Duane Hoff Principal Operations Inspector Cincinnati Flight Standards March 4, 2020 Accident Cincinnati West Airport (I67) Vans RV8 N878DZ

ON MARCH 4, 2020, AT APPROXIMATELY 2:05 P.M. EASTERN DAYLIGHT TIME (1905 ZULU), A VANS RV8, N878DZ EXPERIENCED AN EXCURSION FROM RUNWAY 19 AT THE CINCINNATI WEST AIRPORT (I67), HARISSION, OHIO DURING A RIGHT CROSSWIND LANDING. THE AIRCRAFT WAS FLOWN BY THE OWNER AS A PERSONAL FLIGHT UNDER THE PROVISIONS OF 14 CODE OF FEDERAL REGULATIONS PART 91. THE PILOT AND PASSENGER WERE UNINJURED IN THE ACCIDENT AND THE AIRCRAFT RECEIVED SUBSTANTIAL DAMAGE FROM COLLIDING WITH THE RUNWAY VASI SYSTEM. VISUAL METEOROLOGICAL CONDITIONS PREVAILED AT THE TIME OF THE ACCIDENT. THE AIRCRAFT WAS NOT ON A FLIGHT PLAN AT THE TIME OF THE ACCIDENT. THE WEATHER AT THE TIME OF THE ACCIDENT WAS WIND 270-310 DEGREES AT 15-16 KNOTS GUSTING 21-23 KNOTS, VISIBILITY 10 STATUTE MILES, 7500 SCATTERED TO CLEAR, TEMPERATURE 16 DEGREE CELCIUS, DEPOINT 0 DEGREE CELCIUS. THE AIRCRAFT WAS RETURNING TO 167 FROM AN EARLIER DEPARTURE THE DAY OF THE ACCIDENT.

SKID MARKS MADE BY THE LEFT MAIN TIRE BEGIN APPROXIMATELY 1300 FEET FROM THE APPROACH END OF RUNWAY 19 AND CONTINUED FOR APPROXIMATELY 200 FEET BEFORE THE AIRCRAFT EXITS THE RIGHT HAND SIDE OF THE RUNWAY. SKID MARKS MADE BY THE RIGHT MAIN TIRE BEGIN APPROXIMATELY 1400 FEET FROM THE APPROACH IN OF RUNWAY 19 AND CONTINUE FOR APPROXIMATELY 100 FEET BEFORE THE AIRCRAFT EXISTS THE RUNWAY. THE SEQUENCE OF SKID MARKS INDICATE THE BRAKES WERE FUNCTIONING AND VERIFIED THE PILOT'S STATEMENT OF USING THE BRAKES TO KEEP THE AIRCRAFT ON THE RUNWAY. AFTER AIRCRAFT EXITED THE RUNWAY, THE AIRCRAFT STRUCK THE LEFT HAND VASI ASSEMBLY. THE DAMAGE TO THE AIRCRAFT INCLUDED; SIGNIFICANT DAMAGE TO THE LEFT HORIZONTAL STABILIZER AND ELEVATOR, THE LEFT FLAP WAS SEPARATED FROM THE WING, BOTTOM SKIN OF THE LEFT WING WAS DAMAGED AND FUEL WAS LEAKING FROM THE FUEL CELL, RIGHT WING LEADING EDGE AT THE TIP WAS DENTED, RIGHT WHEEL FAIRING WAS DAMAGED FROM ROLLING THROUGH THE GRASS.

THE PILOT HOLDS AN AIRLINE TRANSPORT CERTIFICATED AND A CURRENT FLIGHT INSTRUCTOR CERTIFICATE. PILOT WAS ISSUED A FIRST CLASS MEDICAL WITHOUT RESTRICTIONS DATED OCTOBER 4, 2019. THE PILOT STATED HE HAD 22,000 HOURS TOTAL TIME, 3000 HOURS OF TAILWHEEL EXPERIENCE AND 120 TOTAL HOURS IN THE VANS RV8.

THE PILOT STATED HE WAS LANDING ON RUNWAY 19 WITH A DIRECT 90 DEGREE RIGHTHAND CROSSWIND WHEN THE ACCIDENT OCCURRED. HE WAS AWARE OF THE CROSSWIND AND GUSTY WINDS. THE CINCINNATI WEST AWOS REPORTED WINDS AT 280 DEGREES AT 15 KNOTS GUSTING TO 19 KNOTS. HIS APPROACH SPEED ON FINAL WAS 90 KNOTS WITH FULL FLAPS EXTENDED WHICH IS HIS NORMAL CONFIGURATION EVEN WITH A CROSSWIND. HIS TOUCHDOWN POINT WAS WITHIN THE FIRST THIRD OF THE RUNWAY (600 FEET) AT ABOUT 75-80 KNOTS ON THE RUNWAY CENTERLINE. HE STATED HIS CROSSWIND TECHNIQUE WAS CRABING TO THE RUNWAY AND ABOUT 100 FEET ABOVE THE RUNWAY HE SIDE SLIPS THE AIRCRAFT AND DOES A WHEEL LANDING WITH THE AILERONS INTO THE WIND.

THE PILOT STATED ON THE LANDING, THE RIGHT MAIN WHEEL TOUCH DOWN FIRST AND HE DID NOT HAVE TO HOLD A LOT OF RIGHT AILERON FOR THE CROSSWIND. THE LEFT MAIN WHEEL TOUCHED DOWN ONTO THE RUNWAY SHORTLY AFTER THE RIGHT MAIN WHEEL. HE HELD RIGHT AILERON INTO THE WIND THROUGHOUT THE LANDING ROLLOUT. HE STATED THE AIRCRAFT'S TAIL BEGAN TO WEATHERVANE AFTER THE TAILWHEEL TOUCHED DOWN ON THE RUNWAY. HE HELD THE CONTROL STICK BACK. APPLIED LEFT RUDDER AND LEFT BRAKE TO KEEP THE AIRCRAFT ON THE RUNWAY. THE AIRCRAFT CONTINUED TO VEER OFF THE RIGHT SIDE OF THE RUNWAY AND ONTO THE GRASS HITTING THE VASI SYSTEM WITH THE AIRCRAFT. HE FELT THE LANDING WAS NORMAL AND THE ROLLOUT WAS NORMAL ON THE RUNWAY CENTERLINE UNTIL THE TAILWHEEL TOUCHED DOWN ONTO THE RUNWAY. HE STATED HE HAS LANDED IN SIMILAR CONDITIONS BEFORE WITHOUT A PROBLEM. A WIND GUST COULD HAVE CONTRIBUTED TO THE LANDING ACCIDENT. THE VANS RV8 DOES NOT HAVE A MAXIMUM CROSSWIND LIMITATION OR A RECOMMENDED CROSSWIND LIMIT. THE PILOT STATED THE MAXIMUM CROSSWIND COMPONENT HE HAS LANDED WITH HAS BEEN 19 KNOTS WITH GUST.

THE FAA CONDUCTED A LATER EXAMINATION AT PILOT'S HANGAR OF THE TAIL WHEEL ASSEMBLY FOR A POSSIBLE MALFUNCTION REPORTED BY THE PILOT. THE TAIL WHEEL ASSEMBLY WITH A FOCUS ON THE TAIL WHEEL 'LOCKING' MECHANISM FOUND THAT THE KEY SLIDE AND SPRING ASSEMBLY WOULD STICK IN THE TAIL FORK. THE SLOT IN THE TAIL WHEEL FORK WAS SLIGHTLY DEFORMED AND THE KEY SLIDE HAD SOME 'RAISED' EDGES. THE SPRING SEEMED TO BE IN GOOD CONDITION. THE STEERING ARM OR YOKE WAS IN GOOD CONDITION, SHOWED NO DEFORMITY, DAMAGE OR WEAR. THE UNIT APPEARED TO BE ADEQUATELY LUBRICATED. THE FAILURE OF THE TAIL WHEEL LOCKING MECHANISM COULD BE A CONTRIBUTING FACTOR IN THE CROSSWIND LANDING IF THE PILOT HAD NOT ANTICIPATED A CASTORING TAIL WHEEL WHEN IT CONTACTED THE RUNWAY.

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