



MEMORANDUM FOR RECORD

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Date: June 15, 2025
Subject: Wreckage Examination
NTSB Accident Number: ERA24FA038 - Union City, Tennessee

Narrative:

The airplane came to rest upright on flat terrain in a solar farm on the west side of UCY. The airplane rested in its initial impact crater on a 325° heading, consistent with the vertical descent described by the witnesses and as viewed in surveillance video.

The front and rear cockpit areas were deformed, and the composite structure was fractured throughout. The wings were fractured and partially separated at their roots, but attached by structure, wires, and push-pull tubes. The empennage remained largely intact. The vertical and horizontal stabilizers, rudder, and elevator were all damaged by impact. Flight control continuity could not be established initially because the controls were impinged against structure by upward impact forces. Once the airplane was lifted, and as wings and structure was separated, flight control continuity was confirmed from the flight controls, through several breaks, to the flight control surfaces. All fractures were consistent with impact and overstress fracture.

Both main fuel tanks, the “Acro” fuel tank, and the fuel header tank were breached by impact and did not contain fuel. Fuel was ponded in the impact depression beneath the left wing.

The engine was partially buried in its impact crater. Two of the three propeller blades were fractured at their roots. All three blades showed chordwise smearing (mud). Once lifted, the engine starter case showed rotational smearing and scoring in the approximate arc of the starter ring gear.

The engine oil sump was fractured and destroyed by impact. The fuel servo was separated by impact but remained attached by cabling and fuel lines. The inlet screen was removed, contained fuel, and was absent of water and debris.

The engine was separated from the airframe and examined at the scene. The crankshaft was rotated by hand at the propeller, and continuity was confirmed through the powertrain and valvetrain to the accessory section. Compression was confirmed on each cylinder using the thumb method. The magnetos were secure in their mounts, but damaged by impact. They were removed, rotated by an electric drill, and each produced spark at all terminal leads.

The fuel selector handle was mounted in the aft cockpit and was connected to the fuel selector valve by a control tube. The valve was mounted near the engine firewall. The control tube was fractured, and the handle moved freely in its mount. The valve was removed, and compressed air flowed freely from the "Acro" inlet port to the engine outlet port. The left main and right main ports were occluded.

END OF STATEMENT