

NARRATIVE:

ON APRIL 24, 2020, AT APPROXIMATELY 1520 EASTERN STANDARD TIME, AN ASTRA SP, YV3427, REGISTERED TO INVERSIONES SC 2012 C.A., A VENEZUELAN COMPANY, ON A 14 CFR 91 FLIGHT, WAS ENROUTE FROM KFXE (FORT LAUDERDALE EXECUTIVE AIRPORT, FORT LAUDERDALE, FL) TO SVMI (SIMON BOLIVAR INTERNATIONAL AIRPORT, MAIQUETIA, VENEZUELA).

DURING TAKEOFF ROLL, THE AIRCRAFT FAILED TO GET AIRBORNE AND ENDED UP 1200 FEET PAST THE END OF RUNWAY 27. NOSE LANDING GEAR SHEARED OFF AND THE RIGHT MAIN LANDING GEAR COLLAPSED PUNCTURING A FUEL LINE. THE VENEZUELAN ATP RATED PILOT, VENEZUELAN COMMERCIALY RATED COPILOT AND ONE PASSENGER WERE UNINJURED. THE AIRCRAFT SUFFERED SUBSTANTIAL DAMAGE TO THE FUSELAGE, RH WING, MAIN LANDING GEAR AND THE NOSE LANDING GEAR.

IT WAS DETERMINED THAT THE PILOT NOR COPILOT WEIGHED ANY OF THE BAGGAGE THAT WAS PLACED IN THE AIRCRAFT, USED THE INCORRECT BASIC EMPTY WEIGHT, RESULTING IN AN INACCURATE CALCULATION OF PERFORMANCE WEIGHT FOR THE FLIGHT.

ISSUES INVOLVED:

ATIS INFORMATION FOR APRIL 24, 2020 WAS, 6000 SCATTERED, TEMP 35C, ALT 29.88, DEW POINT 21 AND WINDS CALM. ACCORDING TO THE PILOT STATEMENT, AT 1518 HOURS THEY ENTERED RUNWAY 27 AND SET THE THRUST LEVERS TO FULL POWER AND STARTED THEIR ROLL DOWN THE RUNWAY. COPILOT CALLED AUDIBLE "80 KNOTS", PILOT RESPONDED WITH "CROSS-CHECK" AND ANNOUNCED "V1." PILOT REMOVED HIS HANDS FROM THE POWER LEVERS AND PLACED THEM ON THE YOKE, HE THEN MENTIONED HE HEARD A LOUD NOISE, (HE TOLD THE FAA IIC IT WAS A "BOOM") BUT NO ACTION WAS TAKEN AND "ROTATED". HE PULLED THE YOKE FULL AFT AND THE PLANE HAD NO RESPONSE. THE PILOT THEN MENTIONED HE INITIATED THE SAME MANEUVER WITH NO RESPONSE, THE NOSE WOULD NOT RISE. REALIZING (PILOT) THEY WERE WELL BEYOND "V1" AND ROLLING DOWN THE RUNWAY AT 130 KNOTS (AT THE CRASH SITE, THE PILOT TOLD THE FAA IIC THAT THEY WERE UP TO 140-145 KNOTS BEFORE THE DECISION TO ABORT). THE PILOT THEN MADE THE DECISION TO ABORT THE TAKE OFF, PILOT MENTIONED HIS INTENTIONS TO ABORT AND THAT THEY WERE GOING TO OVERRUN THE RUNWAY, HE MENTIONED THAT HE ANNOUNCED TO BRACE THEMSELVES AND REACH TO PLACE THE THROTTLES ON IDLE AND APPLIED FULL BRAKES AND REVERSE THRUST, HE ALSO COMMANDED HIS COPILOT TO DEPLOY THE SPEED BRAKES, ROLLED ONTO THE GRASS, TO THE RIGHT AND MANAGED TO AVOID THE MALSR LIGHTS (MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS) AND WAS ABLE TO MAINTAIN DIRECTIONAL CONTROL WITH THE PEDALS, HE NOTICED THEY WERE GETTING CLOSE

TO THE FENCE AND THE HIGHWAY, HE DECIDED TO APPLY LEFT RUDDER AND FELT THE PLANE SINK DOWN TO THE GROUND AND FINALLY STOP. THE CREW AND ONE PASSENGER EXITED THE AIRCRAFT WITH SEVERAL BAGS AND MADE THEIR WAY TO THE PERIMETER ROAD WHICH WAS 200FT AWAY.

AN OPERATIONAL CHECK OF THE ELEVATOR WAS PERFORMED ON THE DAY OF THE ACCIDENT, THE ELEVATOR AND TRIM TAB MOVED FREELY WITH NO BINDING. THE HORIZONTAL ADJUSTABLE STABILIZER WAS SET AT -7 DEGREES. THE CARGO WAS OFF LOADED AND WEIGHED WITH A CALIBRATED SCALE, IT WAS NOTICED THAT THERE WERE NO OPEN SEATS IN THE AIRCRAFT, THE CARGO RAN ALL THE WAY FROM THE LAVATORY UP TO THE ENTRY WAY DOOR, THERE WAS A BOX IN THE AISLE WAY, WHICH WAS APPARENT THIS WHERE THE ONE PASSENGER SAT DURING THE ACCIDENT, THE FAA IIC ASKED THE PILOT IF THE PASSENGER WAS BELTED IN, AND HIS RESPONSE WAS "NO".

A TOTAL OF 3,572 LBS WAS REMOVED FROM THE AIRCRAFT, FUSELAGE (2,596 LBS), AFT BAGGAGE COMPARTMENT (939 LBS), AND THE BATTERY COMPARTMENT IN THE TAIL HAD 3 BOXES (37 LBS). ADDING THE PASSENGER AND BAGS THAT WERE INITIALLY REMOVED IMMEDIATELY AFTER THE ACCIDENT (206 LBS), THE TOTAL CARGO WEIGHT WAS 3,778 LBS.

PILOT FILLED OUT WHAT LOOKS LIKE A COMPANY PERFORMANCE FORM/WEIGHT AND BALANCE SHEET FOR THE AIRCRAFT IN QUESTION. BUT DID NOT PROPERLY CALCULATE THE CARGO OR BASIC EMPTY WEIGHT OF THE AIRCRAFT. THE BASIC EMPTY WEIGHT AS PER LAST WEIGHT AND BALANCE, COMPLETED MARCH 13, 2020 WAS 13,630 LBS, THE FUEL ONBOARD WAS CALCULATED FROM THE LAST FLIGHT LOG WHICH SHOWED THE REMAINING FUEL WAS 3,500 LBS AND THE APRIL 24, 2020 FUEL RECEIPT FROM FBO LYNX AVIATION WHICH STATED 485 GALLONS (3,298 LBS). COMPUTING THE TOTAL, 3,778 LBS CARGO/PAX, 6,798 LBS FUEL, AND 13,630 BASIC EMPTY WEIGHT COMPUTES TO 24,206 LBS, OVER 2,206 LBS ABOVE THE SETTING FOR THE PERFORMANCE OF THE FLIGHT. THE PILOT HAD COMPUTED 7,000 LBS FUEL, BASIC EMPTY WEIGHT AS 13,400 LBS, AND 2,220 LBS FOR CARGO/PAX, THIS TOTALS 22,620 LBS, WHICH IS STILL ABOVE THE 22,000 LBS HE USED FOR THE PERFORMANCE CHART. ACCORDING TO THE ASTRA AFM FOR A 5,400 FT RUNWAY (KFXE RUNWAY 27 IS 6,000 FT) AT FLAPS 20, IS 22,000 LBS, AND 30-40C. IT IS APPARENT THE AIRCRAFT PERFORMANCE WAS NOT PROPERLY CALCULATED BEFORE FLIGHT. CENTER OF GRAVITY WAS NOT CALCULATED SINCE THE AIRCRAFT HAD NO CHANCE OF BECOMING AIRBORNE. THE PILOT WAS PROPERLY RATED TO FLY PIC IN THIS AIRCRAFT, THE CO-PILOT CERTIFICATES WERE EXPIRED AND HE WAS NOT APPROVED AS AN SIC IN THIS AIRCRAFT.