



MEMORANDUM FOR RECORD

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Eastern Region

Date: March 21, 2023
Subject: Examination of N397ME
NTSB Case Number: ERA23LA134

On March 17, 2023, an examination of N397ME was conducted at Florida Air Recovery in Fort Pierce, Florida.

Examination of the airplane revealed that the lower engine cowling was crushed back, the fire wall had been distorted and wrinkled, the nose gear had been displaced upward and aft, both wings were heavily damaged, and the fuselage aft of the cabin was wrinkled.

The airplane had single-disc, hydraulically actuated brakes on each main landing gear wheel. Each brake was connected, by a hydraulic line, to a master cylinder attached to each of the pilot's rudder pedals. The brakes were operated by applying pressure to the top of either the left (pilot's) or right (flight instructor's) set of rudder pedals, which were interconnected.

Examination of the cockpit components and brake lines did not reveal any indication of preimpact failure or malfunction, but it was discovered that when pressure was applied to the top of the pilot's right rudder pedal, the actuator rod for the master cylinder would stick in the retracted position and would not automatically extend when the rudder pedal was released. Additionally, a gurgling sound which indicated that air was in the system, could be heard during actuation.

After the speed fairings (wheel pants) were removed, further examination of the brake system revealed that the brake lines and brake line fittings were intact and leak free. The bleeder assemblies were intact and leak free and the attachment hardware for the torque plates and brake cylinders were intact.

Disassembly of the brake units revealed that the left brake assembly was functional, but the right brake assembly was not. Further examination of the right brake assembly also revealed that it displayed evidence of overheating, it was leaking brake fluid from around the upper piston which

was stuck in the extended position. The lower piston was also partially extended and was covered with brake fluid. The pressure plate would not move, and the anchor bolts that the pressure plate slid on displayed evidence of corrosion. Additionally, both piston O-rings, appeared flat and did not stand proud from the sides of the pistons, the brake pads displayed higher than normal wear, and the brake disc displayed grooving.