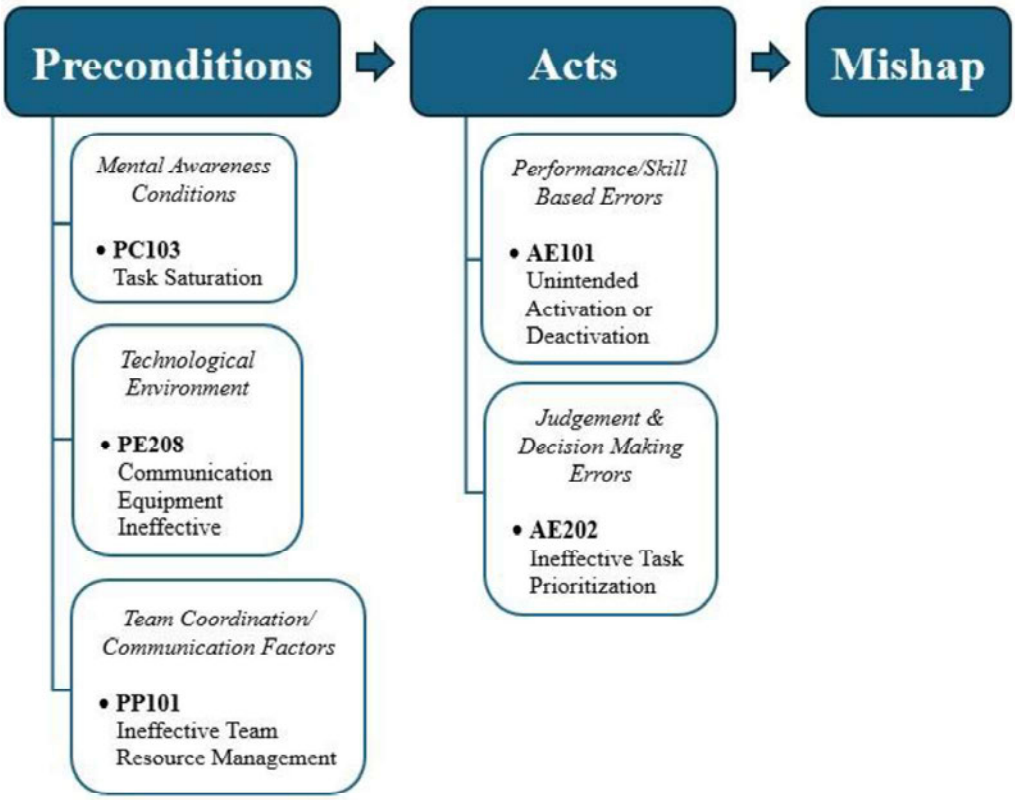

Figure 25. Mishap Sequence of Events

b. Applicable Human Factors

PC103 Task Saturation: When the quantity of information an individual was processing exceeded his or her mental resources in the amount of time available and resulted in a hazardous condition or unsafe act. In other words, there is simply too much to accomplish with not enough time or resources. The task loading could be real or imagined, but it results in performance and/or judgment and decision-making errors (Tab BB-20).

PE208 Communication Equipment Ineffective: When a communication system's (voice, data, multi-sensory) limitations and/or malfunctions negatively affected performance and resulted in a hazardous condition or unsafe act (Tab BB-28).

PP101 Ineffective Team Resource Management (Crew, Bridge, Fighter, Maintenance, etc.): When crew/team members failed to actively maintain an accurate and shared understanding of the evolving task, or manage their distribution of tasks, which resulted in a hazardous condition or unsafe act. This includes communication breakdowns (e.g. standardized terms, phrases, hand signals or language/lexicon barriers), critical information not shared, rank/position intimidation, lack of assertiveness or other teamwork functions (Tab BB-28).

AE101 Unintended Activation or Deactivation: is when an individual's movements inadvertently activated or deactivated equipment, controls, switches, weapons systems, etc., when there is no intent to do so and resulted in the near-miss or mishap.
This action may be noticed or unnoticed by the individual at the time of occurrence. The error may be the result of one of more individual physical or mental conditions, crew/team influence, supervisory/leader influence, or a flaw in workspace or materiel design (Tab BB-17).

AE202 Ineffective Task Prioritization: When the mishap individual did not effectively organize and accomplish the tasks required to manage a situation, which resulted in the mishap (Tab BB-18).

12. GOVERNING DIRECTIVES AND PUBLICATIONS

a. Publicly Available Directives and Publications Relevant to the Mishap

1) AFI 51-307, *Aerospace and Ground Accident Investigations*, dated 18 March 2019
2) Air Force Manual (AFMAN) 11-202 Volume 3, *Flight Operations*, dated 10 January 2022
3) AFMAN 11-2 OA-1K Volume 3, *Flying Operations*, dated 13 August 2025
4) Department of the Air Force Guide (DAFG), *DoD Human Factors Analysis and Classification System Version 8.0*, dated 25 May 2022
5) AFI 11-418, *Flying Operations*, dated 22 December 2021

NOTICE: All directives and publications listed above are available digitally on the Air Force Departmental Publishing Office website at https://www.e-publishing.af.mil. The *DoD HFACS Version 8.0* is available on the Air Force Safety Center website at

https://www.safety.af.mil/Portals/71/documents/Human%20Factors/DAF%20HFACS%208%20Guide%201%20April%202023.pdf

b. Other Directives and Publications Relevant to the Mishap

Not applicable.

c. Known or Suspected Deviations from Directives or Publications

There is no evidence to suggest that any directive or publication deviations occurred during this mishap.

PETRY.JOSHUA.W. Digitally signed by PETRY.JOSHUA.W.

19 March 2026

JOSHUA W. PETRY, Colonel, USAF
President, Accident Investigation Board

STATEMENT OF OPINION

OA-1K, T/N 23-000009
Oklahoma County, Oklahoma
23 October 2025

Under 10 U.S.C. § 2254(d) the opinion of the accident investigator as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report, if any, may not be considered as evidence in any civil or criminal proceeding arising from the 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.

1. OPINION SUMMARY

The Mishap Aircraft (MA), an OA-1K aircraft, T/N 23-000009, operated by the 17 SOS out of WRANGB, was assigned to the 492d Special Operations Wing (492 SOW), Hurlburt Field, Florida (FL). The two-member Mishap Crew (MC) consisted of one civilian contractor Mishap Instructor Pilot (MIP) attached to the 17 SOS and one active-duty service member Mishap Pilot (MP) assigned to the 17 SOS. On 23 October 2025, the MA took off from Oklahoma City, OK, to execute a local training mission. Two seconds after leveling off and completing a cruise check, the MA experienced a loss of power. MIP took the flight controls of the MA and attempted to regain power by instructing the MP to override the fuel control unit. Less than one second later, the MIP made a "mayday" call to Air Traffic Control. At approximately 14:40 local time/19:40 Zulu time, the MA experienced a forced landing in a field near Southeast 119th Street and South Sooner Road, Oklahoma County, OK. While the MC did not sustain any injuries, the MA was destroyed upon impact, with damages estimated at $17,918,378. Civilian property damages included two utility poles, three road signs, and a barbed-wire fence.

I found, by a preponderance of the evidence, the mishap was caused by the MP's unintended activation of the fuel shutoff valve, which isolated the fuel supply from the aircraft firewall, starving the engine of fuel in flight.

I also found, by a preponderance of the evidence, the following factors substantially contributed to the mishap: (1) MP task saturation, (2) communications challenges and ineffective crew resource management (CRM), and (3) ineffective task prioritization. These factors, when considered together, substantially contributed to the MC's performance errors, failure to identify the cause of fuel starvation to the engine, and failure to attempt to execute critical action procedures (CAPs) designed to restart the engine, and if unsuccessful, feather the propeller to increase glide distance and time available for decision making before impact.

2. CAUSE

The MP incorrectly identified the fuel shutoff valve handle as the fuselage fuel tank valve lever. Instead of momentarily opening the fuselage fuel tank valve by moving its silver lever backward

to the "ON" position, as intended to verify fuselage fuel availability, the MP inadvertently closed the nearby fuel shutoff valve by turning its red handle clockwise to the "OFF" position.

3. SUBSTANTIALLY CONTRIBUTING FACTORS

a. Task Saturation

Task loading exceeded the MP's mental resources, resulting in performance errors. While leveling the aircraft off at cruise altitude, setting cruise power, attempting to make external radio calls while troubleshooting communications system challenges, engaging and monitoring the autopilot, and initiating the cruise/ops check, the MP was told by the MIP to open the fuselage fuel tank valve to verify fuselage fuel availability. The MP intended to pull the fuselage fuel tank valve lever backward but inadvertently turned the fuel shutoff valve handle clockwise instead, shutting off fuel to the engine. The MP did not immediately recognize that he actuated the incorrect valve.

b. Communication Challenges and Ineffective CRM

Challenges with the hands-free internal communications feature diverted the MP's attention, eroded internal communications, and degraded CRM. Engine and wind noise in flight exacerbated these challenges, causing the MP to focus his attention on adjusting his helmet and volume/intercom audio panel settings. Additionally, the MP did not attempt to inform the MIP of his communication challenges. The MC also failed to actively maintain an accurate and shared understanding of the cause of engine fuel starvation in flight. After realizing the fuel shutoff valve was closed in the "OFF" position, the MP opened it by rotating the handle counterclockwise to the "ON" position, consistent with displayed CAS messages, but failed to communicate this critical information to the visibility-limited MIP in the RCP.

c. Ineffective Task Prioritization

Once the MIP disengaged the autopilot and took control of the aircraft, he directed the MP to override the fuel control unit, made a "mayday" distress radio call to Approach Control, and prioritized the emergency landing instead of attempting to execute CAPs. Initial cadre routinely simulate CAPs while practicing emergency landing patterns and given their altitude at 2,300 feet above ground level, the MC had sufficient time to execute CAPs from memory.

4. CONCLUSION

I found, by a preponderance of the evidence, the mishap was caused by the MP's unintended activation of the fuel shutoff valve, which isolated the fuel supply from the aircraft firewall, starving the engine of fuel in flight. I also found, by a preponderance of the evidence, MP task saturation, communications challenges and ineffective CRM, and ineffective task prioritization substantially contributed to the mishap.

PETRY.JOSHUA.W. Digitally signed by PETRY.JOSHUA.W.

19 March 2026

JOSHUA W. PETRY, Colonel, USAF
President, Accident Investigation Board

INDEX OF TABS