



MEMORANDUM for RECORD

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Date: September 12, 2019
Wreckage Examination
NTSB Accident Number: ERA19LA173 – Hampton, Georgia

HISTORY OF FLIGHT

On May 15, 2019, about 1600 eastern daylight time, a Hughes 269B helicopter, N9442F, was substantially damaged after it experienced ground resonance while on a taxiway at Henry County Airport (HMP), in Hampton, Georgia. The airline transport pilot was not injured. Day visual meteorological conditions prevailed, and no flight plan was filed. The helicopter was taxiing from a fueling location to a hangar at HMP and operated under Title 14 *Code of Federal Regulations* Part 91.

AIRCRAFT INFORMATION

An examination of the wreckage by a Federal Aviation Administration (FAA) inspector revealed that the tail boom was fractured and separated aft of the tail boom support brackets. The tail rotor blades were largely undamaged. The "blue" main rotor blade damper body attachment bracket was damaged, and the damper arm attachment bracket was fractured. All flight controls appeared intact. The engine's No. 3 cylinder exhaust valve pushrod was found slightly bent.

According to the pilot/owner, the engine had been operated about 184 hours since overhaul. The most recent annual inspection was performed on May 10, 2019, at which time the helicopter had accumulated a total of 5,249 hours.

WRECKAGE EXAMINATION

General:

The wreckage was examined on September 12, 2016 by an NTSB Senior Air Safety Investigator. No other party members were present. The airframe was upright and on its skid landing gear. The engine and transmission remained attached to the airframe. The tail boom was impact-separated aft of the support brackets.

The flight controls were manipulated manually using the cockpit controls. The cyclic controls remained attached up to the main rotor mast. The cyclic operated normally with no restrictions or binding. The collective control was operated manually. It remained attached up to the main rotor mast and operated normally with no restrictions or binding. The tail rotor drive shaft and tail rotor pitch control tube were fractured at the tail boom fracture area. The pitch control tube was continuous to the cockpit anti-torque pedals. When the antitorque pedals were moved manually, the left pedal at the right cockpit seat contacted the threaded end of a through-bolt on the center instrument console. Missing paint and scraping signatures on the pedal surface were consistent with continued interference for an extended amount of time. See Photo 1, below.

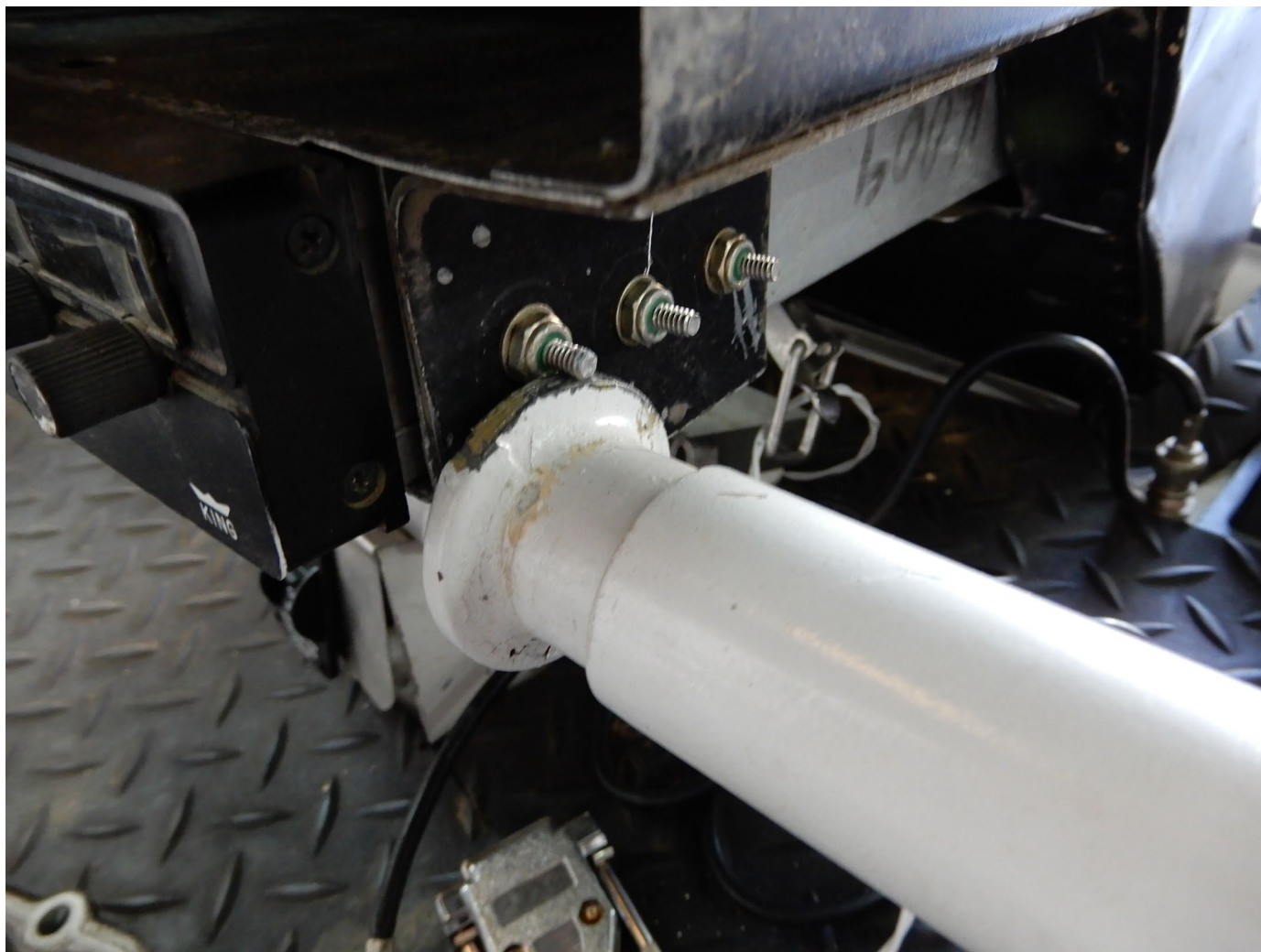


Photo 1 – Left Antitorque Pedal Interference with Through Bolt

The tail rotor blades remained attached at the 90° gearbox. The blades rotated smoothly when manipulated by hand. The tail rotor drive shaft was continuous from the tail rotor assembly to the fracture area at the tail boom. The tail rotor blades were manipulated in pitch from stop to stop. They moved smoothly and the pitch control tube was continuous to the fractured area of the tail boom.

The fuel tank was separated from the airframe. There was a 1 1/2 in puncture hole on the surface of the tank and there was no fuel inside.

The hour meter in the cockpit indicated 1.3 hours.

The main rotor blades were removed by recovery personnel prior to the examination. Each blade was buckled about 1 to 2 ft from the blade root.

The four landing gear oleo struts were examined. The rubber boots were attached, but not secured. The strut extension was measured for each oleo:

Forward, left = 3 1/2 in
Rear, left = 3 9/16 in
Forward, right = 3 9/16 in
Rear, right = 3 3/8 in.

The pressure in the struts could not be measured due to the lack of a suitable pressure gauge.

The eight V-belts were in position and slack.

The engine was examined. The bottom spark plugs were removed; all plugs exhibited normal wear and color when compared to a Champion Check-a-Plug chart. The engine was rotated manually at the crankshaft extension at the V-belt drive section. The cylinder rocker covers were removed prior to the examination and were inside the cockpit area. The #3 cylinder exhaust valve rocker arm was missing; presumably from a previous inspection (see Photo 2). With the exception of the #3 cylinder, suction and pressure were observed on all cylinders when the engine crankshaft was rotated. No internal binding or unusual noise was noted.

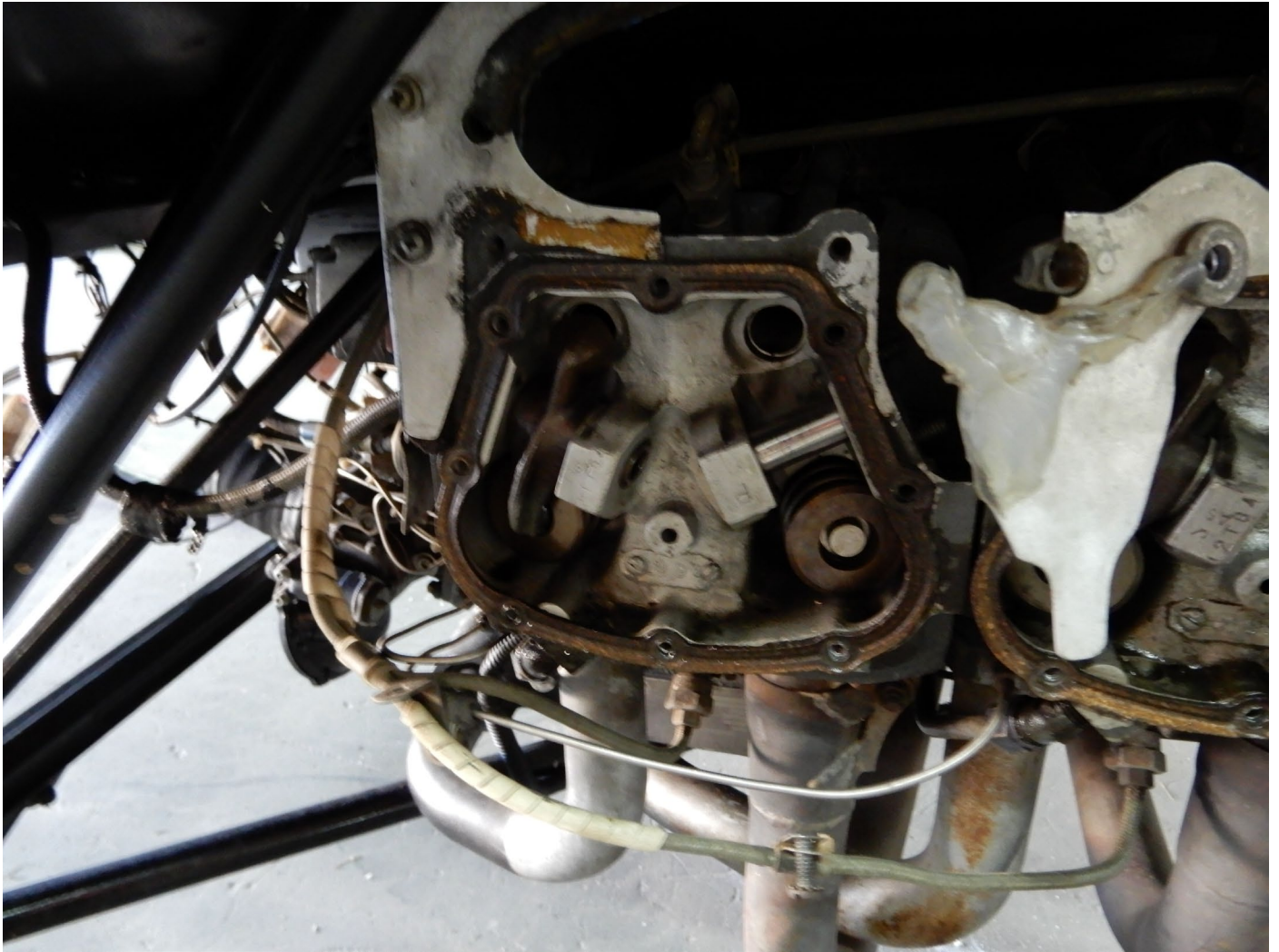


Photo 2 – Number 3 Cylinder, Note Exhaust Valve Rocker Arm Missing



Photo 3 – Main Rotor Blade “1”



Photo 4 – Main Rotor Blade “2”



Photo 5 – Main Rotor Blade “3”