DRAFT

RESPONSE TO Q. H. BURTON'S TRIP REPORT DATED 15 JAN 1971

BG (RET) GEORGE S. WALKER

11 APRIL 2013

FIRST OF ALL, I WANT TO PREFACE THESE REMARKS BY "SETTING THE STAGE" AS TO WHY THIS TEAM OF EXPERTS CAME TO RVN. I CRASHED ON THE NIGHT OF 22 NOVEMBER 1970 IN A/C # 18002 WHEN THE ENGINE QUIT WHILE CLIMBING THROUGH APPROXIMATELY 150 FEET AFTER TAKE OFF AND THEN APPROXIMATELY 10 DAYS LATER WHEN PILOT W/O GEORGE CARPENTER WAS RETURNING TO LONG THANH FROM A MISSION AND HE HAD TO CLIMB TO 5,500 FEET TO AVOID ARTILLERY BEING FIRED ALONG HIS FLIGHT PATH, THE ENGINE QUIT AT 5,500 FEET AND HE GOT IT RESTARTED AT APPROXIMATELY 2,000 FEET. IN EARLY NOVEMBER 1970 I WAS PUT IN CHARGE OF THE PROJECT AT LONG THANH. AS THE PERSON RESPONSIBLE FOR THE SAFETY OF CREW MEMBERS, I HAD TO DO SOMETHING BEFORE SOME OF OUR PEOPLE WERE KILLED; THEREFORE, I CONDUCTED A STUDY OF ALL THE KNOWN ENGINE STOPPAGES IN YO-3A A/C. WHAT I FOUND WAS THAT ALL Y0-3As COMBINED HAD A TOTAL OF 1,500 HOURS FLYING TIME, AND WE KNEW OF 15 IN FLIGHT COMPLETE ENGINE STOPPAGES, MOST OF WHICH WERE RESTARTED IN AIR WITH OUT DAMAGE TO A/C. I CONTACTED THE BATTALION SAFETY OFFICER AND EXPLAINED THE SITUATION TO HIM & STATED I WANTED TO "GROUND" ALL THE A/C BECAUSE 15 ENGINE STOPPAGES IN 1,500 FLIGHT HOURS WAS UNACCEPTABLE. AFTER MUCH DISCUSSION WITH THE CHAIN OF COMMAND I AGREED TO RESTRICT THE A/C TO "DAYLIGHT TEST FLIGHTS ONLY". THIS CAUSED GREAT CONCERN AT ARMY CONCEPT TEAM IN VIETNAM (ACTIV) AND SHORTLY THEREAFTER MG KLINGINGHAGEN, ARMY AVIATION SYSTEMS COMMAND COMMANDER (AASCOM), CAME TO RVN FROM ST LOUIS AND INFORMED ME THAT WE COULD NOT "PROVE" THE A/C BY ONLY MAKING DAYLIGHT TEST FLIGHTS. SHORTLY AFTER, LOCKHEED SENT ITS "TIGER TEAM" TO RVN TO CORRECT THE PROBLEM. AND SOON AFTER THIS, MAJ HOWE AND THE DETACHMENT FROM HUA PHE BAI WERE BROUGHT BACK TO LONG THANH AND I WAS SENT BACK TO BIHN THUY.

ITEM 1

QB STATES "ALSO, WITH THE FUEL SELECTOR ON BOTH FUEL CAN BE VENTED OVERBOARD AS ALL FUEL WILL BE RETURNED TO ONE TANK"

EARLY ON IN RVN WE (YO-3A CREWS) THOUGHT THIS MIGHT BE HAPPENING AND WE ADDRESSED THIS CONCERN WITH SENIOR LOCKHEED TECHNICAL REPRESENATIVE BILL SMITH. MR. SMITH SAID THIS WAS IMPOSSIBLE DUE TO THE DESIGN OF THE FUEL VALVE. THIS PROBLEM WAS NOT JUST WHEN THE FUEL SELECTOR WAS IN THE "BOTH" POSITION, IT HAPPENED WHEN THE FUEL SELECTOR WAS IN THE "LEFT" POSTION, AND EXCESS FUEL RETURNED TO THE "RIGHT HAND" TANK. LOCKHEED MAINTENTANCE PERSONNEL KEPT CONTENDING THE ABOVE SITUATION WAS "IMPOSSIBLE" UNTIL I PROVED THEM WRONG BY VISUALLY OBSERVING FUEL VENTING FROM THE RIGHT TANK WHEN THE FUEL SELECTOR WAS ON THE LEFT TANK. THEY (LOCKHEED) NEVER PUBLICLY ADMITTED THIS WAS A PROBLEM. QB'S REPORT IS THE FIRST TIME I HAVE SEEN THIS IN WRITING, AND HE ONLY ADDRESSES IT AS A PROBLEM OF FEEDING FROM THE "BOTH" POSITION.

THE SIX "FIXES" FOR ITEM 1 WERE EXCELLENT AND RESULTED IN MUCH BETTER PERFORMANCE AND SAFETY.

1. REPLACEMENT OF SOFT "PLASTIC" FUEL LINES WITH METAL RIGID LINES SHOULD HAVE BEEN DONE DURING THE TESTING OF THE A/C STATESIDE.

2. ALTHOUGH QB ONLY REFERS TO THE "BOTH" POSITION ON THE FUEL SELECTOR VALVE BEING CORRECTED, I WAS TOLD BY LOCKHEED TECH REP THAT IT CORRECTED FEEDING FROM ONE TANK AND EXCESS FUEL BEING SENT TO OTHER TANK. BECAUSE I HAD LOST CONFINDENCE WITH LOCKHEED, WE INITIATED OUR OWN CORRECTION BY CHANGING THE PROCEEDURE FOR FUEL MONITORING.

3. WHAT QB DOES NOT EXPLAIN IS THAT THE ORIGINAL FUEL SELECTOR HANDLE SHAFT WAS A SMALL PIPE THAT FIT OVER A SOLID SHAFT WITH A PIN SECURING THE PIPE TO THE SHAFT. ON AT LEAST ONE OF THE A/C, THE PIN SECURING THE TWO SHAFTS SHEARED AND THE PILOT WAS FORTUNATE BECAUSE THE "FIT" WAS TIGHT ENOUGH THAT HE WAS ABLE TO GET THE FUEL SELECTOR TO TURN TO THE OTHER TANK.

4. HERE AGAIN, THIS FEATURE SHOULD HAVE BEEN IDENTIFIED AND CORRECTED STATESIDE.

5. I DON'T RECALL WHERE THE ORGINAL BOOST PUMP SWITCH WAS LOCATED, BUT I DO REMEMBER HAVING A DIFFICULT TIME LOCATING IT WHEN THE ENGINE STOPPED ON TAKEOFF, ALTHOUGH I DID GET THE ENGINE RESTARTED JUST AS WE HIT THE GROUND.

6. I AM UNAWARE THAT MAINTENANCE PERSONNEL WERE NOT PERFORMING THE REQUIRED FUEL STRAINING DAILY BUT MAKING IT EASIER HAD TO BE AN IMPROVEMENT.

ITEM 2

QB STATES THAT ENGINE FAILURE AFTER TAKE-OFF IS CAUSED BY TWO THINGS. I AM OF THE OPINION THAT MANY THINGS CAN CAUSE ENGINE FAILURE AFTER TAKE-OFF, INCLUDING THE TWO QB DISCUSSES. WHY WAS AN AUTOMATIC ALTERNATE AIR SYSTEM INSTALLED IN THE FIRST PLACE? I CANNOT REMEMBER THE “RED LINE” ON THE CYLINDER HEAD TEMPERTURE GAUGE, BUT I BELIEVE IT MAY HAVE BEEN HIGHER THAN 200 DEGREES. I KNOW WE WERE TAUGHT TO CONTINUALLY OBSERVE THE CYLINDER HEAD TEMPERTURE GAUGE TO PREVENT THE CYLINDER HEAD FROM EXCEEDING RED LINE, PARTICUALLY DURING TAXIS AND TAKE-OFF. THIS IS ALSO WHY WE WERE INSTRUCTED TO NOT LEAN THE MIXTURE WHILE TAKING OFF. I BELIEVE ANOTHER POSSIBLE REASON FOR ENGINE FAILURE ON TAKE-OFF COULD BE A COLLAPSED OR PINCHED EXCESS FUEL RETURN LINE CAUSING FUEL FLOODING BECAUSE EXCESS FUEL HAD NOWHERE TO GO. KEEP IN MIND THESE LINES WERE SOFT PLASTIC AND THAT IS WHY LOCKHEED LATER REPLACED THEM WITH RIGID METAL LINES. I AM OF OPINION THAT THE FUEL SUPPLY LINES WERE ALSO SOFT PLASTIC AND IF SO, THEIR COLLAPSE WOULD CAUSE FUEL STARVATION.

REGARDLESS OF WHICH WAS CAUSING THE ENGINE STOPPAGES, LOCKHEED’S MODIFICATION OF IMMOBILIZING THE AUTOMATIC ALTERNATE AIR AND REPLACING ALL THE PLASTIC FUEL LINES WITH RIGID METAL LINES CORRECTED MOST OF THE UNEXPLAINED ENGINE STOPPAGES, AND AFTERWARD THE AIRCRAFT WAS MUCH SAFER.

ITEM 3

ALREADY ADDRESSED ABOVE

ITEM 4

THE "BIG" DIFFERENCES I HAVE WITH QB'S COMMENT ON THE TEST FLIGHT TO PROVE A/C COULD ATTAIN AN ENDURANCE OF 5 HOURS FOLLOWS:

I WAS THE PILOT WHO FLEW WITH QB ON THE TEST FLIGHT. QN LEANED THE MIXTURE AS HE STARTED THE TAKE-OFF ROLL & CONTINUED LEANING, KEEPING THE CYLINDER HEAD TEMPERTURE JUST BELOW THE RED LINE. THIS WAS NOT THE PROCEEDURE THE MISSION PILOTS WERE TAUGHT. ON TAKE-OFF AS SOON AS THE WHEELS WERE OFF THE GROUND, HE REDUCED THE THROTTLE AND CONTINUED CLIMBING OUT AT APPROXIMATELY 50 FEET OF CLIMB PER MINUTE, MAINTAINING THE A/C JUST ABOVE A STALL WITH MINIMUM THOTTLE AND FUEL MIXTURE LEANED TO MAXIMUM. THIS AGAIN WAS NOT WHAT MISSION PILOTS WERE TAUGHT. WE DID NOT STOP CLIMBING WHEN WE REACHED 2,000 FEET ALTITUDE, BUT CONTINUED CLIMING AT MINIMUM THROTTLE AND AIRSPEED UNTIL WE REACHED 8,000 TO 9,000 FEET. (THIS TOOK OVER 1 HOURS TO ATTAIN) WHEN WE LEVELED OFF, HE REDUCED THE THROTTLE, LEANED THE MIXTURE AND KEPT THE AIRSPEED AT APPROXIMATELY 65 KNOTS. I COMMENTED THAT OUR PILOTS COULD NOT PERFORM MISSIONS IN THIS CONFIGURATION, TO WHICH HE REPLIED "THE SPECIFICATIONS ONLY REQUIRE THE A/C BE ABLE TO ENDURE 5 HOURS FLIGHT, THEY DO NOT REQUIRE 5 HOURS FLIGHT IN MISSION CONFIGURATION" (I LATER LEARNED THAT THE SPECIFICATION DID REQUIRE THE AIRCRAFT BE ABLE TO MAINTAIN 5 HOURS FLIGHT ENDURANCE IN MISSION CONFIGURATION, BUT THE ARMY ACCEPTED THE A/C KNOWING THAT THIS REQUIREMENT WAS NOT ATTAINED). WE MADE OUR DESCENT AT MINIMUM POWER, STAYING AT AN AIRSPEED WHICH ASSURED MAXIMUM ENDURANCE, TOUCHED DOWN ON THE RUNWAY AFTER STAYING ALOFT 5 HOURS AND 5 MINUTES. QB CONVINCED ME THAT THE A/C COULD BE KEPT ALOFT FOR OVER 5 HOURS. HE ALSO OFFERED TO TAKE ANY OTHER YO-3A UP TO PROVE THIS WAS NOT A "FLUKE". I DECLINED HIS OFFER AND TOLD HIM HE PROVED HIS POINT AND THAT I WAS SATIFIED THAT USING HIS METHODS ALL THE YO-3As WOULD MEET THE REQUIREMENT OF STAYING ALOFT FOR 5 HOURS.

ITEM 5

I DON'T QUESTION QB'S ACCESSMENT OF UNEVEN FUEL CONSUMPTION BETWEEN TANKS, BUT HE ONLY ADDRESSES THE PROBLEM AS HAPPENING WHEN THE FUEL SELECTOR IS IN THE "BOTH" POSITION. IN FACT, THE PROBLEM WAS MORE SERIOUS WHEN THE FUEL SELECTOR WAS IN AN INDIVIDUAL TANK POSITION & EXCESS FUEL FLOWED BACK TO THE OPPOSITE TANK. WE TRULY DO NOT KNOW IF THE PROBLEM WAS COMPLETELY SOLVED BECAUSE WE CHANGED OUR FUEL MONITORING PROGRAM, BY SWITCHING TO THE OPPOSITE TANK EARLY IN THE FLIGHT, SO IF THE EXCESS FUEL WAS FLOWING TO THE OPPOSITE TANK, THERE WOULD BE ROOM IN THE TANK FOR THE FUEL & IT WOULD NOT VENT OVERBOARD.

ITEM 6

THE MOST SERIOUS PROBLEM WITH THE FUEL SELECTOR WAS THE POSSIBLE FAILURE OF THE PIN HOLDING THE "UPPER" CONNECTING PIPE TO THE "LOWER" CONNECTING SHAFT. I EXPERIENCED THIS HAPPENING ON A MISSION EAST OF ZUAN LOC WHEN I COULD NOT SWITCH FROM LEFT TO RIGHT TANK BECAUSE THE PIN HOLDING THE TWO SHAFTS IN POSITION SHEARED AND ONLY FRICTION OF THE UPPER PIPE AGAINST THE LOWER SHAFT ENABLED ME TO GET THE SELECTOR IN THE DETENT. (THE LORD WAS WITH ME!!)

ITEM 7

I REMEMBER QB DEMONSTRATING RESTART PROCEEDURES IN VARIOUS CONFIGURATIONS. I WAS ALREADY INTIMATELY FAMILIAR WITH "IN AIR" RESTARTS, SINCE I HAD EXPERIENCED FOUR IN FLIGHT ENGINE STOPPAGES AND GOT ALL OF THEM RESTARTED; HOWEVER, THE LAST ONE HAPPENED ON TAKE-OFF AT APPROXIMATELY 1OO FEET AGL, AND THE ENGINE RESTARTED JUST AS I HIT THE GROUND. I AM SURE THE ADDITIONAL TRAINING ON RESTARTING ENGINE IN FLIGHT WAS A VALUABLE LESSON AND CONFIDENCE BUILDER TO THE MAJORITY OF OUR PILOTS.

WALKER'S CONCLUSION ON QB'S REPORT:

QB'S CONCLUSION IS A <u>TON</u> OF BULL S''T!!! I DON'T KNOW WHO HE HAD 'PRIVATE CONVERSATIONS" WITH, BUT FROM THE START OF THE PROJECT WE CONCLUDED THAT OUR BEST ALTITUDE TO CONDUCT MISSIONS WAS 1,000 FEET ABOVE THE GROUND. THIS GAVE THE OBSERVOR THE BEST FIELD OF VIEW FOR SEARCHING THE GROUND. IT WAS ALSO A GOOD ALTITUDE FOR THE PILOT TO SCAN THE AREA WITH HIS NAKED EYE, IN ADDITION 1,000 FEET IS PRETTY SAFE FROM GROUND FIRE. I DO NOT QUESTION THAT AN INDIVIDUAL PILOT MAY HAVE TOLD QB THAT HE FLEW AT THAT ALTITUDE, BUT I FEEL THAT, BY FAR, MOST OF THE MISSIONS WERE FLOWN AT 1,000 FEET AND BELOW. TO VERIFY WHAT ALTITUDE MISSIONS WERE FLOWN ASK SOME OF THE T/Os WHO FLEW A HIGH NUMBER OF MISSIONS.

Kurt Olney: I was crew chief on 69-18007. These numerous fuel starvations occurred during the first 6 months of the evaluation. When we first arrived in Vietnam, all of us came out of an 8-week Lockheed course on the YO-3A with extraordinarily little hands-on experience working on and flying the airplanes. We deployed with the Lockheed Tech Reps who were giving the ground crews on the job training. There may have been some pilots that flew at 2000 feet in response to all these fuel starvation problems. At 2000 feet you have more time to restart the engine! The T/Os (Technical Observers) were busy operating the mission equipment and reading maps. The pilot was busy flying the airplane. In March 1971, Lockheed replaced the 6 Blade fixed pitch prop with a 3 Blade constant speed prop. This greatly improved the performance of the airplanes. And by this time, ground crews, pilots and observers were operating like a well-oiled machine. Sadly, the Final Report on the Airplane was based on all the problems in the first 6 months and did not really account for the Mid-March to Sept 1971 achievements. After Vietnam, the Louisiana Department of Wildlife and Fisheries, and the FBI demonstrated how good the airplane performed.