S-97 Raider hard landing incident 8/2/2017 Dave Walsh – Sikorsky Flight Test Technical Fellow

All pre-flight preparations for flight 15 were normal. As for all S-97 test flights, a full team was monitoring the flight in telemetry. Flight test engineers were assigned to monitor flight controls, powerplants, structures and dynamics. A test director (Mark Wilson) was coordinating between the TM room and the pilots in the aircraft. The TM crew is able to monitor the status of all systems in the aircraft. The test card was briefed with the pilots, TM crew, chase pilots, video crew and maintenance personnel early this morning. APU start and aircraft power up were normal. Engine start to ground idle was normal. Preflight checks of the propeller and Active Vibration Control (AVC) systems were completed with no issues.

Just prior to takeoff the crew of the chase aircraft radioed that they had a maintenance issues and had to shut down. While arrangements were being made the crew of the S-97 elected to taxi out to the runway from the start spot and wait there for the replacement chase. The taxi forward was done in the typical manner for the S-97, pull collective to ~80% airborne and then use forward cyclic to taxi. There were no unusual cautions or warnings in the aircraft or TM. The TM crew noticed on the overhead video that the aircraft had lifted off and immediately entered a divergent roll oscillation. All of the control system, structures and powerplant data showed a very unstable event. Within a few seconds the aircraft had landed hard. A minute later the crew exited the aircraft.

The Sikorsky emergency checklist was implemented and the scene was secured by the fire department. The TM crew secured all of the data and video. Statements were taken for all of the personnel in TM and were attached to the their individual flight cards.



August 2,2017 I, DEAN D. SFIKAS, an video confractor with T2 Communications based home operations in Supiter Farms, Florida and owned by Timothy Tres email: [email: On the morning of August 2, 2017 I was video recording the test flight of "RAIDER" at SIKORSKY CULTURAL avec of the DEC -GWINN area of the PFC. I was stationary up on a work stand position about 10 feet off the ground on the parrell advacent runwar to the "RAIDER" aircraft. I began video recording the APU start up of "RADER" and than shot the comerce down, Once I heard the pilot say "OK lets try this, I began to record "RAIDER" taxing out North toward the number I slowly zoomed in and saw the RAIDER" start to lift up the back (tail whee)) first and than it tipped back to the frant wheel + At this time I zoomed in closer and if seemed to try to lift up, but pitch to the LEFT and than the "RAIDER" pitched back to the RIGHT. The back end began to fightail abruptly and then the RAIDER pitched guddley to the LEFT, only a few feet of the ground (still nose out to the north). I than zagmed out thinking the "RAIDER" may flip over, I heard loud noise as it appeared that the blades hit the ground but actually hit each other). The RAIDER slammed to the ground and the

blades slowly claim to a hault. I pilots called for "emergency" on the radio and within 2 minutes or less the Sixorsky Fire department raced down the runway from the east near the control tower. I saw both pilot and co-pilot exit the "RAIDER" sately under their own power, The ground crew came running to the "RAIDER" to check on the pilots. I continued to Video record until Steve Cizewski told me to get inside and bring my video comera gear and video media to his office, Respectfully Supmitted 12 Communications Inc.

8/2/17 Steven Thomas Kaeter T2 Communications Sikorsky Badge # C 78200 work home Wo-K Home I observed the aircraft taxi towards the runway through the viet inder of my camera it want past the double yellow lines, I was expecting it to go out on the runny and get into position for liftoff so I started to change body positioning when it started to lift off the tarmac prior to getting on the runner I swing my comera back on the aircraft and held the shatter down to get accupte shots as it litted off Inoticed it start to mobble side to side, black smoke was comming out the sicles around the rotor head the blades were tragmenting it rocked viplently before the pilots were able to get, it on the ground and stop the rotation I finished shorting and reported back to the hangar for accountubility turned my capera in as requested.

Steven Hill - Crew Chief -- I gave pilot "chothes out" dear to taxi, marskelled him out, turned my back to walk back to power cart and heard the noise, I then turned around to see the impact. I then ran to aircraft and helped pelote out. Steven Hill