



Aviation Investigation Preliminary Report

Location:	Silver Jack Reservoir, CO	Accident Number:	CEN26FA247
Date & Time:	July 12, 2026, 17:05 Local	Registration:	N40HX
Aircraft:	Kaman Aerospace Corporation K-1200	Injuries:	1 None
Flight Conducted Under:	Part 133: Rotorcraft ext. load		

On July 12, 2026, about 1705 mountain daylight time, a Kaman Aerospace Corporation K-1200 (K-MAX) helicopter, N40HX, was substantially damaged when it was involved in an accident at Silver Jack Reservoir, Colorado. The pilot was fatally injured. The helicopter was operated as a Title 14 *Code of Federal Regulations* (CFR) Part 133 external load firefighting flight.

The helicopter was operated under a call-when-needed contract with the United States Forest Service (USFS) and was conducting water bucket/fire suppression flight for the Gold Mountain Fire in the Uncompahgre Wilderness of the north-central region of the San Juan Mountains in Colorado. The firefighting helicopter was equipped with a 660-gallon Bambi MAX Bucket with PowerFill Max (water bucket) suspended from the helicopter by a 150 ft long line.

The helicopter was equipped with an Appareo AIRS-400 airborne image recording system that recorded video, ambient audio, and flight parameter data during the flight. The recovered device was examined at the NTSB Vehicle Recorder Laboratory, Washington, DC.

According to recovered flight parameter data, at 1607:41, the helicopter lifted into a hover at a remote helibase near Ouray, Colorado. At 1608:17, the helicopter's ground speed and altitude began to increase, consistent with the helicopter departing the helibase.

The helicopter initially flew north-northwest along Hwy 550 toward Ridgway, Colorado, before it turned northeast and flew to the north end of Silver Jack Reservoir. The helicopter made a descending right 270° turn on the east side of reservoir. The helicopter then flew to the north-northeast over the reservoir where it refilled its water bucket. The helicopter then conducted firefighting operations about 2.7 nautical miles (nm) south-southeast of the reservoir. Based on the available data, the helicopter completed 5 water bucket drops over the forest fire.

Review of the recovered video content confirmed that visual meteorological conditions prevailed throughout the flight and the water bucket dip locations at the reservoir included a visible horizon, shoreline, and surrounding terrain features for vertical reference during external load operations.

Review of the previous five water bucket dips revealed that the pilot generally made large repetitive cyclic inputs while he maintained hover and were comparable to the large cyclic inputs that were observed during the final bucket dip that immediately preceded the accident. The enroute portions following the previous five water bucket dips, each with an external load of about 3,000 lbs, were unremarkable.

Review of the previous five water bucket drops revealed the pilot generally made large repetitive cyclic inputs while he maintained hover before the water drop. Immediately after each water release and after the helicopter transitioned to forward flight, the pilot's flight control inputs were unremarkable while the helicopter was enroute to the reservoir dip sites.

During the final water bucket dip, the helicopter pitched up rapidly, accelerated in right yaw, and rolled right into an extreme unusual attitude. The turn/slip indicator showed full right deflections. The external load indicator rapidly increased from about 4,000 to about 7,700 lbs. A large aft cyclic movement was observed as the unusual attitude progressed and the cyclic continued moving aft until it was obscured in the field of view (FOV). The helicopter pitch then decreased rapidly, and the trees, shoreline, and water came back into the FOV. Based on external visual references and the attitude indicator, at the end of the video the helicopter was in an extreme right roll with the nose falling through the horizon toward the water.

The portions of the video that were reviewed, which included the final sequence of events, did not reveal any abnormal sounds or vibrations indicative of a rotorcraft system or engine malfunction during the flight.

There were two witnesses positioned on the dam at the north end of the reservoir. They reported seeing the helicopter enter the reservoir from the south to refill the water bucket. One of witnesses reported that after the helicopter refilled its water bucket it turned right (east) and descended into the reservoir upside down.

On July 22, 2026, the helicopter, water bucket, and 150 ft long line were recovered from the reservoir using a Boeing CH-47 Chinook helicopter. The wreckage was then loaded on a trailer and transported to a secure storage facility where it was examined.

Examination of the helicopter revealed impact-related damage primarily to the right-side of the fuselage. There were only fragments remaining of the windshield and door windows. The cockpit floor was displaced upward due to the impact-related damage to the right fuselage. The left side of the fuselage exhibited minor damage when compared to the right side of the fuselage.

The cyclic control system exhibited mechanical continuity from the cyclic stick to the L-cranks at rotor hubs, and then from the L-cranks to the spanwise blade control rod. Movements in forward, aft, left and right had friction from impact-related fuselage damage throughout the flight control system.

The collective control system exhibited continuity from collective stick to the rotor hub L-cranks, and then from the L-cranks to each spanwise blade control rod. Collective movements in up and down had friction from the collective stick friction block being dislodged and rubbing against the airframe.

The directional pedals had full range of movement in the cockpit with mechanical continuity from the pedals to the rotor hub L-cranks, and then to each spanwise blade control rod. The rudder control cable between the directional pedals and the rudder exhibited continuity from the pedals to aft section of the fuselage where the cable was cut to facilitate disassembly for transportation. The left side of the fuselage below the cockpit exhibited impact-related damage causing some binding of the rudder control rod below the cabin floor. The portion of the rudder control cable remaining in the aft tail section exhibited free movement and smooth control of the rudder surface.

Examination of the control module appeared to have full range of movement allowing the cyclic, collective and directional pedals all to have full continuity to their respective systems. Impact-related damage to the control module mounts displaced the module up from its normal position.

Based on photos of the helicopter at the accident site, the right stabilizer was observed partially separated from the aft fuselage. Examination revealed impact-related damage to the right side of the aft fuselage that pushed the left- and right- stabilizer bearings out of their supports. Additionally, the stabilizer system exhibited binding due to impact-related damage at the stabilizers. To relieve the binding, the control rod was disconnected from the stabilizer tube, which allowed full range of movement throughout the entire stabilizer system.

Examination of the N1 twist-grip engine control confirmed full continuity and freedom of movement to the engine connections. The N2 RPM engine control exhibited mechanical continuity and freedom of movement to the engine connections. Collective movements up and down were confirmed but had friction from the collective stick friction block that was dislodged and rubbing against the airframe.

Examination of the transmission, mounts, surrounding structure, and rotors shafts revealed no evidence of damage. The rotor hubs rotated freely by hand and/or through the input drive shaft. The transmission rotated freely, without any noticeable anomalies, in both directions. The freewheeling unit remained attached to the transmission input and operated as designed. Counterclockwise rotation of the clutch verified freedom of movement and no sprag engagement.

To confirm the transmission oil pump was still operational, the NR tachometer was removed from its respective mount pad on the transmission oil pump. The transmission was rotated by hand through one of the rotor masts, and the tach drive rotated which confirmed the transmission oil pump was not seized.

Examination confirmed that the left- and right-rotor hubs remained intact and exhibited minor impact-related damage. The droop stops exhibited damage and were not functional. The rotor hubs exhibited evidence of external damage from contact with blade grip stop assemblies, or where stop assemblies were missing.

Examination of right rotor blade, s/n 0516B, was initially found impinged under the left U-Crank, s/n 0513B, with the trim actuator bracket broken off. There was no leading-edge damage observed to the rotor blade where it contacted the lower side of the left rotor hub. Both left and right rotor blade sets remained installed to their respective rotor hubs but were each severed inside of blade station 74. All lag pins exhibited intact safety devices and there was torque present when removed.

Examination and layout of the left rotor blade, s/n 0513A, revealed about 50% of the blade was recovered with most of the pieces belonging to inboard of blade station 189. Additional recovered pieces began outboard of blade station 246 to the tip. Spanwise control rod was found intact but ripped out of the blade. The control rod remained connected to the blade stub and to the flap bell crank, control rod, flap control horn bearing, and 3 portions of blade afterbody. The servo flap and support brackets were not located.

Examination and layout of the left rotor blade, s/n 0513B, revealed about 65% of the blade material was recovered, with identified portions comprising the entire rotor span. The spanwise control rod was broken inside the inboard blade stub, and the remaining control rod was not located. The flap bell crank and associated hardware were not located in the blade pocket. The inboard and outboard flap brackets with flap support rod were present. The servo flap was not located. A 4.5-foot section of stainless-steel blade leading-edge was found on the reservoir shoreline and exhibited multiple bends, wrinkles, and scrapes. Additionally, a few pieces of blade weights were in the same area.

Examination and layout of right rotor blade, s/n 0516A, revealed about 35% of blade material was recovered with mainly larger identifiable pieces inboard blade station 108. Additionally, a 3 ft section of the diagonal strap portion of blade with inboard flap bracket and flap rod still connected were located. The outboard flap bearing was found separated from the rod. The spanwise control rod remained attached to blade stub that was still attached to rotor hub. The servo flap was not located. The inboard flap bracket and flap support rod was located. The outboard flap bracket was not located.

Examination and layout of the right rotor blade, s/n 0516B, revealed about 35% of blade material recovered with mainly larger identifiable pieces inboard blade station 108. The

spanwise control rod remained attached to blade stub that was still attached to rotor hub. The servo flap and support brackets were not located.

Examination of the recovered debris identified one right leading-edge guard along with a few upper and lower skin fragments. There were no additional remnants of servo flaps recovered. The severity of damage and lack of recovered servo flap materials prevented the identification of any specific servo flap assembly.

Examination of the engine case and accessories found no notable damage or anomalies. Turning the K-Flex driveshaft showed continuity of the N2 system, which rotated with no notable binding. About 2-3 oz of fuel was drained from the main supply line to flow divider. The fuel was straw colored and free of water or particulate contamination. There was oil present in all oil supply and return lines. Mechanical control continuity to the fuel control unit and power turbine governor was confirmed through movement of the cockpit controls.

The left- and right-hand air particle separators were removed. Inlet guide vanes and first stage compressor blades from the engine were found in the particle separators.

Visual examination looking into the inlet found extensive damage to the variable inlet guide vanes and all stages of compressor blades. The compressor topcase was removed to facilitate further examinations of the compressor section.

All 1st, 2nd, 3rd, and 5th stage compressor blades were fractured at the blade roots consistent with overload failure. One 4th stage blade was fractured at the blade root. All other 4th stage blades showed foreign object debris (FOD) damage and were bent in direction of rotation. The centrifugal impeller showed extensive FOD damage.

The combustor turbine assembly was removed to facilitate visual examination of the gas producer and power turbine areas. All areas in the gas producer and power turbine were found to be unremarkable and exhibited normal operational wear. Some compressor debris was found in the deflector and 1st stage gas producer nozzle.

Based on initial photos of the helicopter at the accident site, the 150 ft long line remained attached to the airframe cargo hook installed on the helicopter's lower fuselage. The long line remained attached to the water bucket wire rigging. The water bucket remained attached to the wire rigging and exhibited no damage when examined after recovery. The water bucket valve was found in the closed position.

The airframe cargo hook mechanical release mechanism functioned normally when tested by hand. The mechanical release cable functioned normally when tested using the release control in the cockpit. The mechanical release cable moved smoothly without any binding or roughness.

The helicopter wreckage will remain in secure storage pending additional examination and testing.

Aircraft and Owner/Operator Information

Aircraft Make:	Kaman Aerospace Corporation	Registration:	N40HX
Model/Series:	K-1200	Aircraft Category:	Helicopter
Amateur Built:			
Operator:	Helicopter Express LLC	Operating Certificate(s) Held:	Rotorcraft external load (133)
Operator Designator Code:	H11L		

Meteorological Information and Flight Plan

Conditions at Accident Site:	VMC	Condition of Light:	Day
Observation Facility, Elevation:	KMTJ, 5707 ft msl	Observation Time:	16:53 Local
Distance from Accident Site:	24 Nautical Miles	Temperature/Dew Point:	37°C / -4°C
Lowest Cloud Condition:	Clear	Wind Speed/Gusts, Direction:	10 knots / None, 310°
Lowest Ceiling:	None	Visibility:	10 miles
Altimeter Setting:	30.15 inches Hg	Type of Flight Plan Filed:	CVFR
Departure Point:	Ouray, CO	Destination:	Ouray, CO

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	38.22078, -107.53392 (est)

Administrative Information

Investigator In Charge (IIC):	Fox, Andrew
Additional Participating Persons:	James Snyder; Federal Aviation Administration - Denver FDSO; Denver, CO Eric Shambora; United States Forest Service; Washington, DC Casey Penn; Kaman Air Vehicles; Bloomfield, CT Shane Patterson; Ozark Aeroworks; Springfield, MO Jeremiah Powell; Helicopter Express; Chamblee, GA
Investigation Class:	Class 3
Note:	