DEPARTMENT OF THE NAVY
COMMANDER PATROL AND RECONNAISSANCE GROUP
COMMANDER PATROL AND RECONNAISSANCE GROUP PACIFIC
7927 INGERSOL ST STE 250
NORFOLK, VA 23551-2392

5800
Ser N00/214
2 Nov 12

From: Commander, Patrol and Reconnaissance Group Pacific
To: File

Subj: COMMAND INVESTIGATION OF THE BAMS-D CLASS A FLIGHT MISHAP THAT OCCURRED APPROXIMATELY 22 MILES EAST OF NAS PATUXENT RIVER ON 11 JUNE 2012

1. This constitutes final action in this matter.

2. After review of all relevant circumstances, I concur with the findings of fact, opinions, and recommendations, to include the additional recommendation made in the endorsement of Commander, Patrol and Reconnaissance Wing TWO.

3. My point of contact in this matter is LCDR (b)(3), (b)(6) and he may be reached at (b)(6) or e-mail (b)(3), (b)(6) @navy.mil.

(b)(6)

S. S. BUCK

Copy to:
COMPATRECONWING TWO

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

5800
Ser N1
7 Aug 12

FIRST ENDORSEMENT on Command Investigation Report by LCDR (b)(3), (b)(6) (b)(3), (b)(6) USN, ltr of 10 Jul 12

From: Commander, Patrol and Reconnaissance Wing TWO
To: Commander, Patrol and Reconnaissance Group

Subj: COMMAND INVESTIGATION REPORT OF THE 10 JUNE 2012 BAMS-D CLASS ALPHA AVIATION MISHAP

1. Forwarded.

2. Concur with findings of fact and recommendations as delineated in subject letter.

3. Although it has been determined that the faulty ruddervator actuator was the cause of this incident, the fact that the Pilot in Command, Mr. (b)(6) , failed to follow the proper emergency procedures cannot be overlooked. Failure to adhere to emergency protocols did not produce disastrous results in this particular event; however, future breaches of established procedures could produce a different outcome. It is my recommendation that Mr. (b)(6) ' contract be thoroughly reviewed and the appropriate remediation be instituted.

4. All recoverable material has been moved to NAS Patuxent River for storage and disposition. Environmental impact was minimal and no claims are anticipated.

5. My point of contact in this case is my Staff Judge Advocate Officer, LTJG (b)(3), (b)(6) , USN, (b)(6) .

(b)(6)

C. P. RAMSDEN

10 Jul 2012

From: Lieutenant Commander (b)(3), (b)(6) , USN, XXX-XX-(b)(6)

To: Commander, Patrol and Reconnaissance Wing TWO, Marine Corps Base, Kaneohe, HI

Subj: COMMAND INVESTIGATION OF THE BAMS-D CLASS A FLIGHT MISHAP THAT OCCURRED APPROXIMATELY 22 MILES EAST OF NAS PATUXENT RIVER ON 11 JUNE 2012

Ref: (a) JAGINVST 5800.7F

Encl: (1) Convening Order Ser N00/026
(2) CPRW-2 BAMS-D Det Pax Flight Schedule for 11 June 2012
(3) CPRW-2 OPREP-3 Navy Blue DTG 112117Z JUN 12
(4) Copy of the Mishap Aircraft Flight/Taxi Folder - BUNO 168739
(5) E-mail and Slides on Results of Non-Destructive Inspection conducted during airframe acceptance
(6) Copy of the Calendar and Hourly inspection schedule - BUNO 168739
(7) Excerpts from Mr. (b)(6) NATOPS Jacket
(8) Copy of Mr. (b)(6) Flight Time Report dated 27 January 2012
(9) Copy of Mr. (b)(6) Currency Report dated 18 June 2012
(10) Copy of Mr. (b)(6) Contractor Crewmember Record dated 5 May 2005
(11) Excerpts from Mr. (b)(6) NATOPS Jacket
(12) Copy of Mr. (b)(6) Flight Time Report dated 18 June 2012
(13) Copy of Mr. (b)(6) Currency Report dated 18 June 2012
(14) Copy of Mr. (b)(6) Contractor Crewmember Record dated 30 June 2011
(15) Hand written CIRRUS SR22 Flight Time Estimate for Mr. (b)(6) obtained from Mr. (b)(6) , Northrop Grumman Site Lead
(16) Excerpts from Mr. (b)(6) 's NATOPS Jacket
(17) Email from Mr. (b)(6) regarding Flight Time Totals
(18) Excerpts from Mr. (b)(6) s NATOPS Jacket

(19) Email from Mr. (b)(6) regarding Flight Time Totals

(20) Excerpts from Mr. (b)(6) NATOPS Jacket

(21) Copy of Mr. (b)(6) Flight Time Report dated 8 June 2012

(22) Copy of Mr. (b)(6) Contractor Crewmember Record dated 3 April 2012

(23) CPRW-2 Instruction 3313.A Broad Area Maritime Demonstrator (BAMS-D) Platform Standard Operating (SOP) Procedures for the RQ-4A

(24) Statement from Mr. (b)(6) Mishap Aircraft Commander, signed by witness

(25) Statement from Mr. (b)(6) , Mishap Aircraft Air Vehicle Operator, signed by witness

(26) Statement from Mr. (b)(6) , Mishap Aircraft Mission Payload Operator, signed by witness

(27) Statement from Mr. (b)(6) , Mishap Aircraft Mission Payload Operator, signed by witness

(28) Statement from Mr. (b)(6) , Hawk Mobile operator, signed by witness

(29) Statement from Mr. (b)(6) , Safe for Flight, signed by witness

(30) Statement from Mr. (b)(6) , VTC Operator under instruction, signed by witness

(31) Statement from Mr. (b)(6) , VTC Operator, signed by witness

(32) Statement from Mr. (b)(6) , Maintenance, signed by witness

(33) Statement from Mr. (b)(6) , Maintenance, signed by witness

(34) Excerpts from OPNAVINST 3710.7U with Interim Change Number 40 incorporated

(35) Copy of UAC mission brief

(36) Copy of NOTAMS at the time of mishap flight

(37) Copy of Weather Brief for mishap flight

(38) Copy of Flight Plan for mishap flight

(39) Copy of Operator Log from the LRE

(40) Copy of Operator Detailed Status and Significant Events Logs from the LRE

(41) Excerpt from LRE Command and Control (C2) 1_HZ Status Data Spreadsheets

(42) Excerpt from LRE Command and Control (C2) 1/5_HZ Status Data Spreadsheets

(43) Copy of NAS Patuxent River TRACON Approach Control transcript for the period from June 11, 2001, 1546 UTC to June 11, 2001, 1601 UTC

(44) Copy of NAS Patuxent River TRACON Advisory Control transcript for the period from June 11, 2001, 1554 UTC to June 11, 2001, 1620 UTC

(45) Excerpt from Mission (b)(5) Departure from NAS Patuxent River Runway 24 Waypoints

(46) Copy of RQ-4A Fight Control System Emergency Procedures for Actuator 40 Fault from the RQ4-A-15-00-S1-08A-043A-A Flight Manual

(47) Copy of RQ-4A Guidance and Control System Emergency Procedures for GNC 11 Fault from the RQ4-A-15-00-S1-08A-043A-A Flight Manual

(48) Copy of RQ-4A Guidance and Control System Emergency Procedures for GNC 8 Fault from the RQ4-A-15-00-S1-08A-043A-A Flight Manual

(49) Plot of Mishap Aircraft Flight Path from the Command and Control (C2) 1_HZ Status Data Spreadsheets

(50) Copy of VX-20 Approach Plate Depiction of Mission (b)(5) Aircraft 109 (AC109) Approach to NAS Patuxent River Runway 24

(51) Excerpts from the RQ4-A-15-00-S1-08A-043A-A Flight Manual

(52) E-mail from LT (b)(3), (b)(6) , containing the Air Mishap Board recorded position of the aircraft crash site

(53) E-mail from LT (b)(3), (b)(6) stating that no weather observation was taken at the time of the mishap

(54) Copy of Terminal Aerodrome Forecast (TAF) at the time of the mishap flight

(55) E-mail from CDR (b)(3), (b)(6) with subject: BAMS-D incident post action, which details the initial site environmental impact

(56) Photographs taken by Air Mishap Board on 12 June 2012 depicting the crash site

(57) Current Mishap Definitions from the Naval Safety Center, ALSAFE message dated 1 Oct 2009

(58) Copy of Report of Toxicological Examination, Accession # 123681 for (b)(6) dated 18 June 2012

(59) Copy of Report of Toxicological Examination, Accession # 123682 for (b)(6) dated 18 June 2012

(60) Copy of Report of Toxicological Examination, Accession # 123683 for (b)(6) dated 18 June 2012

(61) Copy of Report of Toxicological Examination, Accession # 123684 for (b)(6) dated 18 June 2012

(62) Copy of NHK/NUI Air Traffic Control Incident Report and attachments

(63) Email from LT (b)(3), (b)(6) containing a copy of Northrop Grumman Engineering Report on Right Inboard Ruddervator Actuator

(64) Email from LCDR (b)(3), (b)(6) which details status of Mr. (b)(6) CRM training

(65) Email from LT(b)(3), (b)(6) which details final crash site disposition

Preliminary Statement

1. Pursuant to enclosure (1), and in accordance with ref (a), a one-officer JAGMAN investigation was conducted to inquire into the facts and circumstances surrounding the BAMS-D Class Alpha Flight Mishap that occurred approximately twenty-two miles east of Naval Air Station Patuxent River, Maryland on 11 June 2012. I consulted with LT (b)(3), (b)(6) of the Region Legal Service Office, Hawaii for advice. All reasonably available and relevant evidence was collected.

2. All documentary evidence included is certified to be either the original or a copy that is a true and accurate representation of the original document represented. The interview with Mr. (b)(6) was conducted via telephone. His statement is a hand corrected copy, signed but unsworn because he had transferred to Greenville, Texas shortly after the mishap. Due to e-mail conversation just prior to receiving the fax it is believed to be a true and accurate representation of the original document. I have enclosed Privacy Act Statements for all interviews.

3. All commercial flight time listed is an estimate made by the individual as there is no requirement for civilian pilots to maintain an accurate flight log book. In the case of Mr. (b)(6) the civilian hours below are taken from his Contractor Crewmember Record which he stated was his best estimate in 2005. However, he does not have a record of the number of hours he has flown since 2005. As a result the hours in this report are less than the actual number of hours he has.

4. All times used are in Greenwich Mean Time (Z). Differences in time exist between the system logs. Based on the interviews, scheduled times and ATC logs, the LRE Operator Log, Detailed Status and Significant Events Logs appear to be the most accurate and have been used as a basis for all times in this report. The Command and Control logs are approximately 56 minutes and 53 seconds fast.

5. The unique makeup of the BAMS-D program made for some minor difficulties in conducting the investigation. The majority of the aircrew and all of the maintenance are civilian contractors. In the case of the mishap all of the personnel directly involved were civilian contractors. This caused delays in conducting interviews while Northrop Grumman determined if they desired to have lawyers present for the interviews. The final determine was that it wasn't necessary as the investigating officer was not a JAG officer. Additionally, the Flight Surgeon assigned to work the safety investigation had difficulties conducting the medical review as he did not have easy access to the civilian aircrew's most recent FAA flight physical.

Findings of Fact

1. The mishap aircraft was a Commander Patrol and Reconnaissance Wing TWO (CPRW-2) RQ-4A Unmanned Aerial Vehicle BUNO 168739. [encls (3), (4)]

2. The mishap aircraft was properly preflighted. [encls (4), (28), (29); (30), (31), (32), (33)]

3. There were no downing discrepancies noted in the mishap aircraft Flight/Taxi Folder. [encl (4)]

4. The mishap aircraft Flight/Taxi Folder contained only minor "up" gripes. [encl (4)]

5. The mishap aircraft amassed a total of 3 flights since acceptance by the Navy. [encl (4)]

6. The mishap aircraft amassed a total of 277 flights. [encls (4), (6)]

7. The mishap aircraft amassed a total of 9.5 flight hours since acceptance by the Navy. [encl (4)]

8. The mishap aircraft amassed a total of 4287.3 flight hours. [encl (4)]

9. The mishap aircraft had an acceptance inspection in September 2011. [encl (5)]

10. The mishap aircraft had a 90 day calendar inspection on 7 May 2012. [encl (6)]

11. The mishap aircraft had a 90 day calendar inspection on 8 May 2012. [encl (6)]

12. The mishap aircraft had a 180 day calendar inspection on 4 May 2012. [encl (6)]

13. The mishap aircraft had three 180 day calendar inspections on 25 Jan 2012. [encl (6)]

14. The mishap aircraft had two 365 day calendar inspections on 8 Aug 2012. [encl (6)]

15. The mishap aircraft had a 365 day calendar inspection on 30 Apr 2012. [encl (6)]

16. The aircrew located in Launch and Recovery Element was Mr. (b)(6) , (b)(6) , civilian, Northrop Grumman Corporation. [encls (24), (25), (35)]

17. The aircrew located in the Mission Control Element were Mr. (b)(6) , (b)(6) , civilian, Northrop Grumman Corporation. [encls (24), (25), (27), (35)]
Mr. (b)(6) , (b)(6) , civilian, Northrop Grumman Corporation. [encl (2)]
Mr. (b)(6) (b)(6) civilian, Northrop Grumman Corporation. [encl (2)]

18. Mr. (b)(6) was the Unmanned Aircraft System (UAS) Aircraft Commander (UAC). [encls (2), (24), (25)]

19. Mr. (b)(6) received his Commercial Pilots license; Commercial Pilot, airplane single engine land; instrument airplane on 26 Aug 2005 from the Federal Aviation Administration (FAA). [encl (7)]

20. Mr. (b)(6) possessed a current Cirrus SR22 flight and instrument qualification dated 29 Jul 2011. [encl (7)]

21. Mr. (b)(6) was designated as a Global Hawk Pilot on 6 Apr 2006 from Air Test and Evaluation Squadron TWO ZERO (VX-20). [encl (7)]

22. Mr. (b)(6) qualifications included UAC on 7 Jan 2009 and as a RQ-4A Instructor Pilot (IP) on 19 Feb 2009. [encl (7)]

23. Mr. (b)(6) possessed a current RQ-4A NATOPS qualification dated to expire on 31 Dec 2012. [encl (7)]

24. Mr. (b)(6) possessed a current FAA medical certificate 2nd class dated 4 Oct 2011. [encl (7)]

25. Mr. (b)(6) had no previous military or civilian mishaps or flight violations. [encl (7)]

26. Mr. (b)(6) amassed the following flight time: RQ-4A: 1753.5 hours; Cirrus SR22: 3 hours; Mooney M20C: 434 hours; Cessna 182RG: 61 hours; Cessna 172: 365 hours; Cessna 150/152: 367 hours; Grumman AA1C: 349 hours. [encls (8), (9), (10)]

27. Mr. (b)(6) amassed a total of 1753.5 hours military flight hours and in excess of 1579 hours civilian flight hours. [encls (8), (9), (10)]

28. In the last 90/180/360 days before the mishap, Mr. (b)(6) amassed 32.3/75.2/209.8 hours respectively in the RQ-4A. [encl (9)]

29. In the last 90 days before the mishap, Mr. (b)(6) amassed 2 takeoffs and 2 landings in the RQ-4A. [encl (9)]

30. In the last 30/180 days before the mishap, Mr. (b)(6) amassed 5/23 sorties respectively in the RQ-4A. [encl (9)]

31. Mr. (b)(6) last emergency procedures simulation in the RQ-4A was on 22 December 2011. [encl (9)]

32. Mr. (b)(6) was fully qualified to fly this aircraft. [encls (7), (8), (9), (10), (23), (34), (64)]

33. Mr. (b)(6) was the Air Vehicle Operator (AOV). [encls (2), (24), (25)]

34. Mr. (b)(6) received his Commercial Pilots license; Airline Transport Pilot, airplane single engine land; Commercial Privileges, airplane single engine land, Rotorcraft-Helicopter, instrument helicopter on 18 Nov

2008 from the Federal Aviation Administration (FAA). [encl (11)]

35. Mr. (b)(6) possessed a current Cirrus SR22 flight and instrument qualification dated 17 Oct 2011. [encl (11)]

36. Mr. (b)(6) was designated as an AOV on 11 Oct 2011. [encl (11)]

37. Mr. (b)(6) possessed a current RQ-4A NATOPS qualification dated to expire on 31 Oct 2012. [encl (11)]

38. Mr. (b)(6) possessed a current FAA medical certificate 1st class dated 27 Apr 2011. [encl (11)]

39. Mr. (b)(6) had no previous military or civilian mishaps or flight violations. [encl (11)]

40. Mr. (b)(6) amassed the following flight time: RQ-4A: 139.4 hours; Cirrus SR22: 37.6 hours; G-159: 655 hours; Metro III: 650 hours; C-26B: 2831 hours; SH-60B: 830 hours; SH-2F: 754 hours; TH-57: 145 hours; T-34C: 134 hours. [encls (12), (13), (14), (15)]

41. Mr. (b)(6) amassed a total of 2002.4 military flight hours and 4173.6 civilian flight hours. [encls (12), (13), (14), (15)]

42. In the last 90/180/360 days before the mishap, Mr. (b)(6) amassed 54.3/71.9/139.4 hours respectively in the RQ-4A. [encl (13)]

43. In the last 90 days before the mishap, Mr. (b)(6) amassed 1 simulated takeoff and 1 simulated landing in the RQ-4A. [encl (13)]

44. In the last 90/180 days before the mishap, Mr. (b)(6) amassed 15/23 sorties respectively in the RQ-4A. [encl (13)]

45. Mr. (b)(6) last emergency procedures simulation in the RQ-4A was on 17 Apr 2012. [encl (13)]

46. Mr. (b)(6) was fully qualified to fly this aircraft. [encls (11), (12), (13), (14), (23), (34)]

47. Mr. (b)(6) was fully qualified to conduct the duties of an MPO. [encls (16), (17), (23), (34)]

48. Mr. (b)(6) was fully qualified to conduct the duties of an MPO. [encls (18), (19), (23), (34)]

49. Mr. (b)(6) was the Global Hawk Mobile Operator and conducted the Aircraft walk around. [encls (2), (24), (28)]

50. Mr. (b)(6) received his Commercial Pilots license; Commercial Pilot, airplane single and multiengine land; instrument airplane on 18 Nov 2008 from the Federal Aviation Administration (FAA). [encl (20)]

51. Mr. (b)(6) possessed a current Cirrus SR22 flight and instrument qualification dated 29 Mar 2012. [encl (20)]

52. Mr. (b)(6) was designated as an AOV on 1 May 2012. [encl (20)]

53. Mr. (b)(6) possessed a current RQ-4A NATOPS qualification dated to expire on 30 Apr 2013. [encl (20)]

54. Mr. (b)(6) possessed a current FAA medical certificate 2nd class dated 21 Mar 2012. [encl (20)]

55. Mr. (b)(6) had no previous military or civilian mishaps or flight violations. [encl (20)]

56. Mr. (b)(6) amassed the following flight time: RQ-4A: 144.6 hours; RQ-4B: 115 hours; KC-10A: 1670 hours; T-1A: 185 hours; T-6: 94 hours; Cirrus SR22: 15 hours; C-172: 35 hours. [encls (21), (22)]

57. Mr. (b)(6) amassed a total of 2208.6 military flight hours and 50 hours civilian flight hours. [encls (21), (22)]

58. In the last 90/180/360 days before the mishap, Mr. (b)(6) amassed 18.6/18.6/18.6 hours respectively in the RQ-4A. [encl (21)]

59. In the last 90 days before the mishap, Mr. (b)(6) amassed 2 takeoffs and 1 landing in the RQ-4A. [encl (21)]

60. In the last 90/180 days before the mishap, Mr. (b)(6) amassed 6/6 sorties respectively in the RQ-4A. [encl (21)]

61. Mr. (b)(6) last emergency procedures simulation in the RQ-4A was on 30 Apr 2012 in conjunction with his NATOPS check. [encl (20)]

62. Mr. (b)(6) was fully qualified to fly this aircraft. [encls (20), (21), (22), (23), (34)]

63. The mishap flight was authorized in accordance with OPNAV 3710.7U by CAPT (b)(3), (b)(6), Commanding Officer of Commander Patrol and Reconnaissance Wing TWO. [encls (2), (34)]

64. The mishap flight purpose code (FPC) was a 1A2 - Training Instrument. [encls (2), (34)]

65. The mission was briefed on Monday, 11 June 2012. [encls (2), (35)]

66. The mission was briefed as an Integrated Sensor Suite Confidence Flight primary and Crew Proficiency Flight secondary. [encls (24), (35)]

67. NAS Patuxent River had a NOTAM out for a displaced threshold for RWY 32 due to ship suitability flight testing utilizing MK -7 Arresting Gear scheduled from 1300z to 0900 to 1600 EST. [encl (36)]

68. Runway 14/32 was planned for takeoff and landing, however due to MK 7 operations for runway 14/32 the planned backup runway 06/24 was briefed. [encls (24), (35)]

69. The weather was briefed to be ceiling at 25,000 feet, 10 mile visibility, winds 230 at 6 knots, runway temperature of 86°F with a dew point of 64°F. [encls (35), (37)]

70. Briefed mission was a 1600z takeoff from Patuxent River NAS, a climb to Flight Level 500 in Restricted Area 4006 (R4006) and R4008, conduct checks in Warning Areas 386 (W386), W387 and W72 and a return to Patuxent River NAS via a descent in R4008. [encls (35), (38)]

71. There were no downing discrepancies noted during preflight. [encls (24), (25), (28), (29), (30), (31), (32), (33)]

72. At approximately 1551z the aircraft took off runway 6 at from NAS Patuxent River. [encls (24), (25), (28), (29), (30), (39), (41), (42), (43)]

73. At approximately 1552:30z the aircraft began a right hand turn to heading 136 to way point 1351. [encls (24), (25), (39), (41), (42), (43), (49)]

74. At approximately 1552:47z the aircraft began to level off at 4500 feet in altitude per the mission profile. [encls (24), (41), (42)]

75. At 1553:15z the pilots received an Actuator 40 fault indicating the right inboard ruddervator reported position is more than 6 degrees from the scheduled position. [encls (24), (25), (39), (40), (46), (49)]

76. Per the procedures for the Actuator 40 fault prior to the final approach fix the pilot is to select override

heading to prevent right hand turns and altitude to start or maintain climb to above 40,000 feet to put the aircraft in a stabilized flight condition. [encl (46)]

77. At 1553:17z the pilots received a Guidance Control (GNC) 11 fault indicating the aileron or ruddervator command is within 1 degree of the maximum deflection. [encls (24), (25), (39), (40), (47), (49)]

78. At approximately 1553:44z the aircraft began a right hand turn to heading 190 to way point 1351. [encls (24), (25), (39), (41), (42), (45), (49)]

79. At 1553:49z the pilot requested a detailed status on the Actuators subsystem. [encls (39), (40)]

80. At approximately 1553:58z the aircraft began a climb to 60,000 feet in altitude per the mission profile. [encls (24), (41), (42)]

81. At 1555:45z the pilot input an altitude command change to 25,000 feet. [encls (39), (40)]

82. At 1556:46z the pilot requested a detailed status on the Actuators subsystem. [encls (39), (40)]

83. At 1557:48z the pilot input a left hand heading change to the east to avoid overflying populated areas. [encls (24), (25), (39), (41), (49)]

84. At 1558:03z the pilot requested a detailed status on the Actuators subsystem. [encls (39), (40)]

85. At 1559:03z the pilot input a course change to waypoint 1178 to reset the Contingency 2 timer. [encls (24), (41), (42), (45), (49)]

86. At approximately 1559:05z the aircraft began a left hand turn to approximately 067. [encls (39), (41), (49)]

87. At 1559:24z the pilot requested a detailed status on the Actuators subsystem. [encls (39), (40)]

88. At 1601:35z the pilots received a Guidance Control (GNC) 8 fault indicating the airspeed, load factor, vertical acceleration, or altitude change rate exceed the scheduled values. [encls (24), (25), (39), (40), (48), (49)]

89. At 16:02:17 the pilot input a course change to parallel the normal approach route for the AC109 approach to NAS Patuxent River, Global Hawk UAV RWY 24 High Arrival. [encls (24), (39), (49), (50)]

90. At approximately 1602:17z the aircraft began a left hand turn to approximately 025. [encls (39), (41), (49)]

91. At 16:02:18 the pilot input an altitude change to 18,000 feet at 2000 feet per minute decent rate. [encl (24)]

92. At approximately 1602:18z the aircraft began a decent to 18,000 feet. [encls (39), (41), (42), (44)]

93. At 1602:24z the aircraft spoilers deployed to 40 degrees. [encl (41)]

94. (b)(4)

[encl (51)]

95. At 1605:14z the pilots received a Guidance Control (GNC) 8 fault. [encls (24), (25), (39), (40), (49)]

96. At 1605:14z the aircraft began to descend at a greater than 2000 feet per minute rate and began a right hand spiraling turn. [encl (41)]

97. At 1605:16z the pilots received a Guidance Control (GNC) 11 fault. [encls (24), (25), (39), (47), (49)]

98. At 1605:38z the Command and Control Logger recorded an elevator position of 8.25. [encl (42)]

99. At 1606:43 the ground systems received their last transmissions from the aircraft on a heading 347 at 734 feet. [encl (41)]

100. Aircraft crashed near position N38:19:11 W075:55:49. [encls (41), (49), (52)]

101. (b)(4)

(b)(4) [encl (46)]

102. (b)(4)

[encl (51)]

103. (b)(4)

[encl (51)]

104. Mr. (b)(6) requested a detailed actuator status 4 times. [encl (40)]

105. (b)(4)

(b)(4)

[encl (46)]

106.

(b)(4)

[encl (46)]

107.

(b)(4)

[encl (46)]

108. Per the Actuator 40 fault emergency procedure, the appropriate procedure is to Land as Soon as Practical. [encls (34), (46)]

109.

(b)(4)

[encl (46)]

110.

(b)(4)

[encl (51)]

111. Per the GNC 11 fault emergency procedure, the appropriate procedure is to Land as Soon as Practical. [encls (34), (47)]

112. No weather observation was recorded at the time of the mishap; however, a Terminal Aerodrome Forecast for the time period at NAS Patuxent River was obtained. [encls (53), (54)]

113. The forecast weather at NAS Patuxent River at the time of the mishap was scattered clouds at 18,000 feet, broken at 25,000 feet, with 10 miles visibility. [encl (54)]

114. At 1605:14z the aircraft recorded winds were 273/8 knots. [encl (41)]

115. Just prior to the impact, the aircraft was traveling at approximately 122 knots, in a right hand spiral with -55 degrees nose down. [encl (41)]

116. The aircraft impacted in a wetlands area in a state preservation area controlled by the Maryland Department of Natural Resources. [encl (55)]

117. The mishap aircraft was completely destroyed in the mishap. [encl (56)]

118. This is a Class A mishap because the aircraft was destroyed. [encl (57)]

119. The toxicology reports show nothing abnormal in Mr. (b)(6) blood. [encl (58)]

120. Mr. (b)(6) was not under the influence of alcohol or drugs at the time of the mishap. [encl (58)]

121. The toxicology reports show nothing abnormal in Mr. (b)(6) blood. [encl (59)]

122. Mr. (b)(6) was not under the influence of alcohol or drugs at the time of the mishap. [encl (59)]

123. The toxicology reports show nothing abnormal in Mr. (b)(6) blood. [encl (60)]

124. Mr. (b)(6) was not under the influence of alcohol or drugs at the time of the mishap. [encl (60)]

125. The toxicology reports show nothing abnormal in Mr. (b)(6) blood. [encl (61)]

126. Mr. (b)(6) was not under the influence of alcohol or drugs at the time of the mishap. [encl (61)]

127. No other aircraft were involved as this mishap was neither the result of a mid-air collision not a near mid-air collision. [encls (24), (25), (43), (44), (62)]

128. The right inboard actuator was recovered from the crash site and an Engineering investigation was conducted. [encl (63)]

129. The actuator power card was found upon post mishap investigation to have a voltage instability within the servo loop. [encl (63)]

130. The instability was determined to be due to component failures of a C12 capacitor and a power transformer which is required for the logic chips and position feedback. [encl (63)]

131. Crash site cleanup was completed as of 27 June 2012. [encl (65)]

132. All recoverable material has been moved to NAS Patuxent River for storage and disposition. [encl (65)]

133. Remaining unrecoverable material has been moved into the crash hole below the waterline. [encl (65)]

134. The Coast Guard, Environmental Protection Agency and the Maryland Department of the Environment were consulted. [encl (65)]

Opinions

1. Weather was not a factor in this mishap. [FF (113), (114)]

2. This mishap was caused by a mechanical malfunction of the right inboard ruddervator actuator. Post mishap investigation of the ruddervator actuator showed that the actuator power card was experiencing intermittent failures. These failures resulted in uncommanded movement of the ruddervator. At the time the aircraft departed controlled flight the pilot received a GNC 11 fault and the C2 logger recorded an elevator setting of 8.25. This is the only positive recorded elevator setting recorded during the aircraft flight. Coupled with the spoilers being deployed as the aircraft was in a decent to land, this deflection of the elevator trailing edge downward caused the aircraft to depart controlled flight. [FF (92), (93), (96), (97), (98), (100), (101), (128), (129), (130)]

3. The pilots followed the published emergency procedures with the exception of climbing above 40,000 feet. Below 30,000 feet, minimum spoiler is used to keep the Power Lever Angle about halfway between flight idle and maximum. At lower altitudes the engine produces more thrust at idle than required to maintain airspeed and altitude unless the spoilers are deployed. A climb above 40,000 feet allows the pilots to conduct controllability checks in stabilized flight conditions. However, due to the intermittent nature of the actuator malfunction the pilots determined the aircraft was controllable during the climb and proceeded with the follow on steps to land as soon as practicable. Due to the intermittent nature of the actuator failure the pilots had no way of knowing when or if the actuator would fail again. [FF (24), (76), (79), (80), (81), (82), (83), (84), (85), (86), (87), (89), (90), (91), (92), (102), (104), (107), (108), (111)]

4. The capability exists to lock the spoilers at specific settings, however, based on the calculations for the approximate right inboard ruddervator position all

being between -20 and +1, the Actuator 40 fault emergency procedure (EP) doesn't direct overriding the aircraft spoilers' automatic settings and locking them at a specific position. The EPs for GNC 8 and GNC 11 faults do not direct setting and locking spoilers either. Additionally, the flight procedures contain a caution against overriding the spoiler settings unless specifically directed to in an EP. It is unknown whether locking the spoilers to a lower setting may have prevented the aircraft from departing controlled flight. [FF (101), (103), (105), (106), (107), (108), (109), (110), (111)]

5. The aircraft crash site was in wetlands in a state preservation area controlled by the Maryland Department of Natural Resources. Clean up of the area has been completed by NAS Patuxent River in consultation with the Coast Guard, the Environmental Protection Agency and the Maryland Department of the Environment. No claims are anticipated. [FF (116), (131), (132), (133), (134)]

Recommendations

1. Recommend CPRW-2 brief all BAMS-D RQ-4A aircrew on the findings from the Engineering Investigation and the Safety Investigation.
2. Recommend NAVAIR and CPRW-2 review the emergency procedures for an actuator failure to determine possible actions and procedural changes that could prevent the loss of the aircraft.
3. Recommend CPRW-2 include in the Mishap Procedures guidance in conducting subsequent mishap investigations with respect to contract aircrew and maintenance.

(b)(3), (b)(6)

LCDR, USN

(b)(3), (b)(6)

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

1611
Ser N00/026
12 Jun 12

From: Commander, Patrol and Reconnaissance Wing TWO
To: LCDR (b)(3), (b)(6) , USN, XXX-XX- (b)(6)

Subj: COMMAND INVESTIGATION OF THE BAMS-D CLASS A FLIGHT MISHAP THAT OCCURRED APPROXIMATELY 22 MILES EAST OF NAS PATUXENT RIVER ON 11 JUNE 2012

Ref: (a) JAGMAN Investigations Handbook
(b) OPNAVINST 5102.1D
(c) OPNAVINST 3750.16C

1. This appoints you, per chapter II of references (a), to inquire into the facts and circumstances surrounding the BAMS-D Class Alpha Flight Mishap that occurred approximately twenty two miles east of Naval Air Station Patuxent River, Maryland on 11 June 2012.

2. Investigate the cause of the mishap, resulting damages, and any fault, neglect, or responsibility therefore, and recommend appropriate administrative or disciplinary action. Report your findings of fact, opinions, and recommendations in letter form by 10 July 2012, unless an extension of time is granted. If you have not previously done so, read chapter II of reference (a) in its entirety before beginning your investigation.

3. You may seek assistance from LT (b)(3), (b)(6) or legal advice from LTJG (b)(3), (b)(6) (b)(6) during the course of your investigation.

4. By copy of this appointing order, Commander, Patrol and Reconnaissance Wing TWO, requests Naval Air Station Patuxent River to furnish and assist the necessary clerical assistance.

(b)(3), (b)(6)

By direction

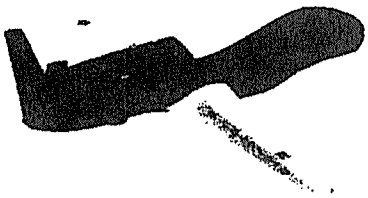
ENCLOSURE (1)

CPRW-2

BAMS-D DET PAX FLIGHT SCHEDULE

COMMANDER PATROL AND RECONNAISSANCE WING TWO
BOX 64000 MCBH KANEOHE BAY, HI 96863-4000

BAMS-D DETACHMENT
47765 RANCH ROAD, HANGAR 101
NAS PATUXENT RIVER, MARYLAND 20670



COMMODORE
CAPT C. RAMSDEN

OFFICER IN CHARGE
LCDR S. KEINER

Monday, 11-June-2012 (2163)

CDO: AWO(b)(3), (b)(6) FOL SR: 2127 FOL SS: 1109 HRS SCHEDULED: 4.0

FLIGHT EVENTS

EVT/ TMR	BRF/TO /LND (Z)	MCE CREW		TIMES IN LOCAL	LRE CREW	TIMES IN ZULU	TAGS CREW	TIMES IN LOCAL	HAWK MOBILE/ NOTES
EVT: 1	1400	UAC MR		1000-1600	AVO		UMC	N/A	MF
RQ-4A	1600	AVO MR	(b)(6)	1000-1600			UTC		MF (b)(6)
1A2	2000	MPO MR		1000-1600			CTP		MF
		MPO MR		1000-1600			TSO		
		MPO					TSO		NOTES: 1,2,3

GROUND EVENTS

No Ground Events Scheduled

NOTES:

1. COA 2011-ESA51, Expires 01OCT12
2. KNHK-KNHK
3. W386/W387/W72

SUBMITTED:
//S//
(b)(6)
BAMS-D PAX RIVER

(b)(6)
LCDR STUART KEINER
OFFICER IN CHARGE

ENCLOSURE (2)

FW O 112117Z JUN 12 COMPATRECONWING TWO KANEOHE BAY HI UAV CLASS A FLIGHT MISHAP.txt
-----OFFICIAL INFORMATION DISPATCH FOLLOWS-----
OTTUZYUW RHOIAAA0001 1632145-UUUU--RHSSSUU.
ZNR UUUUU
O 112117Z JUN 12
FM COMPATRECONWING TWO KANEOHE BAY HI
TO CNO WASHINGTON DC
COMPACFLT PEARL HARBOR HI
COMUSFLTFORCOM NORFOLK VA
COMNAVAIRPAC SAN DIEGO CA
COMNAVAIRLANT NORFOLK VA
CDR USNORTHCOM PETERSON AFB CO
CDR USCENTCOM MACDILL AFB FL
CTF 50
CTF 57
CTF 72
CTF 20
COMNAVAIRSYSCOM PATUXENT RIVER MD
COMLANTFLT DET ONE NORFOLK VA
INFO HQ USCENTCOM MACDILL AFB FL
COMUSNAVCENT
CDR USPACOM HONOLULU HI
COMPACFLT PEARL HARBOR HI
COMPATRECONGRU NORFOLK VA
COMPATRECONWING TWO KANEOHE BAY HI
ONI WASHINGTON DC
COMNAVREG MIDLANT NORFOLK VA
COMNAVSAFECEN NORFOLK VA
CTG 57.11
BT
UNCLAS
SUBJ/UAV CLASS A FLIGHT MISHAP
MSGID/OPREP-3,USMTF,2012/COMPATRECONWING TWO KANEOHE BAY HI/001//
FLAGWORD/NAVY BLUE/-//
TIMELOC/111607ZJUN2012/SOUTHERN MARYLAND/INIT//
GENTEXT/INCIDENT IDENTIFICATION AND DETAILS/
1. INCIDENT: CLASS A FLIGHT MISHAP
2. DATE OF INCIDENT: 11JUN2012
3. TIME OF INCIDENT: 1607Z
4. LOCATION OF INCIDENT: UNINHABITED SWAMP NEAR CHESAPEAKE BAY, MARYLAND.
5. INCIDENT: UNMANNED AERIAL VEHICLE (UAV), RQ4A, BUNO 168739, COMPATRECONWING TWO KANEOHE BAY HI ASSET. MISHAP OCCURED SHORTLY AFTER TAKE OFF WITH RUDDERVATOR CONTROL SURFACE MALFUNCTION.//
RMKS/COMMANDERS ESTIMATE: MEDIA ATTENTION IS ANTICIPATED. AIRCRAFT DESTROYED, NO INJURIES OR FATALITIES. MODERATE IMPACT ON SQUADRONS ABILITY TO OPERATE.//
BT
#0001
NNNN
<DmdsSubject>UAV CLASS A FLIGHT MISHAP</DmdsSubject>
<DmdsSecurity>UNCLASSIFIED//</DmdsSecurity>
<DmdsPrimaryPrecedence>IMMEDIATE</DmdsPrimaryPrecedence>
<DmdsCopyPrecedence>IMMEDIATE</DmdsCopyPrecedence>
<DmdsReleaser> (b)(6) 'DmdsReleaser>

UNCLASSIFIED//

ENCLOSURE (3)

Flight / Taxi Folder

EVENT# 10_278

ITEM #	DOCUMENT DESCRIPTION	DATE AND INITIAL WHEN ENCLOSED
	PRE-FLIGHT ITEMS – REVIEW and/or obtain copy	----------
1	CHECK/VERIFY SERIALIZATION PREFLIGHT CONFIGURATION LIST	6-11-12 (b)(6)
2	SOFTWARE CONFIRMATION (B500 DWG. Review and verify latest configuration)	6-11-12 (b)(6)
3	CHECK/VERIFY SCHEDULED MAINTENANCE SPREADSHEET	6-11-12 (b)(6)
4	MISSION PLAN / CHECKSUM (Review and verify released mission plan)	6-11-12 (b)(6)
5	COPY OF MISSION CARDS / TEST CARDS	N/A
6	COPY OF WEIGHT AND BALANCE SHEET----- (PREFLIGHT)	6-11-12 (b)(6)
7	COPY OF MECHANICAL PREFLIGHT SHEET	6-11-12 (b)(6)
8	COPY OF ELECTRICAL PREFLIGHT SHEET	6-11-12 (b)(6)
9	COPY OF THRU-FLIGHT (IF REQUIRED)	N/A
10	COPY OF OIL CONSUMPTION LOG RECORD and (update oil consumption log)	6-6-12 (b)(6)
11	COPY OF FUEL SAMPLE LOG SHEET and (update fuel sample log in J drive)	6-11-12 (b)(6)
12	**(QA giving brief)** Verify CSFR with Agile, print copy, copy in e folder and send out email.	6-11-12 (b)(6)
13	**(QA giving brief)** Verify QA brief sheet , print copy, copy in e folder and send out email	6-11-1 (b)(6)
14	SIGNED COPY OF CONFIGURATION SUMMARY/FLIGHT RELEASE	6-11-12 (b)(6)
15	COPY OF APPLICABLE RA'S (IF FLIGHT TEST APPLICABLE)	N/A
16	COPY OF PREVIOUS FLIGHT'S POST-FLIGHT INSPECTION	6-6-12 (b)(6)
17	COPY OF PREVIOUS MISSION'S **LRE** POST-MISSION CHECKLIST	6/5/12 (b)(6)
18	COPY OF PREVIOUS MISSION'S **MCE** POST-MISSION CHECKLIST	6-11-12 (b)(6)
	POST-FLIGHT ITEMS – Obtain copy at debrief	----------
19	COPY OF FLIGHT ANOMALY (from debrief)	
20	COPY OF **MCE** PRE-MISSION CHECKLIST	
21	COPY OF **LRE** PRE-MISSION CHECKLIST	
22	COPY OF ENGINE FAULT LOG CACULATOR	
	Complete Post Flight tasks check list	

ENCLOSURE (4)

FLIGHT RELEASE SIGNOFF

FLT_10_278

11 JUN 2012

(b)(6)

V

nee - Safe For Flight

AIRCRAFT CLEARED FOR FLIGHT

QA VERIFY AGILE/ON-LINE FLIGHT SIGNOFF/ATAF/ COMPLETE

(b)(6)

(SCM APPROVED) MISSION NUMBER VERIFICATION

(b)(6)

MSN:

(b)(6)

(b)(6)

S

(b)(6)

VTC OPERATOR

(b)(6)

A/C MAINTENANCE

(b)(6)

BAL HAWK PILOT

(b)(6)

TERS

ENCLOSURE (4)

CONFIGURATION SUMMARY AND FLIGHT RELEASE REV(0)

RQ4A; AV 10; Tail # 168739; P-3 N-5

UAV CONFIGURATION SUMMARY

Flight: 10_278	DATE: 11 Jun 2012	Tow Time: 0730 L
MISSION PLANS	C.G.: 26.56% MAC	Fuel Goal: 15,000 +/- 200 Lbs
MSN: E1432N5A CHECKSUM: 0E9D360D	Fuel Specific Gravity: .800	Total Fuel: 11,398 Lbs
MSN: E0632N5A CHECKSUM: 0EA4CAF8	Fuel Temperature: 74°F	Empty Weight: 11,530 Lbs
MSN: CHECKSUM:	Fuel Freeze Point (FPA): - 72 F	Gross Weight: 22,928 Lbs
MSN: CHECKSUM:	Cross Track error on Flt 10_277 (25' R)	Aircraft Flight Hours = 4287.3

SOFTWARE LOADED

IMMC: Blk5 8.1v1.23.5	FADEC: A307H09	CAMA: A 7.1.4/ B 7.1.3	NLRE1 GCI: 7.1.2 NLRE2 GCI: 7.1.2 NMCE GCI: 7.1.2
VTC: Blk5 v1.13.1 Script: v1.18 (Bld 8.1)	TDMC: N/A	NLRE1 IRIX: 6.5.29	MPL: 6.2.2
NLRE1: 7.1.3.4 NLRE2: 7.1.3.4	NMCE: 7.1.3.4	NMCE IRIX: 6.5.29	LN100: EO/IR": GH_9/Link_7
BCU P/N: 42-981 (Vendor installed S/W)	KEARFOTT: IMU 1.08, NAV 2.02	VCP: Blk5 v1.2 Bld. 8.2	LN100: SAR": GH_35/Link_21
Omnistar: v04.01.03	SIA: 6.6.15	NMCE DAWS: 65.02	ISS: 65.02
Phoenix Camera S/W: v157; F/W: v104 FPA Digitizer S/W: V21A; F/W: V2C0 Control DLL: v155	L3 Conic VCU: 1.2, VEU: 1.1 AIS RCVR: 2.2, ACP: 2.2	IFF: B.7	LR-100: NOT INSTALLED
FTI (S-Band) Freq. = N/A	[redacted]	[redacted]	
[redacted]			

NAV UNITS INSTALLED

IMMC: 3671213E08004-307, S/N 0028 "A" S/N 0018 "B"	KEARFOTT: K160A142-01, S/N 0115 "A", 0039 "B"	LN-100: EO/IR: P/N 801960-0001 S/N 500021 SAR: 801960-0004 S/N 500068
	OMNISTAR: 3671222E393-5 REV D.1, S/N ZEA331926	

AUXILIARY FLIGHT DATA BLOCK (AFDB) LISTING

PS3 Installed	SAR GNA Installed	EO/IR GNA Installed	SAR Installed
EO/IR Installed	USC DAMA Installed	Omnistar Installed	UAV 6 and on, Installed
ECS Bleed Air Mods Installed	ACS Inmarsat Installed	IFF With Mode S	[redacted]
IMMC A Phase IIB, X0	IMMC B Phase IIB, X0	RT 1794 ATC Radio (Secure Voice)	

ITEMS NOT INSTALLED

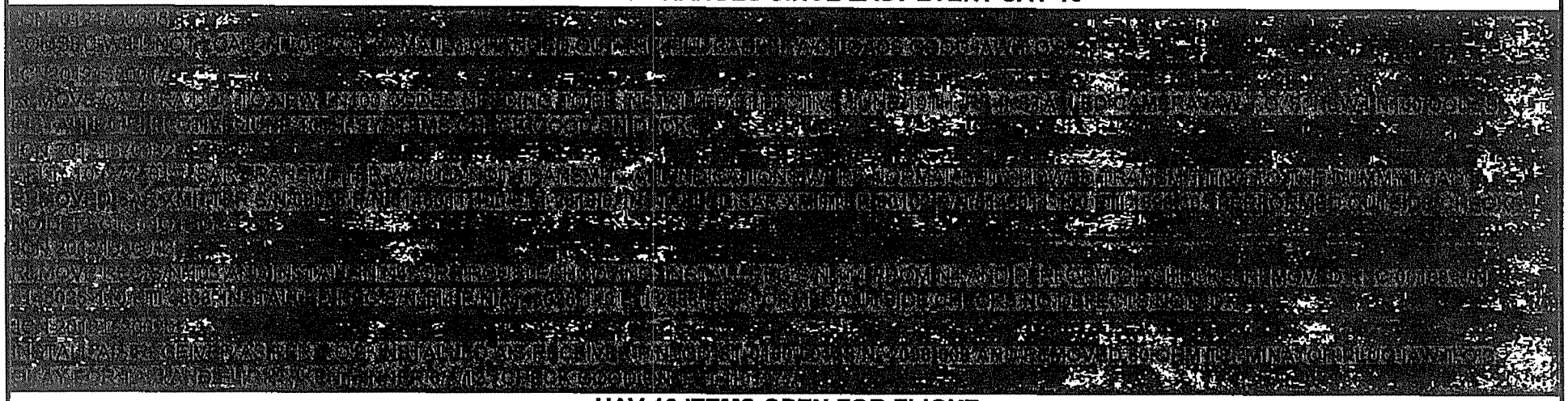
	TCAS	LR-100 System

Notes: Installed Engine Serial Number: CAE380015 60k limit
ELT is installed
[redacted]
DGPS Identifier: KLRE (AUTO)
[redacted]

ENCLOSURE (4)

UAV-10 CONFIGURATION SUMMARY

SIGNIFICANT CHANGES SINCE LAST EVENT UAV-10



UAV-10 ITEMS OPEN FOR FLIGHT

JCN 20112490003

TCTO 1Q-4(R)-654. REPLACEMENT OF CHARGE CONVERTER FILTER P/N 2777A-10-10 WITH P/N 3671217P01046-1 INSTALLED ON RQ-4A/B AIRCRAFT. **OK FOR TAXI AND FLIGHT,** (b)(6) **QA 9/6/2011.**

JCN 20121290001

STRIPPED ISP UPPER RIGHT MOUNT, LOWER ANCHOR NUT. **OK FOR TAXI AND FLIGHT** (b)(6) **QA 5/8/12.**

GROUND SHELTER CONFIGURATION SUMMARY

SIGNIFICANT CHANGES SINCE LAST EVENT NMCE

ITEMS OPEN FOR NMCE

LR100 TUNE TABLE LIST:

EPF (ALL FILE EXTENSIONS END IN *.epf)

paxewv1, EAFB07, EAFB20, 2fix841a, SURFMAYA, SURFMAY, SURFJUNX, SURFJUNB, SURFJUNA, SAR_ONLY, NULL, NSW_TAS, EAFB08, EAFB08A, EAFB10, EAFB20, EAFB20A, EAFB20B, HSTRCCE, FUR_1832, TIL_3050, TIL_SPS64, SA2APR08

TTF (ALL FILE EXTENSION END IN *.ttf)

GH11, GH11-A, GH11-b, GH11-C, GH11-D, GH11-E, GH11-F, GH11-W, GH11-W2, GH11-W3, GH11-W4, GH11-W5, GH11-W6, GH12-D, EAFB10, EAFB_unB EAFB08UB, EAFB29BL, EAFB30UB, EAFB11, ewrngvl, RICK, TEST, DVT7, 7GHZ, 9250_BLK, 9250_BL2, 9250_2, 9250, 8750_BLK, 8750, 35GHZ, 359GHZ 27JUNEVX, 27JUNEV2, 27JUNEV1, 26TO59V3, 18JULY, FUR_1832, TIL_9365, TIL_9330, TIL_3050, TIL_3050A, TIL_3050B, TIL_SPS64, SPLAPR08

JCN 20051940010

THE MSI GASKET MATERIAL THAT IS INSTALLED BETWEEN THE BACK/REAR PANELS AND THE SHELTER HAS CARC PAINT IN VARIOUS LOCATIONS WHICH WILL CAUSE THE SEAL TO BREAK DOWN. THE SAME SEAL ALSO HAS SEVERAL CUTS & IS BREAKING INTO MULTIPLE PIECES. (NOTE MES TAG RB-15933 WAS CLOSED PRIOR TO WORK BEING ACCOMPLISHED). WORK TO TRAVEL TO PAX. MATERIAL WILL BE SUPPLIED. POC FOR MATERIAL IS (b)(6) (b)(6) AT (b)(6) GH GROUND SEGMENT GASKET. INSTRUCTIONS, AND INSTALLATION TOOL TO BE SENT FROM RB TO PAX FOR INSTALLATION. (b)(6) 10/6/2006. **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 6/29/11.**

JCN 20062410003

NOTE: THIS IS A WATCH ITEM ONLY. THE CARC PAINT ON THE ROOF OF THE SHELTER HAS MISC CRACKS IN VARIOUS LOCATIONS ON THE TOP SURFACE (ROOF). THESE CRACKS ARE IN THE CARC ONLY; THE COATING UNDER THE CARC IS NOT CRACKED OR COMPROMISED IN ANY OF THESE LOCATIONS. THE CRACKS SHOULD BE MONITORED PERIODICALLY TO VERIFY THE CARC IS THE ONLY COATING THAT IS CRACKING SO THAT NO BARE METAL IS EXPOSED TO THE WEATHER. **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 6/29/11.**

JCN 20062680003

THE FOLLOWING QTY OF BOLTS/RIVNUTS ARE STRIPPED OUT ON THE ECU-TO-MCE ECS AIR CONDITIONING PLENUMS:
PLENUM 'A'- 4; PLENUM 'B'- 4; PLENUM 'C'- 8; PLENUM 'E'- 3; PLENUM 'F'- 3; PLENUM 'G'- 4; PLENUM '4'- 4
MISSING HARDWARE DOES NOT EFFECT ECU'S FUNCTIONALITY. ECU'S COOL MCE IAW SPEC'S. **OK FOR TAXI AND FLIGHT.** (b)(6) **, QA, 6/29/11.**

JCN 20070650006

FLT_12_28_02 THE SHIFT KEY ON THE SENSOR OPERATOR'S #2 POSITION KEYBOARD STICKS OCCASIONALLY. REPEAT FLT_12_62. REMOVED AND REPLACED KEYBOARD, NO CHANGE. RFC FSR WORKING WITH ENGINEERING TO TROUBLESHOOT FURTHER. KEYBOARD FUNCTIONAL. (b)(6) RFC FSR 3/7/07. FURTHER TROUBLESHOOTING REVEALED A BAD KEYBOARD VIDEO MONITOR SWITCH. WILL REPLACE WHEN FUNDED. **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 6/29/11.**

GROUND SHELTER CONFIGURATION SUMMARY

JCN 20070820006

FLT_12_31_04 NO MS SCENES BEING RECEIVED IN THE MCE. REBOOTING OF IMAGERY HOST CORRECTED PROBLEM. PROBLEM APPEARS TO BE IMPROPER HANDLING OF CORRUPT MSA SCENE FILES IN THE MCE. LOG, AND CORRUPT, FILES FROM THE MCE AND ISS HAVE BEEN SENT TO RES FOR ANALYSIS. CORRUPT FILES ARE TO BE SENT BY RFC FOR ANALYSIS OF CORRUPT SCENE HANDLING IN THE MCE. NOTIFY RES AND RFC IF PROBLEM IS SEEN AGAIN. WORK AROUND IS FOR RES TO VERIFY MS SCENES ARE SHOWING UP IN THE DISSEMINATION MONITOR. IMAGE HOST SOFTWARE AND THEN COMPUTER ARE TO BE RESTARTED, IF NO MS DATA IS SHOWING UP IN THE DISSEMINATION MONITOR AND OTHER SCENES ARE SHOWING UP. OK FOR TAXI AND FLIGHT. (b)(6) RES 3/27/07. **UPDATE FLT 12_40** REPEAT WRITE-UP. IMAGE HOST REQUIRED 1 REBOOT DURING EVENT. **UPDATE FLT 14_28_03** REPEAT WRITE-UP. IMAGE HOST REQUIRED 1 REBOOT DURING EVENT. REPEAT FLT 12_64, 12_72, FLT 12_81, FLT 12_91, FLT 12_93, 12_95, 14_57. **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 6/29/11.**

JCN 20072330014

PER ATC VOICE DEFICIENCY REPORT DOCUMENT 367-1400-619, CHANGE VOCODER GAINS IN THE GCI TO RL: AIR-3, GND-7 AND CL: AIR-A, GND-5. PERFORM GROUND COMUNICATION TESTING UTILIZING AUDIO PASS-THRU. ADJUSTED GCI VOCODER GAINS SETTINGS TO THE FOLLOWING: RL - 3/7, CL - A/5 (b)(6) 8/22/07. PERFORMED AUDIO TESTING IAW T.O. RQ4-A-43-00-01-00A-320A-A. ALL GROUND CHECKS COMPLETED. JCN TO STAY OPEN UNTIL COMPLETION OF ALL COMMS/MRT FLIGHT TESTING. **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 6/29/11.**

JCN 20080230016

FLT 14_44_02 IN CONTROL "C" DOES NOT APPEAR ON UAV COMMS PANEL WHEN UHF SATCOM IS SELECTED AS THE IN CONTROL LINK. ANOMALY IS IN BOTH THE MCE AND LRE. THIS ANOMALY HAS BEEN DOCUMENTED ON PARS 11462 AND 11483. SOFTWARE FIX HAS BEEN IMPLEMENTED AND PASSED TESTING FOR GND SEGMENT S/W 7.3.3. **ENG'G WORK AROUND: IF THE OPERATOR IS UNSURE WHAT IS IN CONTROL, THEY SHOULD RESET IT TO WHAT THEY WANT, AND NOT BELIEVE WHAT IS ON THE HCI. **OK FOR TAXI AND FLIGHT** (b)(6) **QA, 6/29/11.**

JCN 20080950019

FLT 12_63_03 WHEN SELECTING WAYPOINT INFORMATION ON THE 1ST ALTERNATE ROUTE, THE WAYPOINT INFORMATION POP-UP BOX DOES NOT DISPLAY THE PROPER WAYPOINT INFORMATION. THE DISPLAYED INFORMATION REFLECTS THE LAST WAYPOINT SELECTED ON EITHER THE PRIMARY OR ALTERNATE ROUTES. PAR 11661 ISSUED FOR FIX INCORPORATION IN G/S 7.1.4.1 RELEASE. **OK FOR TAXI AND FLIGHT** (b)(6) **QA, 6/29/11.**

JCN 20090430005

PER TCTO 1Q-4(R)A(I)-528: INSTALLATION OF VOICE OVER INTERNET PROTOCOL (VOIP) INTO RD-2A NAVY MISSION CONTROL ELEMENT (MCE). COMPLIANCE PERIOD NOT TO EXCEED 9FEB 2012 **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 6/29/11.**

JCN 20091600006

FLT 12_26 PRIOR TO TAXIING; THE KU LINK BECAME UNSTABLE. AN NBIU S/W RESET WAS INITIATED, LINK RESTORED. KU LINK BECAME UNSTABLE AGAIN, INITIATED GCI RESET. NO HELP. PERFORMED NBIU REBOOT, KU LINK BACK UP FOR THE REMAINDER OF THE EVENT. PULLED NBIU ERROR LOGS AND RFC FSR'S ARE EXAMINING THE DATA. RFC IN RANCHO BERNARDO IS RESEARCHING THE ERROR TO SEE IF THIS PROBLEM HAS BEEN DOCUMENTED PREVIOUSLY. MONITOR NEXT FLIGHT. (b)(6) QA 2/28/07. ISSUE HAS BEEN DOCUMENTED ON PAR 11547. WORKAROUND IS TO RESET THE NBIU IF THE ISSUE SURFACES. FIX WILL BE INCORPORATED INTO MILESTONE GS S/W 7.3.3. (b)(6) QA 3/7/07. GS SW 7.3.3 IS BLOCK 20 SOFWARE ONLY. PAR 11547 IS IMPLEMENTED IN BLOCK 10 GS SW 7.1.5 (IFC B8). THE TCTO TO INSTALL GS SW 7.1.3.4 IN ACCORDANCE WITH SVD REV D WAS NOT A COMPLETE FIX. THE SOFTWARE INSTALLATION WAS TO MINIMIZE OCCURRENCE OF THE SOFTWARE ANOMALY. THE SOFTWARE IS NEEDED TO FIX THE OTHER CAUSES. **OK FOR TAXI AND FLIGHT** (b)(6) **QA, 6/29/11.**

JCN 20112680005

ALL MCE CHAIRS REQUIRE REPLACEMENT. ALL HAVE BROKEN MECHANISMS. **OK FOR TAXI AND FLIGHT** (b)(6) **QA, 6/29/11.**

JCN 20120720020

FLT_14_234_03 DAWS / GICS COMPUTER RUNS VERY SLOW WHEN ISSUING COMMANDS TO ISS. REQUEST CHECK NEXT FLIGHT. D. HATCH, QA, 3/14/12. REPEAT ON FLT_14_235. CONTINUE TO MONITOR. (b)(6) QA, 3/17/12. **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 3/17/12.**

GROUND SHELTER CONFIGURATION SUMMARY

SIGNIFICANT CHANGES SINCE LAST EVENT NLRE #2

ITEMS OPEN FOR NLRE #2

JCN 20062550006

* FLIGHT 09-15 ANOMALY: LEFT-HAND MONITOR AT PILOT STATION IS DEGRADED. ALL THE GRAPHIC - USER - INTERFACES (GUI'S) ARE OUT-OF-FOCUS AND SHOWING GHOSTING. RIGHT-HAND MONITOR DISPLAY WAS CLEAR AND IN-FOCUS USING THE SAME DISPLAY SETTINGS. (b)(6) 9/12/06. SWITCHED MONITOR. PROBLEM DID NOT FOLLOW THE MONITOR, SUSPECT PROBLEM WITH VIDEO CARD OR VIDEO CARD SETTING IN OCTANE. RAYTHEON FSR SUSPECT VIDEO MONITOR CABLE NEEDS REPLACED (b)(6) 4/18/10. **REPEAT** FLT 12_59 (USABLE). **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 6/29/11.**

JCN 20090430007

PER TCTO 1Q-4(R)A(II)-514, INSTALLATION OF VOICE OVER INTERNET PROTOCOL (VOIP) /SECRET INTERNET PROTOCOL ROUTER NETWORK (SIPRNET) INTO RD-2B NAVY LAUNCH RECOVERY ELEMENT (LRE). **COMPLIANCE PERIOD NOT TO EXCEED 17 APR 2014.**. WILL COMPLY WITH INSTALLATION WHEN MAINT DOWN TIME PERMITS. 5/7/09. **OK FOR TAXI AND FLIGHT.** (b)(6) **QA, 4/17/12.**

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-01A-281A-A	Title: PREFLIGHT (ELECTRICAL) 10_277_Rev3	
Authorizing Document:	ACFT #: 168739	
SSSN#: 05-41-01	Title: PREFLIGHT (ELECTRICAL)	
Additional Information:	L/H___	R/H___

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PERMANENT CLOSEOUT OF PANELS / DOORS REQUIRE QA, FOE, AND MCI. N/A BLOCKS IF NOT PERMANENT CLOSEOUT.

BUYOFF SEQUENCES ARE THE NON-SHADED AREAS IN THE T. O. MATRIX

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DO NOT MIX PROCESSES. DO NOT SUBSTITUTE OR MIX THE CONSUMABLE CALL OUTS.

Version 11.12.006 RAC6

Inspection Controlled Document

QA APPROVAL FOR PEN & INK CHANGES	DATE:	STAMP: 905	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE 11-Jun-12

ENCLOSURE (1)

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-01A-281A-A	Title: PREFLIGHT (ELECTRICAL) 10_278
Authorizing Document:	ACFT #: 168739
SSSN#: 05-41-01	Title: PREFLIGHT (ELECTRICAL)

Quality Assurance Provisions

Qualification(s): Employee's must be certified, qualified, or have the proper authority to perform tasks.

Responsibilities:

Task acceptance blocks within this document are identified with acronyms signifying the responsible department for performing product acceptance. Reference approved acronyms listing below.

BUY	=	BUY (Means who buys the block) TD-MGR-SM-QA (etc)
DCMA	=	Defense Contract Management Agency
FD	=	Northrop Grumman Fire Department
FOE	=	Foreign Object Elimination
INST	=	Instrumentation
MECH	=	Mechanic
MGR	=	Manager
MP	=	Mass Properties
NDI	=	Non Destructive Inspection
QA	=	Quality Assurance
SFT	=	System Safety
SUPV	=	Supervisor (Means Tow, Jacking, Fuel, etc,)
TD	=	Test Director

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	AMP:	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	11-Jun-12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-01A-281A-A	Title: PREFLIGHT (ELECTRICAL) 10_278
Authorizing Document:	ACFT #: 168739
SSSN#: 05-41-01	Description: PREFLIGHT (ELECTRICAL)

Task#:	Req'd Conditions	Warning	Notes 1-5	# 1	# 2-8	# 9-10	# 11	# 12-14	# 15-17	# 18-22
Mechanic	(b)(6)		(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other										
Instruction	VERIFY PRELIM RESULTS	HIGH VOLTAGE	REVIEW NOTES	APPLY POWER VTC/AIC	PERFORM STEPS 2-8	BARO-CORR ALT	CALIBRATD AIRSPEED	PITOT HEATERS: FUNCTION	ECS / FUEL FUNCTION	PERFORM STEPS 18-22
Comments:										

SSSN#: 05-41-01	Description: PREFLIGHT (ELECTRICAL)

Task#:	# 23-24	# 25-27	# 28-33	# 34-44	# 45-60	# 61-78	# 79-92		# 93-98	# 99-110
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)		(b)(6)	(b)(6)
Inspection										
Other										
Instruction	VERIFY L/H AUX AIR DOOR	VERIFY R/H AUX AIR DOOR	AUX FLT DATA/ CONFIG	RADIO ALTIMETER OPER	FLIGHT CTRL CHECK	CHECK LIGHTS	AIR TEMP/ ICE DET OPER		IFF TRANS. CHECK	FWD EO/CAMA CHECK
Comments:										

SSSN#: 05-41-01	Description: PREFLIGHT (ELECTRICAL)

Task#:	# 111-113	# 114-129	# 130-131	# 132-147	# 148-156	# 157-163	# 164-167	# 168-174	# 175-177	# 178
Mechanic	(b)(6)	(b)(6)	(b)(6)	NA	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other										
Other	AFT EQUIP SAT CHECK	ATC CHECK	AIDS CHECK	RECORDER CHECK	SATCOM WAVE GUIDE CK	NAV KEARFOTT CHECK	OMNISTAR CHECK/ VERIFY	NAV PBIT CHECK VERIFY	SELECT AVMD	RMV PWR
Comments:										

SSSN#: 05-41-01	Description: PREFLIGHT (ELECTRICAL)

Task#:	# 179	# 3-8	# 9-10	# 11	# 12-14	# 15-17	# 18-22	# 23-24	# 25-27	# 28-33
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other										
	APPLY POWER A/C IMMC B	PERFORM STEPS 3-8	BARO-CORR ALT	CALIBRATD AIRSPEED	PITOT HEATERS: FUNCTION	ECS / FUEL FUNCTION	PERFORM STEPS 18-22	VERIFY L/H AUX AIR DOOR	VERIFY R/H AUX AIR DOOR	AUX FLT DATA/ CONFIG
Comments:	AFTER STEP # 178 CONTINUE WITH TASK# 179 FOR (IMMC B)									

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP:	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE 11-Jun-12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-01A-281A-A	Title: PREFLIGHT (ELECTRICAL) 10_278
Authorizing Document:	ACFT #: 168739
SSSN#: 05-41-01	Description: PREFLIGHT (ELECTRICAL) IMMC B

Task#:	# 34-44	# 45-60	# 61-78	# 79-92		# 93-98	# 99-110	# 111-113	# 114-129	# 130-131
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)		(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other										
Instruction	RADIO ALTIMETER OPER	FLIGHT CTRL CHECK	CHECK LIGHTS	AIR TEMP/ICE DET OPER		IFF TRANS CHECK	FWD FDC/CAMA CHECK	AFT FDC/UHF SAT CHECK	ATC CHECK	AICS CHECK
Comments:										

SSSN#: 05-41-01	Description: PREFLIGHT (ELECTRICAL) IMMC B

Task#:	# 132-147	# 148-156	# 157-163	# 164-167	# 168-174	# 175-177	# 178	# 181	# 182	# 183
Mechanic	NA	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other										
Instruction	RECORDER CHECK	SATCOM WAVE GUIDE CK	NAV KEARFOTT CHECK	OMNISTAR CHECK/ VERIFY	NAV PBIT CHECK VERIFY	VERIFY AVM STATUS	RMV A/C PWR	RMV VTC PWR	INSTALL BATTERIES	APPLY POWER
Comments:										

SSSN#: 05-41-01	Description: PREFLIGHT (ELECTRICAL) IMMC B

Task#:	# 184	# 185-188	# 189-192	# 193-197	# 198-202	# 198-202	# 203-209	# 210-218	# 219	# 220
Mechanic	NA	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection			NI 935 QI		MISSION PLAN E0632N5A					
Other			27.8 vdc		CHECK SUM 0EA4CAF8					
Other	LOAD AICS	IMMC GREEN VERIFY	A/C BUS CK/VERIFY	AIR DATA CK/VERIFY	MISSION PLAN VERIFY	MISSION PLAN VERIFY	RAD ALT CK/VERIFY	FLT DATA CONFIG CK/VERIFY	IMMC FAULT LOGS	RMV A/C & VTC PWR
Comments:										

SSSN#: 05-41-01	Description: PREFLIGHT (ELECTRICAL)

Task#:	# 1-220	FOM #1	FOM #2	FOM #2	FOM #2	FOM #3	FOM #3	FOM #3		
Mechanic	(b)(6)	(b)(6)	(b)(6)		(b)(6)	(b)(6)		(b)(6)		
Inspection	NI 935 QI		NI 935 QI	FOE NI 935 QI		NI 935 QI	FOE NI 935 QI			
Other - FOE				MCI			MCI			
	ELEC PREFLT COMPLETE	Install Panel Covers	OK To Install L1 Panel	OK To Install L1 Panel	Install L1 Panel	OK To Install L2 Panel	OK To Install L2 Panel	Install L2 Panel		
Comments:										

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP: NI 905 QI	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	11-Jun-12

INPUTS
GLOBAL HAWK
Form F

Date (YY/MM/DD)	
Aircraft Model	RQ-4A
Serial Number	168739
Home Station	PAX River
Computed by (Print Name and Grade)	NG GH W & B Certified
Weight & Balance Verified by	NG GH Quality
Type of Mission	
BASIC AIRCRAFT (From Chart C)	
Weight	10654.6
Moment/100	42496.2
RAMP GROSS WEIGHT (Pre-flight scale reading)	Provided from Pre-Flight Weighing

GLOBAL HAWK WEIGHT AND BALANCE CLEARANCE FORM

Date (YY/MM/DD)	Aircraft Model	Serial Number	Home Station	Page
2012-Jun-11	RQ-4A	168739	PAX River	1 of 2
Computed by (Print Name and Grade) NG GH W & B Certified	(b)(6)	**Type of Mission**		
Weight & Balance Verified by NG GH Quality	(b)(6)	(b)(6)	**(Initials)**	

REF		WEIGHT	ARM	INDEX OR MOM/100
1	BASIC AIRCRAFT (From Chart C)	10654.6		42496.2
2	TOTAL OF MISSION KITS (Column I -- REF 10)	874.9		1944.1
3	TOTAL OF CG CONTROL BALLAST (Column II -- REF 11)	0.0		0.0
4	DRY WEIGHT (Used to determine Fuel Load -- REF 1+2+3)	11529.5		44440.2
5	UNUSABLE FUEL	350.0	377.87	1322.5
6	ZERO FUEL WEIGHT (Used to determine CG Limits -- REF 4+5)	11879.5	385.23	45762.8
7	USABLE FUEL LOAD (Pre-flight scale reading minus REF 4+5)	11048.5		
8	RAMP GROSS WEIGHT (Pre-flight scale reading)	22928.0		
9	TOTAL FUEL LOAD (FQR Input -- REF 5+7)	11398.5		

	ZERO FUEL WEIGHT IN %MAC CALCULATION	CG ZFW IN %MAC
	$\text{CG ZFW (\%MAC)} = \frac{\text{ZERO FUEL WEIGHT (REF 6) ARM - 365.84 (LEMAC)}}{\text{60.28 (MAC)}}$	32.16%

	LIMITATIONS			
	ALLOWABLE GROSS WEIGHT: with main landing gear 12 ply tires.	RAMP 27000	TAKEOFF 26750	LANDING No restrictions
	PERMISSIBLE CG ZERO FUEL WT	FORWARD 31.00%	AFT 33.00%	

REMARKS

GLOBAL HAWK WEIGHT AND BALANCE CLEARANCE FORM (CONT.)

Type of Mission	Date (YY/MM/DD)	Serial Number	Page
10_278	2012/6/11	168739	2 of 2

REF 10 COLUMN I -- PAYLOAD ITEMS REQUIRED FOR MISSION				
	ITEM	WEIGHT	ARM	MOMENT/ 100
				0.0
190049-0216	SS Recorder (1 canister)	28.00	301.18	84.3
6475900-100	5/10/2012	73.00	219.90	160.5
5145025-110	Rcvr/Exctr/Cntrl S3/E1	107.60	242.50	260.9
5145046-110	ISP S3/E1	144.70	265.70	384.5
5145070-110	ISS PDU S3/E1	29.90	266.80	79.8
5145011-100	Transmitter S3/E1	99.50	242.50	241.3
6477120-100	EO/IR Sensor Turret Assy S3/E1	288.70	151.70	438.0
6381600-100	10_277_Rev2	96.90	287.50	278.6
1200K601-3	partial Waveguide	6.58	246.10	16.2
	Total	874.9		1944.1

REF 11 COLUMN II -- BALLAST REQUIRED FOR MISSION			
ITEM	WEIGHT	ARM	MOMENT/ 100
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
			0.0
Total	0.0		0.0

TO#: RQ4-A-08-30-01-00A-100A-A	Title: WEIGHING AIRCRAFT (INTERCOMP SYSTEM)	
Authorizing Document:	ACFT #: 168739	
SSSN#: 08-30-01	Description: WEIGHING ACFT (INTERCOMP WEIGHING SYSTEM)	

UAV CONFIGURATION

Tail Number:	168739	Date:	6/5/2012
Mission:	10_278	Notes:	
Technicians:	(b)(6)		

OTHER DATA

Fuel Temperature	74	degree F	RMLG Chrome	2.0	inches
Fuel Specific Gravity	.800		LMLG Chrome	2.0	inches
Fuel Density	6.66	lbs/gal	NLG Chrome	2.2	inches
Corrected Fuel Density	6.70	lbs/gal			

REFERENCE DATUM

Nose Landing Gear	210.09	inches
Main Landing Gear		inches

ACCEPTABLE LIMITS

Gross Weight	(#)	+/- 100 lbs.
Longitudinal CG	(#)	+/- 0.5 inches, FS

(#) - Engineering Supplied Data

FLUID INVENTORY

Engine Oil	Topped	Topped Off, High or Low (lbs., qt. or gal.)
Hydraulic Fluid	Topped	Topped Off, High or Low (lbs., qt. or gal.)
Fuel Dip Stick	11.5	(inches)

INITIAL WEIGHT READINGS

Nose Gear (NLG)		Rt Main Gear (RMLG)		Lt Main Gear (LMLG)	
Total Initial Weight (lbs)					

JACK LOAD * Allow the aircraft weight to stabilize before calculating the JACK LOAD (lbs)

Forward | or Aft | (check one)

A.	Min. Scale Load		= Total Initial Weight		- Max. Jack Load	2700 lbs.
B.	* Jack Load (lbs)		= Total Initial Weight		- Current Weight	

PITCH ANGLE

Version 10.' Angle (degrees) Nose Up Nose Down (check one)

WEIGHED CONFIGURATION (WC)

	Ref.Datum Distance (inches)	As Weighed (lbs)	Final Zero (lbs)	Corrected Weight (lbs) (1)	Reaction Point F.S. (inches) (3)	Wt x FS Moment (in-lbs)
NLG Scale		2618		2618		
Left MLG Scale		10080		10080		
Right MLG Scale		10230		10230		
Jack Load			0.0		(**)	
WC Gross Weight & CG		22928		22928		

(**) The value is 205.0 if the forward jack was installed or 522.0 if the aft jack was installed

(1) Corrected Weight = As Weighed - Final Zero

(2) Reaction Point F.S. = Reference Datum + Reference Datum Distance
= Fuselage Station (FS) at the Centerline of the Axle (Load Reaction)

38185
26.56

AIRCRAFT CONFIGURATION (AC)

	Weighed (lbs)	CG FS (inches)	Moment (in-lbs)
Weighed Configuration (WC)			
+ Shortage Item Total	(#)	(#)	(#)
- Non-Flight Item Total	(#)	(#)	(#)
AC Gross Weight & CG			

FUEL LOAD

AC Gross Weight	22928
- Dry Weight	[redacted]
Fuel Load (lbs.)	11398

(#) - Engineering Supplied Data

ENCLOSURE (4)

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-02A-281A-A	Title: PREFLIGHT (MECHANICAL) 10_278		
Authorizing Document:		ACFT #: 168739	
SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)		
Additional Information:		L/H___	R/H___

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Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

QA APPROVAL FOR PEN & INK CHANGES	DATE:	STAMP: 905	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	06/11/12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-02A-281A-A	Title: PREFLIGHT (MECHANICAL) 10_278
Authorizing Document:	ACFT #: 168739
SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)

Quality Assurance Provisions

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MGR	=	Manager
MP	=	Mass Properties
NDI	=	Non Destructive Inspection
QA	=	Quality Assurance
SFT	=	System Safety
SUPV	=	Supervisor (Means Tow, Jacking, Fuel, etc,)
TD	=	Test Director

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP: 905 Q	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE 06/11/12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-02A-281A-A	Title: PREFLIGHT (MECHANICAL) 10_278
Authorizing Document:	ACFT #: 168739

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	Req'd Conditions	Warnings	# 1-4	# 5	# 6	# 7	# 8	# 9	#10	#11
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection									INI 905 O	
Other									RECORD 2860	
Instruction	VERIFY PRELIM RESULTS	HIGH TEMP LP, S AND HYD FLUID	SEE DET	INSPECT FORWARD FUSELAGE	INSPECT SATCOM RADOME	INSPECT TOTAL AIR TEMPATURE	INSPECT ICE DETECTOR PROBE	INSPECT LEFT HAND, CENTER FUSELAGE	SATCOM BOTTLE PRESSURE	DESICCANT SAR WAVE GUIDE
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	# 12	# 13	# 14-17	# 18	# 19	# 20	# 21	# 22	# 23	# 23a
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	LH OUTBOARD TIRE
Inspection									INI 905 O	RECORD 205
Other										LH INBOARD TIRE
Instruction	INSPECT LE PANEL AREA	INSPECT SAR RADOME	INSPECT FFT	INSPECT LEFT MLG STRUT	INSPECT WOW SWITCH	INSPECT BRAKE LINES	INSPECT BRAKE AREA	VERIFY BRAKE INDICATOR WEAR	LEFT MAIN TIRE SERVICE	RECORD 205
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	# 24	# 25	# 26	# 27	# 28	# 29-31	#32	# 33	# 34-38	# 39
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection				INI 905 O						
Other				RECORD 3206					INSPECT LEFT WING AILERONS	
Other	LEFT MAIN TIRE WEAR	WIPE DOWN STRUTS	INSPECT LEFT MAIN CHROME	LANDING GEAR BOTTLE	INSPECT RADIO ALT ANTENNA	INSPECT XW 67 RIB AREAS	INSPECT MLG AUX SPAR	INSPECT LEFT WING	INSPECT LEFT WING SPOILERS	INSPECT LEFT NAV LIGHTS
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	# 40	# 41	# 42-45	# 46	# 47	# 48-49	# 50	# 51	# 52	# 53-54
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other					INSPECT TCAS, UHF SATCOM					
	INSPECT LEFT STROBE LIGHT	INSPECT LEFT STATIC WICKS	INSPECT LH LOWER DOOR	INSPECT LH MID NACELLE	GPS &SGPS ANTENNAS	INSPECT LH ENGINE BAY	INSPECT DC GENERATOR	VERIFY ENG OIL FILTER	VERIFY ENG FUEL FILTER	VERIFY FLY-AWAY KIT
Comments:										

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP: INI 905 O	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	06/11/12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-02A-281A-A	Title: PREFLIGHT (MECHANICAL) 10_278
Authorizing Document:	ACFT #: 168739

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	# 55-57	# 58-60	# 61	# 62	#63	# 64	# 65	# 66	# 67	# 68
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection		AFT FUSELAGE BAY PNL								
Other		RESISTANCE CHECK								
Instruction	INSPECT GPP DOOR	24001 AND FS 582	INSPECT LE PANEL AREA	INSPECT LH V-TAIL	LH V-TAIL STATIC WICKS	INSPECT LH PITOT STATIC PROBE	INSPECT LH RUDDER VATORS	INSPECT AFT FUSELAGE	INSPECT IFF ANTENNA	INSPECT AFT ACCESS PANEL
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	# 69	# 70	# 71	# 72	# 73	# 74	# 75	# 76-80	# 81	# 82-83
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other								INSPECT RH LWR DOOR	RECORD 2000	DRAIN HYD FLUID FROM MG
Instruction	INSPECT TAIL LIGHT	INSPECT EXHAUST FAIRING	INSPECT INSIDE TAIL FIRE	INSPECT RH V-TAIL	INSPECT RH V-TAIL STATIC WICKS	INSPECT RH PITOT STATIC PROBE	INSPECT RH RUDDER VATORS	VERIFY FLUSH PINS PF & RF	VERIFY ACC1	CLOSE RH LWR DOOR
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	# 84	# 85	# 86	# 87-88	# 89-90	# 91	# 92	# 93	# 94	# 95
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other										
Other	INSPECT CDL ATENNA	INSPECT RH MID NACELLE	INSPECT DSPS ANTENNA	INSPECT RH ENGINE BAY	INSPECT HYD RES	INSPECT ENGINE OIL RES	INSPECT MG	INSPECT AUX OIL PUMP	INSPECT EDP	INSPECT CD1,CD2 & CD3
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	# 96-98	# 99	# 100	# 100a	# 101	# 102	# 103	# 104	# 105	# 106
Mechanic	(b)(6)	(b)(6)	(b)(6)	RH OUTBOARD TIRE	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection		9/26	9/26	RECORD 205			9/26			
Other	INSPECT FCD RED PIN FLUSH	RECORD 3200	PERFORM STEPS	RH INBOARD TIRE						INSPECT FOR OIL PUDDLE OR
	CLOSE RH ENGINE DOOR	ENERG BRAKE BOTTLE	19-41 ON RH MLG AND WING	RECORD 205	INSPECT RH CENTER FUSELAGE	INSPECT FWD ENG NACELLE	INSPECT ENG INLET AREA	INSPECT FAN SPINNER	INSPECT FAN BLADES	RESIDUE CIT FAN BLADES
Comments:										

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP: 9/26	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	06/11/12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-01-02A-281A-A	Title: PREFLIGHT (MECHANICAL) 10_278
Authorizing Document:	ACFT #: 168739

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL)									
Task#:	# 107	# 108	# 109	#110	#111	#112	# 113	# 114	#115	# 116
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other							ENSURE NLG UPPER & LOWER PIN	VERIFY STEERING		RECORD 97
Instruction	INSPECT ENGINE INLET SEAL	INSPECT FUEL CAP	INSPECT R4 PANEL AREA	INSPECT R5 PANEL AREA	INSPECT NOSE LIGHT	INSPECT NLG STRUT	PIN INSTALLED	ACTUATOR MOTOR	WIRE NLG STRUT	NLG TIRE PRESSURE
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL) Follow On Maintenance									
Task#:	# 117	# 118-119	# 120-124	#1-124	FOM# 1	FOM# 2	FOM #3	FOM #3	FOM #3	FOM #4
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection										
Other								N/A		
Instruction	NLG TIRE WEAR	NLG CROME	INSPECT ERB	MECH PREFLIGHT COMPLETE	INSTALL PITOT COVERS	INSTALL ENG. INLET, EXH. CVRS	OK To Install R3 Panel	OK To Install R3 Panel	Install R3 Panel	OK To Install R4 Lwr Panel
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL) Follow On Maintenance									
Task#:	FOM #4	FOM #4	FOM #5	FOM #5	FOM #5	FOM #6	FOM #6	FOM #6	FOM #6	FOM #6
Mechanic		(b)(6)	(b)(6)		(b)(6)	(b)(6)		(b)(6)	(b)(6)	
Inspection										
Other	N/A			N/A			N/A			N/A
Other	OK To Install R4 Lwr Panel	Install R4 Lwr Panel	OK To Install upper L4 Panel	OK To Install upper L4 Panel	Install L4 Panel	OK To Install L5 Panel	OK To Install L5 Panel	Install L5 Panel	OK To Install R5 Panel	OK To Install R5 Panel
Comments:										

SSSN#: 05-41-01	Title: PREFLIGHT (MECHANICAL) Follow On Maintenance									
Task#:	FOM #6	FOM #7	FOM #7	FOM #7	FOM #8	FOM# 1-8				
Mechanic	(b)(6)	(b)(6)		(b)(6)	(b)(6)	(b)(6)				
Inspection										
Other			N/A							
	Install R5 Panel	OK To Install L5 Panel	OK To Install L5 Panel	Install L5 Panel	INSTALL GEN INLET COVER	FOM COMPLETE				
Comments:										

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP:	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	06/11/12

ENGINE OIL CONSUMPTION LOG
RQ-4A AIRCRAFT

BUNO: **168739** Engine S/N: **CAE380015**

MAXIMUM OIL CONSUMPTION PER HOUR: RQ-4A =0.21 qts. / flight hour. (6.72 oz / hour)

DATE	FLIGHT HOURS	TURNAROUND FLIGHT (YES/NO)	OZ. OF OIL CONSUMED	CONSUMPTION RATE (OZ USED PER FLIGHT HOUR)	SERVICING TECHNICIAN	MAINTENANCE CONTROL SIGNATURE
15-Dec-11	0.0	No	0	0.00	(b)(6)	(b)(6)
20-Dec-11	0.0	No	0	0.00	(b)(6)	(b)(6)
20-Apr-12	3.6	NO	0	0.00	(b)(6)	(b)(6)
25-Apr-12	1.5	NO	0	0.00	(b)(6)	(b)(6)
10 June 12	4.4	No	0	0.00	(b)(6)	(b)(6)

FUEL SAMPLE LOG SHEET

GHMD-M-F0007 May-07

TYPE EQUIPMENT: RQ-4A	LOW POINT LOCATION: L/H WING-TIP, R/H WING-TIP, CENTER TANK	SERIAL BUNO: 168739

DATE	TIME	1	2	3	4	5	6	7	8	9	10	11	12	SAMPLE TAKEN BY	INSPECTED BY	REMARKS
15 DEC 11	0515	1A	1A	1A										(b)(6)		
20 DEC 11	0330	1A	1A	1A										(b)(6)		
20 DEC 11	1100	1A	1A	1A										(b)(6)		
11 JAN 12	0500	1A	1A	1A										(b)(6)		
06 FEB 12	0500	1A	1A	1A										(b)(6)		
07 FEB 12	0500	1A	1A	1A										(b)(6)		
11 APR 12	0500	1A	1A	1A										(b)(6)		
20 APR 12	0515	1A	1A	1A										(b)(6)		
25 APRIL 12	0500	1A	1A	1A										(b)(6)		
6 MAY 12	1320	1A	1A	1A										(b)(6)		
5 June 12	0700	1A	1A	1A										(b)(6)		
11 June 12	0800	1A	1A	1A										(b)(6)		

A-NO CONTAMINATION FOUND
D-DIRT
E-EMULSION
F-FOAM
M-MICROBIOLOGICAL
O-OTHER
P-PARTICULATE MATTER
W-WATER

DIRECTIONS: UNDER EACH LOW POINT LOCATION COLUMN, ENTER THE QUANTITY OF THE FUEL SAMPLES TAKEN AND IDENTIFY THE APPROPRIATE CONTAMINATION CODE. IN THE REMARKS COLUMN, ENTER THE JCN FOR ANY DISCREPANT TANK/CELL.

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-03-00A-281A-A	Title: POSTFLIGHT _10_277		
Authorizing Document:		ACFT #: 168739	
SSSN#: 05-41-03	Title: POSTFLIGHT		
Additional Information:		L/H___	R/H___

NOTE:

IF A MATRIX IS NOT IN THE LIBRARY / LIVE LINK THEN IT IS NOT APPROVED FOR USE. T.O. STEPS CAN BE BOUGHT ON A TWS AND A REQUEST FOR A MATRIX SUBMITTED. THERE IS NO REASON TO STOP WORK UNLESS THE TASK IS TOO LARGE TO MANUALLY DOCUMENT.

A BUYOFF MATRIX IS NOT REQUIRED WHEN PERFORMING COMMON KNOWLEDGE T.O. TASKS SUCH AS (SAFE FOR MAINT), (POWER UP), ETC. THESE MAY BE REFERENCED AS A SSSN ON A MATRIX SEQUENCE.

PERMANENT CLOSEOUT OF PANELS / DOORS REQUIRE QA, FOE, AND MCI. N/A BLOCKS IF NOT PERMANENT CLOSEOUT.

BUYOFF SEQUENCES ARE THE NON-SHADED AREAS IN THE T. O. MATRIX

Reference 781 Forms: Production Aircraft will not have 781 Forms. Check all production and build records for aircraft status before towing.

MATRIX IS VALID FOR THREE (3) DAYS AFTER DATE PRINTED IN LOWER RIGHT CORNER (MATRIX REVISION DATE)

USE OF ALTERNATIVE PROCEDURES/SPECIFICATIONS

THERE ARE SEVERAL DIFFERENT WAYS PROCESSES/TASKS CAN BE ACCOMPLISHED AND THE USE OF TECH ORDERS IS NOT MEANT TO RESTRICT THEIR USE. ANY AUTHORIZED PROCEDURE CAN BE SUBSTITUTED AS LONG AS IT IS DOCUMENTED IN THE COMMENTS BLOCK OF THE MATRIX. TEST DIRECTORS AND GH MANAGEMENT ARE AUTHORIZED TO APPROVE THE SUBSTITUTION.

DO NOT MIX PROCESSES. DO NOT SUBSTITUTE OR MIX THE CONSUMABLE CALL OUTS.

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

QA APPROVAL FOR PEN & INK CHANGES	DATE:	STAMP:	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	06/05/12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-03-00A-281A-A	Title: POSTFLIGHT	_10_277	
Authorizing Document:		ACFT #: 168739	
SSSN#: 05-41-03	Title: POSTFLIGHT		

Quality Assurance Provisions

Qualification(s): Employee's must be certified, qualified, or have the proper authority to perform tasks.

Responsibilities:

Task acceptance blocks within this document are identified with acronyms signifying the responsible department for performing product acceptance. Reference approved acronyms listing below.

BUY	=	BUY (Means who buys the block) TD-MGR-SM-QA (etc)
DCMA	=	Defense Contract Management Agency
FD	=	Northrop Grumman Fire Department
FOE	=	Foreign Object Elimination
INST	=	Instrumentation
MECH	=	Mechanic
MGR	=	Manager
MP	=	Mass Properties
NDI	=	Non Destructive Inspection
QA	=	Quality Assurance
SFT	=	System Safety
SUPV	=	Supervisor (Means Tow, Jacking, Fuel, etc,)
TD	=	Test Director

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-03-00A-281A-A	Title: POSTFLIGHT	_10_277
Authorizing Document:		ACFT #: 168739

SSSN#: 05-41-03	Title: POSTFLIGHT								
Task#:	Req'd Conditions	Warnings	# 1	# 2-3	# 4-7	# 8	# 9	# 10	# 11-12
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection									
Other									
Instruction	VERIFY PRELIM RCWCS	HIGH TEMP JP-8 AND HYD FLUID	APPLY POWER	SAVE FAULT LOGS RMV PWR	SEE DET	INSPECT SAR RADOME	INSPECT LFT SIDE FUSE	OPEN SAR ACCESS	FPI
Comments:									

SSSN#: 05-41-03	Title: POSTFLIGHT								
Task#:	# 13	# 14	# 15	# 16	# 17-20	# 21-23	# 24	# 25	# 26
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection									
Other									
Instruction	INSP BRCFN FOR DISBONDS	CLOSE SAR	INSPECT LE AREA	INSPECT L-E	INSPECT GPP	INSPECT LH HELL HOLE AREA	CLOSE LH ACCESS DOOR	VERIFY EMER LG BTL PRESS	INSPECT RA ANTS
Comments:									

SSSN#: 05-41-03	Title: POSTFLIGHT								
Task#:	# 27	# 28-34	# 35	# 36-39	# 40-44	# 45	# 46-49	# 50	# 51
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection									
Other				RECORD	RECORD				
Other	INSPECT LH MID MAC AREA	INSPECT LH ENGINE BAY AREA	APPLY POWER VTC/AC	AIR DATA RVSM	FADEC P,2P COMPARE	REMOVE PWR	INSPECT LHV TAIL AREA	INSPECT AFT FUSE AREA	INSPECT IFF ANTENNA
Comments:									

SSSN#: 05-41-03	Title: POSTFLIGHT								
Task#:	# 52	# 53	# 54-57	#58	# 59-63	# 64	# 65	# 66	# 67
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection									
Other									
Other	INSPECT ENG FAIRING	INSPECT TAILPIPE	INSPECT RH V-TAIL AREA	INSPECT RH CTR FUSE	INSPECT RH HELL HOLE AREA	DRAIN HYD FLUID	CLOSE RH ACCESS DOOR	INSPECT CDL RADOME AREA	EMER BRAKE BTL PRESS
Comments:									

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP:	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	06/05/12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-03-00A-281A-A	Title: POSTFLIGHT 10_277
Authorizing Document:	ACFT #: 168739

SSSN#: 05-41-03	Title: POSTFLIGHT										
Task#:	# 68	# 69-70	# 71	# 72	# 73-74	# 75	# 76-77	# 78	# 79	# 80-84	# 85
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection											
Other											
Instruction	RH MID NACELLE AREA	INSPECT RH ENG BAY AREA	ENGINE OIL SER	INSPECT AC GEN	INSPECT HYD PUMPRES	INSPECT HYD QTYS	INSPECT FOD	CLOSE ENG ACCESS DOOR	INSPECT FWD BAGE AREA	INSPECT INLET AREA	INSPECT FUEL FILL CAP
Comments:											

SSSN#: 05-41-03	Title: POSTFLIGHT										
Task#:	# 86	# 87	# 88	# 89-92	# 93	# 94	# 95	# 96	# 97	# 98	# 99
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection											
Other											
Instruction	INSPECT SATCOM RADOME	INSPECT FWD FUSE AREAS	INSPECT RH ACCESS AREA	SERV HUM IND	INSPECT TOTAL AIR TEMP SEN	INSPECT ICE DETECTOR	INSPECT BAR WG DESICCANT	INSPECT LH MLG STRUT	LH WIPE EXPOSED CHROME	INSPECT LH WOW SWITCH	INSPECT LH BRAKE LINES
Comments:											

SSSN#: 05-41-03	Title: POSTFLIGHT										
Task#:	# 100-101	# 102	# 103-105	# 106	# 107	# 108	#109-110	# 111	# 112-113	# 114	# 115
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection											
Other											
Other	INSPECT LH BRAKES	INSPECT LH MLG TIRES	INSPECT LH XWBT RIB AREAS	INSPECT MLG AUX SPAR	INSPECT LH WING AREA	INSPECT LH SPOILERS	INSPECT LH AILERONS	INSPECT LH WING TIP AREA	INSPECT NLG STRUT	INSPECT NWB ACT	WIPE NLG EXPOSED CHROME
Comments:											

SSSN#: 05-41-03	Title: POSTFLIGHT										
Task#:	# 116	# 117	# 96	# 97	# 98	# 99	# 100-101	# 102	# 103-105	# 106	# 107
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)
Inspection											
Other											
Other	INSPECT NLG TIRE	PERFORM HA-11 FOR NOE	INSPECT RH MLG STRUT	RH WIPE EXPOSED CHROME	INSPECT RH WOW SWITCH	INSPECT RH BRAKE LINES	INSPECT RH AILERON	INSPECT RH MLG TIRES	INSPECT RH XWBT RIB AREAS	INSPECT NLG AUX SPAR	INSPECT RH WING AREA
Comments:	See Matrix Pg 5 for FOM (Follow On Maintenance) Requirements										

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP:	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	06/05/12

TECH ORDER BUYOFF MATRIX

TO#: RQ4-A-05-41-03-00A-281A-A	Title: POSTFLIGHT _10_277	
Authorizing Document:	ACFT #: 168739	

SSSN#: 05-41-03	Title: POSTFLIGHT (Follow on maintenance)									
Task#:	# 108	#109-110	# 111	# 118	#1-118	FOM #1	FOM #2	FOM #3	FOM #3	FOM #4
Mechanic	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)		(b)(6)
Inspection										
Other									MCI	
Instruction	INSPECT RH SPOILERS	INSPECT RH AILERONS	INSPECT RH WING TIP AREA	INSPECY NOSE LIGHT	POSTFLIGHT COMPLETE	INSTALL ENG. COVERS	INSTALL PITOT COVERS	OK To Install L4 Panel	OK To Install L4 Panel	OK To Install L8 Panel
Comments:										

SSSN#: 05-41-03	Title: POSTFLIGHT (Follow on maintenance)									
Task#:	FOM #4	FOM #4	FOM #4	FOM #4	FOM #5	FOM #5	FOM #5	FOM #6		
Mechanic		(b)(6)		(b)(6)	(b)(6)		(b)(6)	(b)(6)		
Inspection										
Other	MCI		MCI			MCI				
Instruction	OK To Install L8 Panel	OK To Install R8 Panel	OK To Install R8 Panel	Install R8 Panel	OK To Install L8 Panel	OK To Install L8 Panel	Install L8 Panel	INSTALL GEN INLET COVER		
Comments:										

SSSN#:										
Task#:										
Mechanic										
Inspection										
Other										
Other										
Comments:										

SSSN#:	Title:								
Task#:										
Mechanic										
Inspection										
Other										
Other										
Comments:										

Version 11.12.006 RAC6

INSPECTION CONTROLLED DOCUMENT

Version 11.12.006 RAC6	DATE:	STAMP:	MATRIX APPROVED BY:	DATE:	MATRIX REVISION DATE	06/05/12

MISSION PLAN UGWF0632N5A FLIGHT NUMBER N5-277

INITIALS	DATE	ACTION
(b)(6)	6/5/2012	SHUTDOWN THE MISSION.
(b)(6)		PRINT OUT THE OPERATOR LOG, IF NOT DONE.
(b)(6)		EXECUTE THE POST MISSION ARCHIVE.
(b)(6)		ARCHIVE THE C2 LOGGER DATA FILES FROM THE MISSION.
(b)(6)		MOVE THE MISSION LOGS DIRECTORY TO THE CORRECT LOCATION.
(b)(6)		SHUTDOWN THE C2 LOGGER PC.
(b)(6)		SHUTDOWN THE SEE & DETECT PC AND MONITOR
(b)(6)	6/5/2012	SHUTDOWN THE DGPS LAPTOP AND RECEIVER DRAWER.

(b)(6)

RAYTHEON FIELD SERVICE REPRESENTATIVE VERIFICATION

GLOBAL HAWK MCE POST-MISSION CHECKLIST T10-F008 (7-04)

MISSION PLAN E6ATΦN5Φ FLIGHT NUMBER N2-261

INITIALS	DATE	ACTION
(b)(6)	6/10/12	SHUTDOWN THE MISSION.
(b)(6)		PRINT OUT THE OPERATOR LOG.
(b)(6)		EXECUTE THE POST MISSION ARCHIVE.
(b)(6)		ARCHIVE THE C2 LOGGER DATA FILES FROM THE MISSION.
(b)(6)		MOVE THE MISSION LOGS DIRECTORY TO THE CORRECT LOCATION.
(b)(6)		PURGE THE "/RAID/haeImagery" DIRECTORY.
		INITIATE IMAGERY ARCHIVE AND DATABASE CLEANUP.
(b)(6)	6/10/12	SHUTDOWN THE C2 LOGGER, SIPRENET AND LR100 PC's.

RAYTHEON FIELD SERVICE REPRESENTATIVE VERIFICATION (b)(6)

RELEASE AUTHORITY (RA)

NORTHROP GRUMMAN

(b)(4)

(b)(4)

RELEASE AUTHORITY (RA)
NORTHROP GRUMMAN

(b)(4)

(b)(4)

(b)(6)

From: (b)(6)
Sent: Tuesday, October 11, 2011 6:11 PM
To:
Cc: (b)(6)

Subject: Reportable Defects from Navy N-5 NDI

All,

(b)(4)

Thanks,

(b)(6)

DaDT Engineer
Global Hawk Analysis and Integration IPT
Northrop Grumman Corporation
(b)(6)

ENCLOSURE (5)

BAMS-D N5

NDI Phase Inspection
Reportable Indications

September 16,2011 Results vs.
USAF 2010 Inspection Results
Per ACS-PRS-5001 Bond Line Class C

(b)(4) [grpahics provided by Northrop Grumman]

(b)(4) [graphics provided by Northrup Grumman]

FROM	TO	MDS	SERIAL NUMBER
18-Jun-12		RQ-4A	168739

A. AEROSPACE INSPECTION STATUS

NEXT PERIODIC, MAJOR OR PHASED INSPECTION DUE NO.					
TYPE	COMPL	NEXT DUE	COMPL	NEXT DUE	
FLT CYCLES	277				

B. ENGINE DATA

PSN	ENG SER NO	ENG CHANGE DUE TIME	PSN	ENG SER NO	ENG CHANGE DUE TIME
1	CAE380015	2500	5		
2			6		
3			7		
4	ENG CYCLES	192	8		

C. CALENDAR AND HOURLY INSPECTION SCHEDULE

D. CURRENT AIRFRAME TIME (HOURS)	4287.3	E. CURRENT ENGINE FLIGHT HRS	18	<- TSO
INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE
Controlling Document				
1Q-4(R)A-2-WA-2				
Version 11.12.006 RAC6				
Dated: 16 May 2012				
HOURLY INSPECTIONS				
EVERY 500 FLIGHT HOURS PERFORM AILERON ROTARY ACTUATOR INSPECTION (RQ4-A-05-42-05-00A-281A-A)	500 FLT HRS LAST INSPECTION FLT HRS	500 4269.3	INTERVAL REMAINING	482 4769.3
EVERY 500 FLIGHT HOURS PERFORM RUDDERVATOR ROTARY ACTUATOR INSPECTION (RQ4-A-05-42-06-00A-281A-A)	500 FLT HRS LAST INSPECTION FLT HRS	500 4269.3	INTERVAL REMAINING NEXT DUE	482 4769.3
EVERY 500 FLIGHT HOURS PERFORM SPOILER ROTARY ACTUATOR INSPECTION (RQ4-A-05-42-07-00A-281A-A)	500 FLT HRS LAST INSPECTION FLT HRS	500 4269.3	INTERVAL REMAINING NEXT DUE	482 4769.3
EVERY 500 FLIGHT HOURS PDC LATENT FAILURE OF FLIGHT CONTROL SYSTEM INSPECTION (RQ4-A-05-42-09-02A-281A-A)	500 FLT HRS LAST INSPECTION FLT HRS	500 4269.3	INTERVAL REMAINING NEXT DUE	482.0 4769.3
EVERY 1000 FLIGHT HOURS PERFORM FUEL TRANSFER SYSTEM VISUAL INSPECTION (RQ4-A-05-42-04-00A-281A-A)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 4269.3	INTERVAL REMAINING NEXT DUE	982 5269.3

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
EVERY 125 FLT HOURS PERFORM ISP LOG FILE EXTRACTION (T.O. 33A1-3-626-1)	125 FLT HRS	125	INTERVAL		
	LAST INSPECTION FLT HRS	4282.9	REMAINING	120.6	
			NEXT DUE	4407.9	
HOURLY INSPECTIONS (CONTINUED)					
EVERY 1000 FLIGHT HOURS PERFORM ELECTRICAL GROUND RECEPTACLE OPERATIONAL CHECKOUT (RQ4-A-24-71-00-00A-320A-A)	1000 FLT HRS	1000	INTERVAL		
	LAST INSPECTION FLT HRS	4269.3	REMAINING	982	
			NEXT DUE	5269.3	
EVERY 1000 FLIGHT HOURS PERFORM ENVIRONMENTAL CONTROL SYSTEM (ECS) INSPECTION (RQ4-A-05-42-03-00A-281A-A)	1000 FLT HRS	1000	INTERVAL		
	LAST INSPECTION FLT HRS	4269.3	REMAINING	982	
			NEXT DUE	5269.3	
EVERY 1000 FLIGHT HOURS PERFORM HYDRAULIC SAMPLE INSPECTION (RQ4-A-05-42-01-00A-281A-A)	1000 FLT HRS	1000	INTERVAL		
	LAST INSPECTION FLT HRS	4269.3	REMAINING	982	
			NEXT DUE	5269.3	
EVERY 2000 FLIGHT HOURS PERFORM PRESSURE CHECK IN FORWARD & AFT COMPARTMENTS (RQ4-A-21-30-00-00A-362A-A, SYS 21)	2000 FLT HRS	2000	INTERVAL		
	LAST INSPECTION FLT HRS	4269.3	REMAINING	1982	
			NEXT DUE	6269.3	
EVERY 2000 FLIGHT HOURS PERFORM FWD CABIN PRESSURE (CPV 1) VALVE CLEANING (RQ4-A-21-31-01-00A-251A-A, SYS 21)	2000 FLT HRS	2000	INTERVAL		
	LAST INSPECTION FLT HRS	4269.3	REMAINING	1982	
			NEXT DUE	6269.3	
EVERY 2000 FLIGHT HOURS PERFORM FWD CABIN PRESSURE VALVE (CPV1) OPERATIONAL CHECKOUT (RQ4-A-21-31-01-00A-320A-A, SYS 21)	2000 FLT HRS	2000	INTERVAL		
	LAST INSPECTION FLT HRS	4269.3	REMAINING	1982	
			NEXT DUE	6269.3	
EVERY 2000 FLIGHT HOURS PERFORM FWD COMP. SAFETY VALVE (CSV1) CLEANING (RQ4-A-21-31-02-00A-251A-A, SYS 21)	2000 FLT HRS	2000	INTERVAL		
	LAST INSPECTION FLT HRS	4269.3	REMAINING	1982	
			NEXT DUE	6269.3	
EVERY 2000 FLIGHT HOURS	2000	2000	INTERVAL		

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
PERFORM FWD COMP. SAFETY	FLT HRS				
VALVE (CSV1) OPERATIONAL	LAST		REMAINING	1982	
CHECKOUT	INSPECTION				
	FLT HRS	4269.3	NEXT DUE	6269.3	
(RQ4-A-21-31-02-00A-320A-A, SYS 21)					

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
HOURLY INSPECTIONS					
(CONTINUED)					
EVERY 2000 FLIGHT HOURS	2000	2000	INTERVAL		
PERFORM AFT CABIN PRESSURE	FLT HRS				
(CPV 2) VALVE CLEANING	LAST		REMAINING	1982	
	INSPECTION				
(RQ4-A-21-31-05-00A-251A-A, SYS 21)	FLT HRS	4269.3	NEXT DUE	6269.3	
EVERY 2000 FLIGHT HOURS	2000	2000	INTERVAL		
PERFORM AFT CABIN PRESSURE	FLT HRS				
VALVE (CPV2) OPERATIONAL	LAST		REMAINING	1982	
CHECKOUT	INSPECTION				
	FLT HRS	4269.3	NEXT DUE	6269.3	
(RQ4-A-21-31-05-00A-320A-A, SYS 21)					
EVERY 2000 FLIGHT HOURS	2000	2000	INTERVAL		
PERFORM AFT COMP. SAFETY	FLT HRS				
VALVE (CSV2) CLEANING	LAST		REMAINING	1982	
	INSPECTION				
(RQ4-A-21-31-03-00A-251A-A, SYS 21)	FLT HRS	4269.3	NEXT DUE	6269.3	
EVERY 2000 FLIGHT HOURS	2000	2000	INTERVAL		
PERFORM AFT COMP. SAFETY	FLT HRS				
VALVE (CSV2) OPERATIONAL	LAST		REMAINING	1982	
CHECKOUT	INSPECTION				
(RQ4-A-21-31-03-00A-320A-A, SYS 21)	FLT HRS	4269.3	NEXT DUE	6269.3	
ALSO SEE REPLACEMENT	2000	2000			
SECTION FOR 2000 HR REQM'TS	FLT HRS				
ALSO SEE REPLACEMENT	3000	3000			
SECTION FOR 3000 HR REQM'TS	FLT HRS				
ALSO SEE REPLACEMENT	4000	4000			
SECTION FOR 4000 HR REQM'TS	FLT HRS				
CALENDAR INSPECTIONS					
	90	DATE DUE	Days Remaining		
EVERY 90 DAYS	DAYS	5-Aug-12	49		
PERFORM AIR DATA OPERATIONAL	7-May-12				
CHECKOUT	Last Done				
(RQ4-A-34-10-01-00A-320A-A)					
	90	DATE DUE	Days Remaining		
EVERY 90 DAYS	DAYS	6-Aug-12	50		
PERFORM LANDING GEAR	8-May-12				
STRUT SERVICING	Last Done				
NOSE PER (RQ4-A-12-13-04-00A-214A-A)					
MAIN PER (RQ4-A-12-13-03-00A-214A-A)					
	180	DATE DUE	Days Remaining		
EVERY 180 DAYS	DAYS	31-Oct-12	135		
PERFORM AIRCRAFT EXTERIOR	4-May-12				
WASH CLEANING	Last Done				
(RQ4-A-00-20-00-00A-250A-A, SYS 21)					

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
CALENDAR INSPECTIONS					
(CONTINUED)					
	180	DATE DUE	Days Remaining		
EVERY 180 DAYS	DAYS	23-Jul-12	35		
PERFORM EMERGENCY LANDING	25-Jan-12				
GEAR (LDG) SYSTEM OPERATIONAL	Last Done				
CHECKOUT (0 PSI)					
(RQ4-A-32-36-00-00A-320A-A, SYS 21)					
	180	DATE DUE	Days Remaining		
EVERY 180 DAYS	DAYS	23-Jul-12	35		
PERFORM EMERGENCY LANDING	25-Jan-12				
GEAR (LDG) SYSTEM OPERATIONAL	Last Done				
CHECKOUT (3,000 PSI)					
(RQ4-A-32-36-00-01A-320A-A, SYS 21)					
	180	DATE DUE	Days Remaining		
EVERY 180 DAYS	DAYS	23-Jul-12	35		
PERFORM EMERGENCE BRAKE	25-Jan-12				
SYSTEM OPERATIONAL CHECK					
(RQ4-A-32-40-00-00A-320A-A, SYS 21)					
	180	RESET AT			
EVERY 180 DAYS	DAYS	BATTERY			
PERFORM BATTERY (BAT 1, BAT 2,		SWAP			
BAT 3) PERIODIC CHECK					
(T.O. 8D2-63-2)					
	365	DATE DUE	Days Remaining		
EVERY 365 DAYS	DAYS	07-Aug-12	50		
PERFORM OPERATIONAL TEST ON	8-Aug-11				
TRANSFORMER RECTIFIER (TRU)	Last Done				
(RQ4-A-24-33-01-00A-320A-A, SYS 21)					
EVERY 365 DAYS	365	DATE DUE	Days Remaining		
PERFORM AILERON ROD ASSY	DAYS	7-Aug-12	50		
LUBRICATION	8-Aug-11				
RQ4-A-43-96-01-00A-520A-A	Last Done				
EVERY 365 DAYS	365	DATE DUE	Days Remaining		
ELT BATTERY INSP/CHECKOUT	DAYS	30-Apr-13	316		
RQ4-A-05-42-08-00A-281A-A	30-Apr-12				
RQ4-A-34-52-00-00A-320A-A	Last Done				
(T.O. 8D2-63-2)					
EVERY 60 MONTHS	60	DATE DUE	Days Remaining		
SDU BATTERY REPLACEMENT	Months	#VALUE!	#VALUE!		
RQ4-A-32-41-01-00A-520A-A	#VALUE#				
	Last Done				
EVERY 24 MONTHS	24	DATE DUE	Days Remaining		
AIRCRAFT WEIGHT & BALANCE	Months	20-Nov-13	520		
(RQ4-A-08-10-01-00A-100A-A).	21-Nov-11				
	Last Done				
EVERY 730 DAYS					

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
PERFORM BATTERY (BAT 1, BAT 2, BAT 3) GENERAL OVERHAUL (T.O. 8D2-63-2)	730 DAYS OR EACH FLT	NEXT FLIGHT DUE 278			
FLIGHT INSPECTIONS					
AIRFRAME NDI (RQ4-A-05-36-00-00A-350A-A)	75 FLIGHTS	75	INTERVAL REMAINING	71	
	Last Done	273	NEXT DUE	348	
PERFORM MLG STRUT LUBRICATION (RQ4-A-32-11-01-00A-242A-A, SYS 32)	13 FLIGHTS	13	INTERVAL REMAINING	9	
	Last Done	273	NEXT DUE	286	
PERFORM NLG STRUT LUBRICATION. (RQ4-A-32-21-01-00A-242A-A, SYS 32)	13 FLIGHTS	13	INTERVAL REMAINING	9	
	Last Done	273	NEXT DUE	286	
PERFORM MLG SIDE BRACE ACTUATOR LUBRICATION (RQ4-A-32-32-01-01A-242A-A, SYS 32) (RQ4-A-32-32-01-02A-242A-A),SYS 32)	13 FLIGHTS	13	INTERVAL REMAINING	9	
	Last Done	273	NEXT DUE	286	
PERFORM WHEEL BEARING LUBRICATION (RQ4-A-32-41-00-00A-242A-A, SYS 32)	30 FLIGHTS	30	INTERVAL REMAINING	29	
	Last Done	276	NEXT DUE	306	
ENGINE INSPECTIONS					
EVERY 150 FLIGHT HOURS EXAMINE THE AUXILIARY LUBE PUMP ASSEMBLY (RR S/B AE3007H-A-79-008)	150 FLT HRS	150	INTERVAL REMAINING	132.0	
	LAST INSPECTION FLT HRS	0	NEXT DUE	150	
EVERY 150 FLIGHT HOURS BORE SCOPE INSPECT COMBUSTION SECTION FUEL NOZZLES REF: ROLLS ROYCE MM (TASK 72-40-00-200-801)	150 FLT HRS	150	INTERVAL REMAINING	132.0	
	LAST INSPECTION FLT HRS	0	NEXT DUE	150	
EVERY 500 ENGINE FLIGHT HRS AIR TURBINE ENGINE STARTER OIL SERVICING. NOTE AIRFRAME INSPECTION POINT (RQ4-A-12-15-02-00A-212A-A)	500 FLT HRS	500	INTERVAL REMAINING	482.0	
	LAST INSPECTION FLT HRS	0	NEXT DUE	500	
ENGINE INSPECTIONS (CONTINUED)					
EVERY 500 ENGINE FLIGHT HRS BORE SCOPE INSPECT ENGINE COMBUSTOR LINER SECTION REF: ROLLS ROYCE MM	500 FLT HRS	500	INTERVAL REMAINING	482.0	
	LAST INSPECTION FLT HRS	0.0	NEXT DUE	500.0	

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
(TASK 72-40-00-200-801, SYS 72)					
EVERY 500 ENGINE FLIGHT HRS	500 FLT HRS		INTERVAL		
BORE SCOPE INSPECT ENGINE 2					
TURBINE SECTIONS HIGH AND	LAST		REMAINING	482.0	
LOW PRESSURE	INSPECTION				
REF: ROLLS ROYCE MM	FLT HRS	0.0	NEXT DUE	500.0	
(TASK 72-50-00-200-801, SYS 72)					
EVERY 500 ENGINE FLIGHT HRS	500 FLT HRS	500	INTERVAL		
INSPECT ENGINE FUEL & CONTROL					
BYPASS INDICATORS	LAST		REMAINING	482.0	
REF: ROLLS ROYCE MM	INSPECTION				
(TASK 73-30-00-200-801, SYS 73)	FLT HRS	0.0	NEXT DUE	500.0	
EVERY 500 ENGINE FLIGHT HRS	500 FLT HRS	500	INTERVAL		
INSPECT ENGINE INDICATING					
SYSTEM	LAST		REMAINING	482.0	
REF: ROLLS ROYCE MM	INSPECTION				
(TASK 79-30-00-200-801)	FLT HRS	0.0	NEXT DUE	500.0	
EVERY 500 ENGINE FLIGHT HRS	500 FLT HRS	500	INTERVAL		
INSPECT ENGINE INDICATING					
SYSTEM	LAST		REMAINING	482.0	
REF: ROLLS ROYCE MM	INSPECTION				
(TASK 79-30-00-200-802)	FLT HRS	0.0	NEXT DUE	500.0	
EVERY 1000 ENGINE FLIGHT HRS	1000 FLT HRS	1000	INTERVAL		
COMPRESSOR-AIR BLEED VALVE					
CLEANING/PAINTING	LAST		REMAINING	982.0	
REF: ROLLS ROYCE MM	INSPECTION				
(TASK 75-31-10-100-801)	FLT HRS	0.0	NEXT DUE	1000.0	
COMPRESSOR INLET PRESSURE	90 DAYS		INTERVAL		
(P2.5) SENSOR INSPECTION	LAST	DATE DONE	DATE DUE	DAYS REMAINING	
(RR S/B AE 3007H-75-013)	INSPECTION	13-Mar-12	11-Jun-12	-7	
EVERY 1000 ENGINE FLIGHT HRS	1000 FLT HRS	1000	INTERVAL		
AIR TURBINE ENGINE STARTER					
OIL CHANGE	LAST		REMAINING	982.0	
	INSPECTION				
(RQ4-A-12-15-02-00A-292A-A)	FLT HRS	0	NEXT DUE	1000	

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
ENGINE INSPECTIONS (CONTINUED)					
EVERY 500 ENGINE FLIGHT HRS PERFORM ENGINE WASH (RQ4-A-71-00-00-00A-258A-A)	500 FLT HRS LAST INSPECTION FLT HRS	500 0	INTERVAL REMAINING NEXT DUE	 482.0 500	
EVERY 1000 ENGINE FLIGHT HRS PERFORM AIR INLET SECTION INSPECTION / CHECK (TASK 72-00-00-200-801)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 0	INTERVAL REMAINING NEXT DUE	 982.0 1000	
EVERY 1000 ENGINE FLIGHT HRS INSPECT ENGINE FUEL AND CONTROL-GENERAL INSPECTION REF: ROLLS ROYCE MM (TASK 73-00-00-200-802, SYS 73)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 0	INTERVAL REMAINING NEXT DUE	 982.0 1000	
EVERY 1000 ENGINE FLIGHT HRS PERFORM ENGINE IGNITION SYSTEM INSPECTION / CHECK REF: ROLLS ROYCE MM (TASK 74-00-00-200-801, SYS 74)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 0	INTERVAL REMAINING NEXT DUE	 982.0 1000	
EVERY 1000 ENGINE FLIGHT HRS PERFORM AIR SYSTEM INSPECTION / CHECK (TASK 75-00-00-200-801)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 0	INTERVAL REMAINING NEXT DUE	 982.0 1000	
EVERY 1000 ENGINE FLIGHT HRS PERFORM POWER CONTROL HARNESS INSPECTION / CHECK REF: ROLLS ROYCE MM (TASK 76-00-00-200-801, SYS 76)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 0	INTERVAL REMAINING NEXT DUE	 982.0 1000	
EVERY 1000 ENGINE FLIGHT HRS PERFORM INDICATING SYSTEM INSPECTION / CHECK REF: ROLLS ROYCE MM (TASK 77-00-00-200-801)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 0	INTERVAL REMAINING NEXT DUE	 982.0 1000	
EVERY 1000 ENGINE FLIGHT HRS INSPECT ENGINE EXAUST REF: ROLLS ROYCE MM (TASK 78-00-00-200-801, SYS 78)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 0	INTERVAL REMAINING NEXT DUE	 982.0 1000	

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
ENGINE INSPECTIONS (CONTINUED)					
EVERY 1000 ENGINE FLIGHT HRS INSPECT ENGINE OIL SYSTEM REF: ROLLS ROYCE MM (TASK 79-00-00-200-801, SYS 79)	1000 FLT HRS LAST INSPECTION FLT HRS	1000 0	INTERVAL REMAINING NEXT DUE	982.0 1000	
SPECIFIC OR UNUSUAL CONDITION					
PERFORM MAIN LANDING GEAR (MLG) STRUT ASSEMBLY OPERATIONAL CHECKOUT (RQ4-A-32-11-01-00A-320A-A)	HARD LANDING				
PERFORM UNSCHEDULED MAINTENANCE INSPECTION / CHECKS (ENGINE) REF: ROLLS ROYCE MM (TASK 05-50-00-200-805, SYS 05)	HARD LANDING				
PERFORM ISS SYSTEM TEST (OUTSIDE HANGER) (RQ4-A-93-00-02-00A-320A-A)	HARD LANDING				
PERFORM POSTFLIGHT SCHEDULED INSPECTION (RQ4-A-05-41-03-00A-281A-A)	LANDING WITH COMPRESSED STRUT				
PERFORM MAIN LANDING GEAR (MLG) STRUT ASSEMBLY OPERATIONAL CHECKOUT (RQ4-A-32-11-01-00A-320A-A)	LANDING WITH COMPRESSED STRUT				
PERFORM EMERGENCY LANDING GEAR (LDG) SYSTEM RESET (RQ4-A-32-36-00-01A-341A-A)	PILOT COMMANDED	EMER. LANDING GEAR DOWN			
CROSS TRACK ERROR LIMITATIONS ON LANDING EXCEEDED 40 FEET OF CENTERLINE (RQ4-A-34-35-01-00A-421A-A)	X-TRACK ERROR EXCEEDS 40 FEET				

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
(CONTINUED)					
PERFORM POSTFLIGHT	BRAKE				
SCHEDULED INSPECTION	OVERHEAT				
(RQ4-A-05-41-03-00A-281A-A)					
PERFORM MAIN LANDING GEAR	BRAKE				
(MLG) BRAKE INSPECTION	OVERHEAT				
(RQ4-A-32-45-01-00A-311A-A)					
PERFORM POSTFLIGHT					
SCHEDULED INSPECTION	BRAKE	WHEEL ASSY.			
	OVERHEAT	THERMAL			
(RQ4-A-05-41-03-00A-281A-A)		RELIEF PLUG			
		RELEASED			
PERFORM MAIN LANDING GEAR					
(MLG) BRAKE REMOVAL	BRAKE	WHEEL ASSY.			
	OVERHEAT	THERMAL			
(RQ4-A-32-45-01-00A-520A-A)		RELIEF PLUG			
		RELEASED			
PERFORM POSTFLIGHT					
SCHEDULED INSPECTION	BRAKE				
	FIRE				
(RQ4-A-05-41-03-00A-281A-A)					
PERFORM MAIN LANDING GEAR					
(MLG) BRAKE REMOVAL	BRAKE				
	FIRE				
(RQ4-A-32-45-01-00A-520A-A)					
PERFORM POSTFLIGHT	BLOWN				
SCHEDULED INSPECTION	MLG				
	TIRE				
(RQ4-A-05-41-03-00A-281A-A)					
PERFORM MAIN LANDING GEAR	BLOWN				
(MLG) WHEEL REMOVAL	MLG				
	TIRE				
(RQ4-A-32-41-01-00A-520A-A)					
PERFORM MAIN LANDING GEAR	BLOWN				
(MLG) BRAKE INSPECTION	MLG				
	TIRE				
(RQ4-A-32-45-01-00A-311A-A)					
PERFORM POSTFLIGHT	BLOWN				
SCHEDULED INSPECTION	NLG				
	TIRE				
(RQ4-A-05-41-03-00A-281A-A)					

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
PERFORM NOSE LANDING GEAR	BLOWN				
(NLG) WHEEL REMOVAL	NLG				
	TIRE				
(RQ4-A-32-41-02-00A-520A-A)					
PERFORM POSTFLIGHT	BIRD STRIKE				
SCHEDULED INSPECTION	OR INJESTION,				
	AND FOD				
(RQ4-A-05-41-03-00A-281A-A)					
PERFORM UNSCHEDULED	BIRD STRIKE				
MAINTENANCE INSPECTION /	OR INJESTION,				
CHECKS (ENGINE)	AND FOD				
REF: ROLLS ROYCE MM					
(TASK 05-50-00-200-804, SYS 05)					
PERFORM POSTFLIGHT	LIGHTNING				
SCHEDULED INSPECTION	STRIKE				
(RQ4-A-05-41-03-00A-281A-A)					
PERFORM PREFLIGHT	LIGHTNING				
(ELECTRICAL) SCHEDULED	STRIKE				
INSPECTION					
(RQ4-A-05-41-01-01A-281A-A)					
PERFORM UNSCHEDULED	LIGHTNING				
MAINTENANCE INSPECTION /	STRIKE				
CHECKS (ENGINE)					
REF: ROLLS ROYCE MM					
(TASK 05-50-00-200-806, SYS 05)					
PERFORM ISS SYSTEM TEST	LIGHTNING				
(OUTSIDE HANGER)	STRIKE				
(RQ4-A-93-00-02-00A-320A-A)					
PERFORM UNSCHEDULED	VOLCANIC				
MAINTENANCE INSPECTION /	ASH				
CHECKS (ENGINE)					
REF: ROLLS ROYCE MM					
(TASK 05-50-00-200-803, SYS 05)					
PERFORM ERU WINDOW AND	VOLCANIC				
WINDOW FRAME CLEANING	ASH				
(RQ4-A-93-51-01-00A-284A-A)					

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
PERFORM AIRCRAFT EXTERIOR WASH CLEANING (RQ4-A-00-20-00-00A-250A-A)	VOLCANIC ASH				
PERFORM POSTFLIGHT SCHEDULED INSPECTION (RQ4-A-05-41-03-00A-281A-A)	SEVERE TURBULENCE, UNUSUAL ATTITUDE OR MANEUVERS				
PERFORM UNSCHEDULED MAINTENANCE INSPECTION / CHECKS (ENGINE) REF: ROLLS ROYCE MM (TASK 05-50-00-200-810, SYS 05)	SEVERE TURBULENCE, UNUSUAL ATTITUDE OR MANEUVERS				
PERFORM AILERON ROTARY ACTUATOR INSPECTION (RQ4-A-05-42-05-00A-281A-A)	SEVERE TURBULENCE, UNUSUAL ATTITUDE OR MANEUVERS				
PERFORM RUDDERVATOR ROTARY ACTUATOR INSPECTION (RQ4-A-05-42-06-00A-281A-A)	SEVERE TURBULENCE, UNUSUAL ATTITUDE OR MANEUVERS				
PERFORM SPOILER ROTARY ACTUATOR INSPECTION (RQ4-A-05-42-07-00A-281A-A)	SEVERE TURBULENCE, UNUSUAL ATTITUDE OR MANEUVERS				
PERFORM UNSCHEDULED MAINTENANCE INSPECTION / CHECKS (ENGINE) REF: ROLLS ROYCE MM (TASK 05-50-00-200-807, SYS 05)	SUDDEN STOP OF ENGINE				
PERFORM ENGINE OIL CHANGE (RQ4-A-12-15-01-00A-292A-A)	OPERATORS THAT FLY < 250 FLT HRS PER YEAR				
PERFORM UNSCHEDULED MAINTENANCE INSPECTION / CHECKS (ENGINE) REF: ROLLS ROYCE MM (TASK 05-50-00-200-809, SYS 05)	ENGINE OVERSPEED				

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
PERFORM UNSCHEDULED					
MAINTENANCE INSPECTION /	ENGINE				
CHECKS (ENGINE)	COMPRESSOR				
REF: ROLLS ROYCE MM	SURGE				
(TASK 05-50-00-200-811, SYS 05)					
PERFORM ENGINE TURBINE					
VIBRATION ANALYSIS	SEVERE				
	VIBRATION				
(RQ4-A-71-00-00-00A-372A-A)					
PERFORM ENGINE COMPRESSOR	SEVERE				
VIBRATION ANALYSIS	VIBRATION				
(RQ4-A-71-00-00-01A-372A-A)					
PERFORM ISS SYSTEM TEST	TEMPERATURE				
INSIDE HANGER)	DROPS				
	BELOW				
(RQ4-A-93-00-03-00A-320A-A)	14 F				
PERFORM SEVER WEATHER	TEMPERATURE				
MOORING AND PARKING	14 °AFI				
	AND BELOW				
	OR + 140 °F				
(RQ4-A-10-20-04-00A-100A-A)	AND ABOVE				
PERFORM NOSE LANDING GEAR	STOP TAXI				
(NLG) TRUNNION MOUNTING BLOCK	EVENT DURING				
FASTNERS VISUAL INSPECTION	TURN				
(RQ4-A-05-51-01-00A-281A-A)					
PERFORM EMERGENCY LOCATOR					
TRANSMITTER (ELT) BATTERY	ELT				
PACK REMOVAL	ACTIVATED				
	DURING				
	EMER. OR				
(RQ4-A-34-52-03-00A-520A-A)	OPERATED				
	FOR > 1 HR				
PERFORM AIR DATA SYSTEM TEST					
EQUIPMENT AND AIRCRAFT LEAK	EXPOSURE				
TEST	TO HEAVY				
	RAIN DURING				
(RQ4-A-34-10-01-00A-364A-A)	LANDING				
REPLACEMENT SCHEDULE					

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
EVERY 500 FLIGHT HOURS REPLACE SAR WAVEGUIDE PUMPS (RQ4-A-21-71-02-00A-520A-A)	500 FLT HRS LAST REPLACEMENT FLT HRS	500 4269.3	INTERVAL REMAINING NEXT DUE	 482.0 4769.3	
EVERY 2000 FLIGHT HOURS REMOVE DC GENERATOR FOR BEARING REPLACEMENT (RQ4-A-24-32-01-00A-520A-A)	2000 FLT HRS LAST REPLACEMENT FLT HRS	2000 3967.9	INTERVAL REMAINING NEXT DUE	 1680.6 5967.9	
EVERY 2500 FLIGHT HOURS REMOVE ENGINE FOR DEPOT DETAILED INSPECTION (RQ4-A-71-00-00-00A-520A-A)	2500 FLT HRS LAST REPLACEMENT FLT HRS	2500 0	INTERVAL REMAINING NEXT DUE	 2482.0 2500	
EVERY 2000 FLIGHT HOURS REMOVE HYDRAULIC DRIVEN AC GENERATOR FOR OVERHAUL (RQ4-A-24-21-01-00A-520A-A)	2000 FLT HRS LAST REPLACEMENT FLT HRS	2000 4277.8	INTERVAL REMAINING NEXT DUE	 1990.5 6277.8	
EVERY 3000 FLIGHT HOURS REMOVE ENGINE DRIVEN PUMP (EDP) FOR OVERHAUL (RQ4-A-29-11-01-00A-520A-A)	3000 FLT HRS LAST REPLACEMENT FLT HRS	3000 4277.8	INTERVAL REMAINING NEXT DUE	 2990.5 7277.8	
REPLACEMENT SCHEDULE (CONTINUED)					
EVERY 24 MONTHS REPLACE BATTERY IN **SAR** LN100G (RQ4-A-34-42-01-01A-520A-A)	730 days 24 Months 11/18/2011 Last Done	DATE DUE 17-Nov-13	Days Remaining 517		
EVERY 24 MONTHS REPLACE BATTERY IN **ERU** LN100G (RQ4-A-34-42-01-01A-520A-A)	730 days 24 Months 1/17/2012 Last Done	DATE DUE 16-Jan-14	Days Remaining 577		
EVERY 10 LANDINGS REPLACE 10 ply MLG tires NOT REQUIRED IF 12 ply INSTALLED (RQ4-A-32-41-01-00A-520A-A)	10 LANDINGS Last Done		INTERVAL REMAINING NEXT DUE		
EVERY 12 MONTHS **RENEW OMNISTAR SUBSCRIPTION** **(RQ4-A-34-41-01-01A-520A-A)**	365Days 12 Months 3/1/2012 Last Done	DATE DUE 18-Feb-13	Days Remaining 245		

INSPECTION ITEM	FREQUENCY	NEXT DUE	NEXT DUE	NEXT DUE	NEXT DUE
EVERY 30 MONTHS	910 DAYS	DATE DUE	Days Remaining		
REPLACE BATTERY PACK ELT	30 MONTHS	27-Oct-14	862		
	4/30/2012				
(RQ4-A-34-52-03-00A-520A-A)	Last Done				
EVERY 30 MONTHS	912.5 Days	DATE DUE	Days Remaining		
REPLACE KEARFOTT KN-4072	30 MONTHS	22-May-14	703		
BATTERY	11/22/2011	12/20/11/A			
(RQ4-A-34-41-01-01A-520A-A)	Last Done				
EVERY 36 MONTHS	1095 Days	DATE DUE	Days Remaining		
REPLACE BATTERY IN IFF	36 Months	17-Jul-14	759		
TRANSPONDER	7/18/2011				
	Last Done				
(RQ4-A-34-51-04-01A-520A-A)					
EVERY 900 FLIGHTS	900		INTERVAL		
REPLACE RUDDERVATOR	FLTS				
CONTROL RODS	LAST		REMAINING	#VALUE!	
(RQ4-A-27-21-02-00A-520A-A)	REPLACEMENT				
	FLT HRS		NEXT DUE	#VALUE!	

NATOPS JACKET REVIEW CHECKLIST

Reviewed by: (b)(6)

NAME (b)(6)	DATE 6/6/12	Expires	DATE	Expires	DATE	Expires
Review and Certification 1. Form 3760/32A Upon Check-In. 2. Upon major change in flight status 3. Periodic	(Y) N Y (N) (Y) N		Y N Y N Y N		Y N Y N Y N	
PCS Orders N/A						
Medical Clearance 1. Current FAA Class II flight physical	(Y) N	10/12	Y N		Y N	
Flight Equipment Issue 1. Form 3760/32B	(Y) N		Y N		Y N	
Designations 1. Copy of all designations (RQ-4A Pilot/IP/AC/SO) 2. Logged on Designation Form 3760/32C 3. Signed by Wing prior to flying as such. 4. FAA Pilot Cerificate.	(Y) N (Y) N (Y) N (Y) N		Y N Y N Y N Y N		Y N Y N Y N Y N	
Mission Qualifications 1. Copy of mission related qualifications (Mobile w/ Flight Line Driver's License) 2. Hawk Mobile Training Record	(Y) N (Y) N		Y N Y N		Y N Y N	
Miscellaneous: N/A						
Schools/Courses 1. FORM 3760/32E 2. Annual CRM 3. Annual ORM 4. IPC/BFR 5. Student Gradesheets	(Y) N Y N (Y) N (Y) N Y N	4/12 11/12 01/12	Y N Y N Y N Y N Y N		Y N Y N Y N Y N Y N	
Physiology/Survival N/A						
Examinations: 1. Form 3760/32G 2. Completed prior to NATOPS check flight 3. Dates/scores match those on eval. 4. Copies of most current exams or answer keys	(Y) N (Y) N (Y) N (Y) N		Y N Y N Y N Y N		Y N Y N Y N Y N	
NATOPS Evals 1. Signed evals- form 3710/7 2. Completed annually 3. Lists expiration date	(Y) N (Y) N (Y) N	12/12	Y N Y N Y N		Y N Y N Y N	
NATOPS Instrument Rating: 1. Instrument Ground School letter, w/ member listed	(Y) N	11/12	Y N		Y N	
Flight Time Summary. 1. Copy of annual flight time summary	(Y) N		Y N		Y N	
Mishap/Violation record 1. Form 3760/32H with any mishaps recorded	(Y) N		Y N		Y N	

ENCLOSURE (7)

UNITED STATES OF AMERICA
Department of Transportation
Federal Aviation Administration

MEDICAL CERTIFICATE 2nd CLASS

This certifies that *(Full name and address):*

(b)(6)

Date of Birth	Height	Weight	Hair	Eyes	Sex
(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)

has met the medical standards prescribed in part 67, Federal Aviation Regulations, for this class of Medical Certificate.

Limitations: Must wear corrective lenses

Date of Examination	Examiner's Designation No.
10/4/2011	(b)(6)

Examiner Si (b)(6)

(b)(6) M.D.

(b)(6)

FAA Form 8500-9 (9-08) Supersedes Previous Edition

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

SECTION IIIA – FLIGHT PERSONNEL DESIGNATION RECORD

NAME *(Last, first, middle initial)* (b)(6) SSN

DATE	DESIGNATION	MODEL	UNIT	PROMULGATION BY	VERIFIED
6 APR 2006	GLOBAL HAWK PILOT	RQ-4A	VX-20	CAPT (b)(6)	(b)(6)
6 APR 2006	AIRCRAFT COMMANDER	RQ-4A	VX-20	CAPT (b)(6)	(b)(6)
17 AUG 2006	INITIAL CADRE	RQ-4A	412 OG/OC	COL (b)(6) USAF	(b)(6)
06 Apr 2006	Approval of Cont. Flt Crew	RQ-4A	VX-20	(b)(6)	(b)(6)
4 Dec 08	Cont. Flt Crew	RQ-4A	VX-20	(b)(6)	(b)(6)
7 Jun 09	AC commander	RQ-4A	CPRW-5	(b)(6)	(b)(6)
19 FEB 09	GH Instructor Pilot	RQ-4A	WING 5	(b)(6)	(b)(6)
01 SEP 09	UAV A/C	RQ-4A	CPRW-2	(b)(6)	(b)(6)
01 SEP 09	UAV IP/EVAL.	RQ-4A	CPRW-2	(b)(6)	(b)(6)
17 FEB 11	BAMS D FOL INDOC PCERT	RQ-4A	99 ERS	(b)(6)	(b)(6)

OPNAV 3760/32C (APR 1981)

BAMS –D FOL OPERATIONS INDOC AND CERTIFICATION CHECKLIST

RANK/NAME: (b)(6) CREW POSITION: Pilot

TMS: RQ-4B ARRIVAL/DEPT DATES: _____

*AIRCREW MUST COMPLETE THE FOLLOWING BEFORE FLYING UNSUPERVISED OR ASSUMING ALERT.

PREREQUISITES	OPR	DATE/INITIALS
BAMS-D STANDARDIZATION NOTES	FOL Pilot	(b)(6) 12-21
USAFCENT/USNAVCENT MOA	FOL Pilot	(b)(6) 12-21
UAE Airspace Brief	FOL Pilot	(b)(6) 12-21
CTF-57 SPINs Review	FOL Pilot	(b)(6) 12-21
380TH AEW INST 13-204 AIRFIELD OPS	Pilot	(b)(6) 12-21

INFORMATIONAL INSTRUCTIONS	OPR	DATE/INITIALS
FOL In-Flight Guide	FOL Pilot	(b)(6) 12-21
99 ERS Local Flying Procedures	FOL Pilot	(b)(6) 12-21
USAFCENT/380TH FCIFs	FOL Pilot	(b)(6) 12-14
380TH AEW VSA REQMT MEMO	Pilot	(b)(6) 12-12

INBRIEFS	OPR	DATE/INITIALS
99th ERS DO In-Brief	SQ/DO	(b)(6) 12-22
BAMS-D OIC In-Brief	OIC	2-17 (b)(6)

OPERATIONS	OPR	DATE/INITIALS
Observe or perform one BAMS-D takeoff under supervision of FOL qualified pilot	FOL Pilot	2/16/2011 (b)(6)
Observe or perform one BAMS-D Landing under supervision of FOL qualified pilot	FOL Pilot	2/16/2011 (b)(6) (b)(6)

CREWMEMBER SIGNATURE

THIS INDIVIDUAL HAS SATISFACTORILY COMPLETED ALL PREREQUISITES AND IS QUALIFIED IAW APPLICABLE OPERATING INSTRUCTIONS TO PARTICIPATE IN FOL LAUNCH AND RECOVERIES. (b)(6)

LCDR MARK SLEPSKI, USN
CTG 57.11 FOL OIC

I ACKNOWLEDGE THAT THIS INDIVIDUAL HAS COMPLETED THE NAVY LOCAL AREA INDOCTRINATION. (b)(6)

(b)(3), (b)(6)
FOR LT COL ~~LT COL BRIAN DICKINSON~~
99 ERS / CC (Acting)

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

3700
Ser N00/176
1 Sep 09

From: Commander, Patrol and Reconnaissance Wing TWO
To: Mr. (b)(6) Northrop Grumman, XXX-XX (b)(6)

Subj: DESIGNATION AS AN UNMANNED AERIAL VEHICLE (RQ-4A) INSTRUCTOR PILOT AND EVALUATOR

Ref: (a) OPNAVINST 3710.7 (Series)
(b) NAVAIRINST 3710.1E
(c) NAVAIR 01-RQ4AA-NFM-100
(d) GHMD-T-0004, RQ-4A Instructor Pilot Qualification Course

1. In accordance with references (a) through (d), you are hereby designated as an Instructor Pilot and Evaluator in the RQ-4A aircraft for Patrol and Reconnaissance Wing TWO.

2. Your designation as a RQ-4A Instructor Pilot and Evaluator was based on your consistent demonstration of poise, maturity, knowledge, and ability essential to the execution of safe and competent instruction. Designated Instructor Pilots are qualified to instruct all phases of aircraft operation to include both Launch and Recovery Element (LRE) and Mission Control Element (MCE) operations, the flight simulator and in the classroom environment. Designated Evaluators are certified to make recommendations regarding the designation of future instructor pilots.

3. As a designated RQ-4A Instructor Pilot, you shall serve as a member of the Pilot Standardization Board.

4. This designation is subject to the limitations imposed by references (a) though (c) and shall remain in effect until revoked or transferred from oversight of this command.

(b)(6)

R. M. URBANO

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

3710
Ser N00/136
1 Sep 09

From: Commander, Patrol and Reconnaissance Wing TWO
To: Mr. (b)(6) Northrop Grumman, XXX-XX- (b)(6)

Subj: DESIGNATION AS AN AIRCRAFT COMMANDER

Ref: (a) OPNAVINST 3710.7T
(b) RQ-4A Flight Manual
(c) CJCS DEPORD 132014Z NOV 08

1. In accordance with references (a) through (c), you are hereby designated as an Aircraft Commander in the RQ-4A aircraft for the purpose of utility, training, test and evaluation and operational tasking.

2. This designation is subject to the limitations imposed by references (a) through (c) and shall remain in effect until revoked or transferred from oversight of this command.

(b)(6)

R. M. URBANO

DEPARTMENT OF THE NAVY
COMMANDER PATROL AND RECONNAISSANCE WING FIVE
NAVAL AIR STATION
5 JAY BEASLEY CIRCLE
BRUNSWICK, MAINE 04011-5000

3710
N00/
FEB 19 2009

From: Commander, Patrol and Reconnaissance Wing FIVE
To: Mr. (b)(6) XXX-XX- (b)(6)

Subj: DESIGNATION AS AN UNMANNED AERIAL VEHICLE (RQ-4A) INSTRUCTOR PILOT

Ref: (a) OPNAVINST 3710.7 (Series)
(b) NAVAIRINST 3710.1E
(c) NAVAIR 01-RQ4AA-NFM-100
(d) GHMD-T-0004, RQ-4A Instructor Pilot Qualification Course

1. In accordance with references (a) through (d), you are hereby designated as an Instructor Pilot in the RQ-4A aircraft for Patrol and Reconnaissance Wing FIVE.

2. Your selection as an Instructor was based on your consistent demonstration of poise, maturity, knowledge, and ability essential to the execution of safe and competent instruction. Designated Instructor Pilots are qualified to instruct in all phases of aircraft operation, the flight simulator, and in the classroom environment.

3. As a designated Patrol UAV Instructor Pilot you shall serve as a member of the Pilot Standardization Board.

4. This designation is subject to the limitations imposed by references (a) through (d) and shall remain in effect until revoked or upon your transfer from this command.

(b)(6)

J. B. HOKE

Copy to:
NATOPS Jacket
Training Jacket
Logs and Records
Retain File

DEPARTMENT OF THE NAVY
COMMANDER PATROL AND RECONNAISSANCE WING FIVE
NAVAL AIR STATION
5 JAY BEASLEY CIRCLE
BRUNSWICK, MAINE 04011-5000

3710
Ser N00/009
7 January 2009

From: Commander, Patrol and Reconnaissance Wing FIVE
To: Mr. (b)(6) , Northrop Grumman, XXX-XX (b)(6)

Subj: DESIGNATION AS AN AIRCRAFT COMMANDER

Ref: (a) OPNAVINST 3710.7T
(b) RQ-4A Flight Manual
(c) CJCS DEPORD dtg 132014ZNOV08

1. In accordance with references (a) through (c) you are hereby designated as an Aircraft Commander in the RQ-4A aircraft for the purpose of utility, training, test and evaluation, and operational tasking.

2. This designation will be terminated at the discretion of the Commander.

(b)(6)

J. B. HOKE

Copy To:
NATOPS Training Record
Aviator's Log Book
NATOPS Officer

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
47765 Ranch Road
Hangar 101 Room A-112
Patuxent River, Maryland 20670

6 January 09

From: Northrop Grumman Global Hawk Maritime Demonstration Site Manager

To: Commanding Officer, Command Patrol Reconnaissance Wing FIVE

Via: Officer in Charge, CPRW FIVE Global Hawk Detachment Patuxent River

Subj: Request for Designation as a RQ-4A Global Hawk Aircraft Commander

Ref: (a) OPNAVINST 3710.7T
(b) NAVAIRINST 3710.1E

Encl: (1) VX-20 RQ-4A Global Hawk Aircraft Commander Designation Letter ICO (b)(6)

1. In accordance with references (a) and (b), request Don Gates be designated as a CPRW FIVE RQ-4A Global Hawk Aircraft Commander based on previous designation in enclosure (1).

(b)(6)

(b)(6)

Site Manager
Global Hawk Maritime Demonstration
Patuxent River, Maryland

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
47765 Ranch Road
Hangar 101 Room A-112
Patuxent River, Maryland 20670

6 January 09

From: Northrop Grumman Global Hawk Maritime Demonstration Site Manager

To: Commanding Officer, Command Patrol Reconnaissance Wing FIVE

Via: Officer in Charge, CPRW FIVE Global Hawk Detachment Patuxent River

Subj: Request for Designation as a RQ-4A Global Hawk Instructor Pilot

Ref: (a) OPNAVINST 3710.7T
(b) NAVAIRINST 3710.1E
(c) GHMD-T-0004, RQ-4A Instructor Pilot Qualification Course

Encl: (1) 412 OG Initial Cadre Designation Letter RQ-4A Global Hawk for (b)(6)

1. In accordance with references (a), (b), and (c), request (b)(6) be designated as a CPRW FIVE RQ-4A Global Hawk Instructor Pilot.

(b)(6)

(b)(6)
Site Manager
Global Hawk Maritime Demonstration
Patuxent River, Maryland

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 412TH TEST WING (AFMC)
EDWARDS AIR FORCE BASE, CALIFORNIA

17 Aug 2006

MEMORANDUM FOR 452 FLTS/CC

FROM: 412 OG/CC

SUBJECT: RQ-4 GS S/W 7.1.3.2 Initial Cadre Designations

1. New software development on RQ-4A production ground stations necessitate Initial Cadre designations for Global Hawk Pilots who are trained on the system. Software upgrade 7.1.3.2 implements many changes and additions to the Human-Computer Interfaces (HCIs) and Map Displays the pilots use to input commands to the aircraft. In accordance with AFI 11-2FTV1, Table 12, Note 2, the following individuals are recognized as Initial Cadre for RQ-4 GS S/W 7.1.3.2:

Instructor Pilots (IU)

(b)(6) (b)(6)

2. A proposed RQ-4 GS S/W 7.1.3.2 difference training plan is under development and will be submitted as soon as possible. The above individuals, however, have received 3.0 hrs of briefings and classroom sessions with system developers in addition to one flight simulation on the RQ-4A Pilot Stand Alone Trainer (PSAT). The proposed cadre are the operations experts of the new system.

3. POC is for this designation is Cap (b)(6) DSN 525-0696.

(b)(6)

(b)(6) Colonel, USAF
Commander, 412 Operations Group

DEPARTMENT OF THE NAVY
AIR TEST AND EVALUATION SQUADRON TWO ZERO
47378 TATE ROAD
PATUXENT RIVER, MARYLAND 20670-1918

3710
513200A
APR 06 2006

From: Commanding Officer, Air Test and Evaluation Squadron TWO ZERO, 47378 Tate Road, Patuxent River, Maryland 20670-1918
To: MR. (b)(6) NORTHROP GRUMMAN, (b)(6)

Subj: DESIGNATION AS A GLOBAL HAWK PILOT

Ref: (a) OPNAVINST 3710.7T
(b) NAVAIRINST 3710.1E

1. In accordance with references (a) and (b), you are hereby designated as a pilot for the RQ-4A aircraft for the purpose of utility, training, test and evaluation.

2. I congratulate you on this achievement. This designation will terminate upon transfer from AIRTEVRON TWO ZERO or at the discretion of the Commanding Officer.

(b)(6)

S. R. WRIGHT

Copy to:
NATOPS Training Record
Aviator's Log Book
NATOPS Officer

Commercial Alot
Cert # (b)(6)
date issue (b)(6)

DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 412TH TEST WING (AFMC)
EDWARDS AFB CALIFORNIA

22 Jul 2004

MEMORANDUM FOR RECORD

FROM: 452 FLTS/CC

SUBJECT: Mission Commander Certification for Don Gates

1. (b)(6) has demonstrated proficiency in all the events required for upgrade to Mission Commander and is hereby qualified to perform any and all duties as Mission Commander for RQ-4 sorties flown by the 452 FLTS.

2. Records of his training will be maintained in Section 2 of his training folder. This memorandum will be maintained in section 5.

(b)(6)

USAF

Commander

DEPARTMENT OF THE AIR FORCE
12th EXPEDITIONARY RECONNAISSANCE SQUADRON
APO AE 09853-5000

13 Apr 02

MEMORANDUM FOR RECORD

FROM: 12 ERS/DO

SUBJECT: Upgrade to Basic Mission Qualification

Mr. (b)(6) has performed the required events required for upgrade to Basic Mission Qualification (BMQ) in the Mission Control Element (MCE). He has performed adequately and I recommend he be allowed to start performing the mission of the 12 ERS unsupervised.

// Signed //

(b)(6) USAF
Director of Operations

1st Endorsement
Concur.
Upgrade Mr. (b)(6) status to BMQ.

// signed //

(b)(6) USAF
Commander, 12TH ERS

DEPARTMENT OF THE AIR FORCE

HEADQUARTERS 412TH TEST WING (AFMC)
EDWARDS AFB CALIFORNIA

2 Oct 01

MEMORANDUM FOR RECORD

FROM: 31TES/DOJ

SUBJECT: RQ-4A Sensor Training

1. The following individuals received contractor training on DAWS functionality and MCE legacy sensor HCI functionality. Individuals performed sensor retasks during flight using the DAWS workstation software.

(b)(6)

2. This 2.5 hr training block satisfies the Global Hawk initial qualification sensor training requirement.

(b)(6)

(b)(6) USAF
Director, ACC Global Hawk Division

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32D (4-90)

SECTION IIB -- MISSION QUALIFICATION RECORD

NAME *(Last, first, middle initial)* (b)(6)	SSN

EFFECTIVE DATE	TYPE AIRCRAFT	MISSION QUALIFICATION	UNIT	REMARKS
26 NOV 08	-	PAX FLT LINE DRIVER LICENSE	NAS PAX	(b)(6)
02 DEC 2003	CHASE Vehicle for RQ-4A	HAWK MOBILE GROUND CHASE	USAF	(b)(6)
10 NOV 09	-	PAX FLT LINE DRIVER LICENSE	USN	(b)(6)
27 JAN 11		PAX DRIVER LICENSE	USN	(b)(6)
~~26 JAN 12~~				
27 JAN 2012		PAX River ELT LINE DRIVER LICENSE	NASPAX	(b)(6)

AIRFIELD OPERATORS LICENSE NAS PAX RIVER	CARD NO (b)(6)	COMP NO:
NAME OF OPERATOR (b)(6)	DATE ISSUED: 01/27/2012	DATE EXPIRE: 01/26/2013
DOB (b)(6)	COLOR OF HAIR (b)(6)	COLOR OF EYES (b)(6)	HEIGHT (b)(6)	WEIGHT: (b)(6)
THE HOLDER OF THIS CARD IS QUALIFIED TO OPERATE U.S. GOVERNMENT VEHICLES ON NAS PATUXENT RIVER, MD TAXIWAYS, RAMPS, AND RUNWAYS				
SIGNA (b)(6)	TITLE: AFD COOR			
SIGNATURE OF OPERATOR:	TITLE OF POSITION:			

NOT TRANSFERABLE. CARD MUST BE CARRIED AT ALL TIMES WHEN OPERATING GOVERNMENT EQUIPMENT

AIRFIELD DRIVER TRAINING & CERTIFICATION FORM

LAST, FIRST M.I.: GATES, Don D RANK: CIV SQ: 12 AMXG

VALID DRIVERS LICENSE #/STATE: (b)(6) EXP DATE: 3/31/2016

DUTY PHONE: _____ TDY DURATION: 5 Mo EXPECTED DEP DATE: 7/3/11

RESTRICTIONS (circle one): RAMP ONLY DAYLIGHT HOURS ONLY (NONE)

Requirements with a valid home station AF Form 483	Trainee / Date	Trainer / Date
Airfield Driving CBT (Attach)	(b)(6) 13 Nov 10	N/A
Classroom Training (AFFSA / ADAB / ADIF's / placard)	(b)(6) 30 Nov 10	(b)(6) 30 Nov 10
Local Airfield Diagram / Layout Test	(b)(6) 24 Feb 11	(b)(6) 24 Feb 11
Day Orientation/Training (Practical)	(b)(6) 24 Feb 11	(b)(6) 26 Feb 11
Night Orientation/Training (Practical)	(b)(6) 26 Feb 11	(b)(6) 26 Feb 11
Flightline Driving Job Qualification Standard (Attach)	(b)(6) 24 Feb 11	(b)(6) 24 Feb 11
Airfield Drivers Test (Practical)	(b)(6) 24 Feb 11	(b)(6) 24 Feb 11
Airfield Drivers Test (Written)	(b)(6) 24 Feb 11	(b)(6) 24 Feb 11

Additional Training Requirements for CMA Drivers Only	Trainee / Date	Trainer / Date
Color Vision Screening AFSC Exempt: Pilot	(b)(6) 9/28/10	(PASS) / FAIL Tester's Init: FAA
Phraseology / Light Gun Signal Recognition Test	(b)(6) 24 Feb 11	(b)(6) 24 Feb 11

This letter will be retained by the unit Airfield Driving Program Manager until the individual is reassigned.

Unit Commander or Unit Airfield Driving Program Manager (AM OPS must have an appointment letter on file.)	
Printed Name and Rank: (b)(3), (b)(6)	Capt
Signature: (b)(6)	

DO NOT WRITE BELOW THIS LINE, FOR AIRFIELD MANAGEMENT USE:			
AM OPS: (b)(6)	Expiration Date: 13 Jul 11	483 #: (b)(6)	

GROUND TRAINING RECORD

PAGE 1 OF 1 PAGES

1. (b)(6)	2. AIRCRAFT RQ-4A	3. CREW POSITION	4. TYPE OF TRAINING Hawkeye Ground Chase

5. TRAINING EVENTS	INSTRUCTOR'S NAME (b)(6)	DATE
1. Responsibilities		2 DEC 2003
a. Station Time		
b. Hawkeye is the "eyes" for the PIC		
c. Duties for Taxi/takeoff: Commence From Pin Pull to Airborne		
d. Duties for Landing/taxi Back: Commence from IAF to Engine Shutdown		
2. Directive Radio Calls		
a. Stop Taxi		
b. Abort		
c. Go Around		
3. Descriptive Radio Calls		
a. Gear Door Closing (after taxi command received)		
b. Power Up/Increasing/Down		
c. Vehicle Moving/Slowing /Stopped		
d. Vehicle on Taxiway Centerline		
e. Vehicle Left/Right of Track/Centerline, XX feet		
f. Vehicle Correcting Back (toward centerline)		
g. Vehicle Turning Left/Right		
h. Strobes on/off		
i. Any Other Pertinent Descriptive Calls		
4. Hawkeye Driver		
a. Chase Parking (pointed away from aircraft, engine off, parking brake set)		
b. Safe Distance (XX wingspan for takeoff/high speed abort)		
c. Safe Speed		
5. Observe one takeoffs from Hawkeye Vehicle		
6. Observe one landings Hawkeye Vehicle	VANONE	4 DEC 03
7. Demonstrate one takeoff from Hawkeye Vehicle with a Qualified Hawkeye	(b)(6)	4 Dec 03
8. Demonstrate one landing from Hawkeye Vehicle with a Qualified Hawkeye	VANONE	21 DEC 04 SA

→ SEE MFR, SEC. 5, DATED 19 AUG 04.

7 Completed)		aining Completion)
(b)(6)	2 DEC 2003	(b)(6)

AFMC FOR 67, MAR 99 PREVIOUS EDITION IS OBSOLETE. 412 Series (Overprint) 67-Z5, Oct 03

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32E

SECTION IIIA – SCHOOL/COURSE ATTENDANCE RECORD

NAME (Last, first, middle)	SSN
(b)(6)	

RECORD ALL SPECIALIZED, FORMAL AVIATION SCHOOLS, INCLUDING:

UNDERGRADUATE PILOT/INFO
FRS SYLLABI
FIRE FIGHTING
FASOTRAGRP SYLLABI
WEAPONS SYSTEMS
FRAMP
MAINTENANCE (3M) COURSES

SCHOOL/COURSE	DATES ATTENDED	PASS/FAIL/SCORE	UNIT	REMARKS	VERIFIED BY
CRM	30 Jan 08	Pass	VX-20		(b)(6)
ORM	11 Jun 08	Pass/96	VX-20		(b)(6)
ORM	10 Jun 08	Pass/88	VX-20		(b)(6)
Course Rules	20 Jan 09	Pass	Wing 5		(b)(6)
CRM	26 Jan 09	Pass	Wing 5		(b)(6)
DC ADIZ	24 Aug 08	Pass	FAA		(b)(6)
ORM	09 NOV 09	PASS	USN		(b)(6)
CRM	25 SEPT 09	PASS	USN		(b)(6)
ORM	30 JUN 10	PASS	USN		(b)(6)
CRM	15 MAR 2010	PASS	CPRW-2		(b)(6)
IGS	21 Dec 2010	PASS	VX-1		(b)(6)
CRM	11 APR 2011	PASS	BAMS-D		(b)(6)
Cirrus Cert Annual Proficiency Trng	29 JUL 11	PASS	Trident		(b)(6)
Cirrus Cert Flight Review	29 JUL 11	PASS	Trident		(b)(6)
Cirrus Cert Inst Prof. Check	29 JUL 11	PASS	Trident		(b)(6)
NMC COURSE RULES LECTURE	08 SEP 11	PASS	BAMS-D NGC		(b)(6)
ORM	3 NOV 11	PASS	USN		(b)(6)

Certificate of Completion

By the authority of the Naval Education and Training Command this certifies that

(b)(6)

has successfully completed all requirements and criteria provided by the course in

Assistant - Leading Risk Management Integration

Grade: 90
Course ID: CPPD-ORM-LRMI-1.0
Instructional Hours: 1
Recommended Reserve Points: None Provided
Continuing Education Units: None Provided

THIS CERTIFICATION EARNED ON

November 03, 2011

(Signed) Clifford S. Sharpe
Rear Admiral, U.S. Navy

This certification may be verified at Navy eLearning by accessing the certificate holder's transcript.

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
47765 Ranch Road
Hangar 101 Room A-112
Patuxent River, Maryland 20670

08 September 2011

From: Northrop Grumman Global Hawk Maritime Demonstration Training Lead

To: Northrop Grumman Global Hawk Maritime Demonstration NATOPS Officer

Subj: Course Rules Annual Lecture Review

The following BAMS-D pilots have completed their annual Course Rules training review on 08 September 2011:

Mr.
Mr.
Mr.
Mr.
Mr.
Mr.
Mr. (b)(6)
Mr.
Mr.
Mr.
Mr.
Mr.
[redacted]

This training was verified by the Northrop Grumman Global Hawk Maritime Demonstration Training Lead. This annual review will expire 30 September 2012.

(b)(6)

(b)(6)
Training Lead
Global Hawk Maritime Demonstration
Patuxent River, Maryland

CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

has met the course requirements for

Instrument Proficiency Check

7/29/2011
COMPLETION DATE

In a Cirrus SR22

C
F

(b)(6)

2

CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

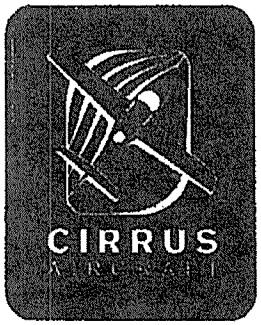
has met the course requirements for

Flight Review

7/29/2011
COMPLETION DATE

In a Cirrus SR22

(b)(6)



CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

has met the course requirements for

Annual Proficiency Training

7/29/2011
COMPLETION DATE

In a Cirrus SR22

(b)(6)

CIRRUS DESIGN CORPORATION 4515 TAYLOR CIRCLE DULUTH MN 55811 218.788.3600

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
[illegible] Road
Hangar [illegible] Room A [illegible]
Patuxent River, Maryland 20670

11 April 2011

From: Northrop Grumman Global Hawk Maritime Demonstration Training Lead

To: Northrop Grumman Global Hawk Maritime Demonstration NATOPS Officer

Subj: Crew Resource Management (CRM) Annual Review

Mr. (b)(6) completed his annual CRM training review on 11 April 2011 and was verified by the Northrop Grumman Global Hawk Maritime Demonstration Training Lead. This annual review will expire 30 April 2012.

(b)(6)

(b)(6)
Training Lead
Global Hawk Maritime Demonstration
Patuxent River, Maryland

cc (b)(6)

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32G (Rev 4-90)

SECTION IIIC–EXAMINATION RECORD

NAME (Last, first, middle initial)	SSN
(b)(6)	

NATOPS EXAMS

OPEN BOOK

DATE	GRADE	PASS/FAIL	GRADED BY
15 APR 05	100	PASS	(b)(6)
14 JUL 06	100	PASS	(b)(6)
15 NOV 07	95	PASS	(b)(6)
30 OCT 08	95	PASS	(b)(6)
14 DEC 09	100	PASS	(b)(6)
21 DEC 10	4.0	PASS	(b)(6)
13 DEC 11	3.7	PASS	(b)(6)

CLOSED BOOK

DATE	GRADE	PASS/FAIL	GRADED BY
15 APR 05	95	PASS	(b)(6)
13 JUL 06	100	PASS	(b)(6)
12 NOV 07	95	PASS	(b)(6)
06 NOV 08	85	PASS	(b)(6)
14 DEC 09	100	PASS	(b)(6)
21 DEC 10	4.0	PASS	(b)(6)
14 DEC 11	3.8	PASS	(b)(6)

INSTRUMENT EXAM

DATE	GRADE	PASS/FAIL	GRADED BY
01 MAY 09	PASS	PASS	LT (b)(6)
04 DEC 09	PASS	PASS	LT (b)(6)
21 DEC 10		PASS	
4 NOV 11		PASS	LT (b)(6)

COURSE RULES

DATE	GRADE

OTHER EXAMS

TITLE	DATE	GRADE	PASS/FAIL	GRADED BY

NATOPS EVALUATION REPORT
OPNAV 3710/7 (4-90) S/N 0107-LF-009-8000

REPORT SYMBOL OPNAV 3710-21

NAME (Last, first, middle initial)	GRADE	SSN
C (b)(6)	CIV	XXX-XX (b)(6)
SQUADRON/UNIT	**AIRCRAFT MODEL**	**CREW POSITION**
CPRW-2	RQ-4A	PILOT/INSTUCTOR
TOTAL PILOT/FLIGHT HOURS	**TOTAL HOURS IN MODEL**	**DATE of LAST EVAL**
4471	2444	22 DEC 2010

NATOPS EVALUATION

REQUIREMENT	DATE COMPLETED	GRADE		
		Q	CQ	U
OPEN BOOK EXAMINATION	13 DEC 11	3.7		
CLOSED BOOK EXAMINATION	14 DEC 11	3.8		
ORAL EXAMINATION	16 DEC 11	Q		
CRM Flight	16 DEC 11	Q		
*EVALUATION FLIGHT	16 DEC 11	Q		

FLIGHT DURATION	AIRCRAFT BUNO	OVERALL FINAL GRADE
4.0	PSAT	Qualified

REMARKS OF EVALUATOR/INSTRUCTOR

1. Mr. Gates flew an excellent NATOPS check-flight in compliance with Air Force Instruction 11-2RQ-4V2, Aircrew Evaluation Criteria, and is fully qualified as an Air Vehicle Operator in the RQ-4A aircraft

2. A CRM flight evaluation was completed IAW OPNAVINST 1542.7C

3. An Annual Global Hawk Instrument Review was conducted.

EXPIRES: 31 DEC 12

☐ CHECK IF CONTINUED ON REVERSE

GRADE, NAME of EVALUATOR/INSTRUCTOR		DATE
MR. (b)(6) NGC	(b)(6)	19 DEC 2011
GRADE, NAME of EVALUEE		**DATE**
MR (b)(6) NGC	(b)(6)	19 DEC 2011

REMARKS OF UNIT COMMANDER

NAME, RANK of UNIT COMMANDER	SIGN	DATE
CAPT C.P. RAMSDEN, USN	(b)(6)	5 Jan 12

* WST, OFT, CPT or cockpit check in accordance with Current NATOPS 3710.7 Series

4 NOV 2011

MEMORANDUM

From: Commanding Officer, Air Test and Evaluation Squadron ONE

Subj: INSTRUMENT GROUND SCHOOL COMPLETION

Ref: (a) OPNAVINST 3710.7U

1. In accordance with reference (a), the following individuals attended Instrument Ground School and successfully passed the annual Instrument Ground School Refresher Course examination on 4 NOVEMBER, 2011.

RANK	NAME	SERVICE	LAST 4	COMMAND
CAPT	(b)(3), (b)(6)	USN	(b)(6)	VX-1
CDR	(b)(3), (b)(6)	USN	(b)(6)	VX-20
CDR	(b)(3), (b)(6)	USN	(b)(6)	NAWCAD
LCDR	(b)(3), (b)(6)	USN	(b)(6)	NAS PAX
LCDR	(b)(3), (b)(6)	USN	(b)(6)	USNTPS
LT	(b)(3), (b)(6)	USN	(b)(6)	AIR OPS
LT	(b)(3), (b)(6)	USN	(b)(6)	VX-1
LT	(b)(3), (b)(6)	USN	(b)(6)	VX-1
LT	(b)(3), (b)(6)	USN	(b)(6)	VX-1
LT	(b)(3), (b)(6)	USN	(b)(6)	VX-1
CW4	(b)(3), (b)(6)	USA	(b)(6)	USNTPS
CIV	(b)(6)	N/A	(b)(6)	UAS
CIV	(b)(6)	N/A	(b)(6)	USNTPS
CTR	(b)(6)	N/A	(b)(6)	PMA-262
CIV	(b)(3), (b)(6)	N/A	(b)(6)	PMA-262
CIV	(b)(6)	N/A	(b)(6)	VX-20
CIV	(b)(6)	N/A	(b)(6)	VX-20

IGS Instructor: LT (b)(3), (b)(6)

(b)(3), (b)(6)

LT USN
By Direction

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32H (4-81)

SECTION IVB --MISHAP/FLIGHT VIOLATION RECORD

NAME *(Last, first, middle initial)* (b)(6)	SSN

DATE	UNIT	MISHAP DESCRIPTION	COMMANDING OFFICER'S SIGNATURE

NORTHROP GRUMMAN

Flight Time Report for (b)(6)

BAMS 30 Day SUMMARY

Year	Flight Time	Simulator Time	Takeoffs	Simulated Takeoffs	Landings	Simulated Landings	Sorties	Simulated Sorties
2012	14.0				1		4	

BAMS 90 Day SUMMARY

Year	Flight Time	Simulator Time	Takeoffs	Simulated Takeoffs	Landings	Simulated Landings	Sorties	Simulated Sorties
2011	50.5	4.5	3	4	2	4	15	4
2012	14.0				1		4	

BAMS 120 Day SUMMARY

Year	Flight Time	Simulator Time	Takeoffs	Simulated Takeoffs	Landings	Simulated Landings	Sorties	Simulated Sorties
2011	73.6	8.5	5	6	3	6	22	6
2012	14.0				1		4	

BAMS 180 Day SUMMARY

Year	Flight Time	Simulator Time	Takeoffs	Simulated Takeoffs	Landings	Simulated Landings	Sorties	Simulated Sorties
2011	133.7	14.0	8	9	5	9	36	9
2012	14.0				1		4	

BAMS 1 Year SUMMARY

Year	Flight Time	Simulator Time	Takeoffs	Simulated Takeoffs	Landings	Simulated Landing	Sorties	Simulated Sortie
2011	183.6	14.0	23	9	18	9	43	9
2012	14.0				1		4	

BAMS Lifetime SUMMARY

Year	Flight Time	Simulator Time	Takeoffs	Simulated Takeoffs	Landings	Simulated Landings	Sorties	Simulated Sorties
	22.2		1		1			
2001	3500.0						400	
2006	8.1		2		1			
2007	301.3		27		25			

ENCLOSURE (8)

NORTHROP GRUMMAN

Flight Time Report for (b)(6)

2008	202.3		14		15			
2009	275.5		10		10			
2010	248.7		15		14			
2011	198.4	14	25	9	19	9	43	9
2012	14.0				1		4	

NORTHROP GRUMMAN

Currency Report for (b)(6)

6 sorties (no more than 3 simulated) in the last 180 days

Total Sorties	Total Sim Sorties
23	4

5 RQ-4A flight hours (no more than 2.5 simulated) in the last 90 day

Total Time	Total Simulator Time
32.3	

2 actual or simulated takeoffs and landings in the last 90 days

Total Takeoffs	Total Simulated Takeoffs	Total Landings	Total Simulated Landings
2		2	

1 actual takeoff and landing in last 120 days

Takeoffs	Landings
3	4

2 actual takeoffs and landings in the last 180 days

Total Takeoffs	Total Landings
4	6

40 flight hours (no more than 20 simulated) total for all T/M/S in last 180 days

Total Time	Total Sim Time
75.2	4.5

100 flight hours (no more than 50 simulated) for all T/M/S in last year

Total Time	Total Sim Time
209.8	14.0

1 sortie (actual or simulated) in the last 30 days

Total Sorties	Total Sim Sorties
5	

1 payload flight in the last 180 days

15

Date of Last EP Sim

12/22/2011

[redacted] [redacted]

ENCLOSURE (9)

CONTRACTOR CREWMEMBER RECORD

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 45 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services and Communications Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.**

PRIVACY ACT STATEMENT

AUTHORITY: 10 USC 8012, 44 USC 3101, and EO 9397, November 1943 (SSN).

PURPOSE AND USE: To record individual contractor flight crew personnel records and approval to operate Government aircraft. Serves as a record of approval of private contractor personnel who will operate Government aircraft.

DISCLOSURE: Voluntary; however, failure to complete form will prevent approval of contractor flight crew members from operating Government aircraft.

NAME OF CREWMEMBER *(First, last, middle initial)*
(b)(6)

CONTRACTOR REPRESENTED *(Name and address)*
Northrop Grumman Corporation
47765 Ranch Road
NAS Patuxent River, MD 20670

IDENTIFY CREW POSITION

[X] TEST _____ [X] SUPPORT

[X] FUNCTIONAL _____ [ ] OTHER *(Specify)*

MISSION, DESIGN AND SERIES AIRCRAFT OR OTHER REQUIREMENT FOR THIS QUALIFICATION
RQ-4A GLOBAL HAWK

BASE OR LOCATION WHERE QUALIFICATION ACCOMPLISHED
EDWARDS AFB, CA

[ ] INITIAL QUALIFICATION [X] REQUALIFICATION

SECTION I - FLIGHT EXPERIENCE *(Time to nearest hour)*

FLYING TIME ABOVE TYPE
JET 444 HRS TURBO PROP _____ HRS RECIPROCATING 1576 HRS ROTARY _____ HRS

TOTAL FLYING TIME
2020

MISSION DESIGN AND SERIES AIRCRAFT	PERIOD OF TIME	IP	1ST PILOT				COPILOT	AIRCRAFT COMMANDER	OTHER CREW MEMBERS *(Specify)*
			TOTAL	WX	HOOD	NIGHT			
RQ-4A	LAST 12 MOS	47	126					86	
	LAST 4 YRS	47	363					157	
	TOTAL	47	444					157	
Mooney M20C	LAST 12 MOS		133	18	8	8		133	
	LAST 4 YRS		434	84	41	23		434	
	TOTAL		434	84	41	23		434	
Cessna 182RG	LAST 12 MOS		0	0	0	0		0	
	LAST 4 YRS		61	2	9	1		61	
	TOTAL		61	2	9	9		61	
Cessna 172	LAST 12 MOS		22	1	3	1		22	
	LAST 4 YRS		113	7	21	10		113	
	TOTAL		365	11	58	18		185	
Cessna 150/152	LAST 12 MOS		8	0	0	0		8	
	LAST 4 YRS		256	6	11	14		256	
	TOTAL		367	8	16	22		367	
Grumman AA1C	LAST 12 MOS		0	0	0	0		0	
	LAST 4 YRS		189	6	4	26		189	
	TOTAL		349	6	4	31		349	
	LAST 12 MOS								
	LAST 4 YRS								
	TOTAL								

Reset

ENCLOSURE (10)

SECTION II - FLIGHT CHECK *(Instructor fill in remarks where applicable)*			
1. PREFLIGHT INSPECTION AND FORMS		7. IN-FLIGHT EMERGENCY PROCEDURES	
2. EMERGENCY ESCAPE PROCEDURES		8. PRELANDING CHECK, TRAFFIC PATTERN AND LANDINGS	
3. PRESTART COCKPIT PROCEDURE AND ENGINE START		9. POSTFLIGHT INSPECTION	
4. COMMUNICATIONS AND TAXI PROCEDURES		10. ACCOMPLISHMENT OF FORMS AND AIRCRAFT SECURITY	
5. PRETAKEOFF COCKPIT CHECK AND ENGINE RUNUP		11. INSTRUMENT PROFICIENCY CHECK	
6. TAKEOFF AND FLIGHT PROCEDURES		12. OTHER *(Specify)*	

SECTION III - ADDITIONAL REQUIREMENTS *(Fill in where applicable)*				
REQUIREMENT	CHECKED BY	GRADE	DATE AND PLACE	HOURS
13. PHYSICAL EXAMINATION		PASS	08/26/2005 Los Angles, CA FAA Class II	NA
14. PHYSIOLOGICAL/ATTITUDE INDOCTRINATION		NA		
15. PRESSURE SUIT TRAINING		NA		
16. GROUND SCHOOL *(By Subject)*		PASS	Edwards AFB, CA	~100
AIRCRAFT GENERAL			Edwards AFB, CA	
AIRCRAFT PREFLIGHT			Edwards AFB, CA	
AIRCRAFT EMERGENCY PROCEDURE			Edwards AFB, CA	
ENGINE SYSTEM			Edwards AFB, CA	
OXYGEN SYSTEM		NA		
AIR CONDITIONING			Edwards AFB, CA	
PRESSURIZATION			Edwards AFB, CA	
FUEL SYSTEM			Edwards AFB, CA	
INSTRUMENT SYSTEM			Edwards AFB, CA	
ELECTRICAL SYSTEM			Edwards AFB, CA	
HYDRAULIC POWER SYSTEM			Edwards AFB, CA	
UTILITY SYSTEM			Edwards AFB, CA	
FLIGHT CONTROL SYSTEM			Edwards AFB, CA	
AUTO PILOT SYSTEM		NA		
ENGINE			Edwards AFB, CA	
COMMUNICATIONS & NAVIGATION			Edwards AFB, CA	
ROTARY SYSTEM		NA		
OTHER REQUIREMENTS AS STATED				
IN APPROVED CONTR OPR PROCD				
17. QUESTIONNAIRE ON AIRCRAFT				
18. FLIGHT SIMULATOR		PASS	Edwards AFB, CA	
19. SURVIVAL SCHOOL		NA		
20. OTHER *(Specify)*				

21. HAVE YOU EVER HAD AN AIRCRAFT ACCIDENT *(as defined by FAR or military procedures)* OR PHYSIOLOGICAL REACTION *(e.g., hypoxia, decompression sickness, hyperventilation, spatial disorientation)* AS A PILOT, OR OTHER CREW MEMBER? *(If yes, explain.)*

NO

22. HAVE YOU EVER BEEN CHARGED WITH A FLYING VIOLATION? *(If so, state the violation and circumstances.)*

NO

23. REMARKS *(For additional space use blank sheet.)*

Initial training conducted under USAF training syllabus and using contractor and USAF instructor and evaluator pilots. Recurrent training and checkrides conducted by contractor and USAF instructor and evaluator pilots. Additional special training conducted relitive to tactical operations in actual "real-world" MDS use.

CERTIFICATION OF QUALIFICATION

This is to certify that (b)(6) RQ-4A Instructor Pilot
(Name and Crew Position)

has satisfactorily completed the training or special qualification indicated hereon:

YEAR	TRAINING OR SPECIAL QUALIFICATIONS	DATE COMPLETED	CERTIFYING OFFICIAL
2005	GROUND PHASE	4 May 05	(b)(6)
	WRITTEN EXAMINATION	25 Apr 05	(b)(6)
	EMERGENCY PROCEDURES	4 MAY 05	(b)(6)
	CONTRACTOR FLIGHT OPERATIONS PROCEDURES	4 MAY 05	(b)(6)
	EGRESS TRAINING	N/A	
	PHYSIOLOGICAL TRAINING	N/A	
	OTHER *(Specify)*1 Instructor Upgrade	16 Feb 05	(b)(6)
	FLIGHT PHASE	4 May 05	(b)(6)
	PROFICIENCY	4 May 05	
	INSTRUMENT		
	OTHER *(Specify)*1 Instructor Pilot	4 May 05	
2005	GROUND PHASE		
	WRITTEN EXAMINATION		
	EMERGENCY PROCEDURES		
	CONTRACTOR FLIGHT OPERATIONS PROCEDURES		
	EGRESS TRAINING		
	PHYSIOLOGICAL TRAINING		
	OTHER *(Specify)*1		
	FLIGHT PHASE		
	PROFICIENCY		
	INSTRUMENT		
	OTHER *(Specify)*1		

1 Formation, Refueling, Night or other special maneuver requirements.

Instructor Pilot Upgrade

SECTION IV - CERTIFICATIONS

I certify that I have read and understand all pertinent technical orders, handbooks, contractor's operating procedures, and pilot's operating instructions pertaining to the above aircraft.

DATE	SIGNATURE OF CREWMEMBER
5 May 05	(b)(6)

The above named crewmember has/~~has not~~ demonstrated proficiency in, and has/~~has not~~ a satisfactory knowledge of RQ-4A MDS aircraft and ~~has/has not~~ satisfactorily completed the flight requirements for the type of flight check indicated above, and ~~is not fully~~ qualified in this type aircraft.

The checkout consisted of 3.5 hours dual, 0 hours solo, 0 landings from right *(or rear)* seat, and 0 landings from left *(or front)* seat.

DATE	BASE OR HOME STATION OF INSTRUCTOR	TYPED OR PRINTED NAME OF INSTRUCTOR
5 May 2005	Edwards AFB, CA	(b)(6)
		SIGNATURE OF INSTRUCTOR (b)(6)

NATOPS JACKET REVIEW CHECKLIST (b)(6)

NAME (b)(6)	DATE	Expires	DATE 14 FEB 12	Expires	DATE	Expires
Review and Certification 1. Form 3760/32A Upon Check-in. 2. Upon major change in flight status 3. Periodic	(Y) N Y (N) (Y) N		(Y) N Y (N) (Y) N		Y N Y N Y N	
PCS Orders N/A						
Medical Clearance 1. Current FAA Class II flight physical	(Y) N	Mar 2012	Y N	MAR 12	Y N	
Flight Equipment Issue 1. Form 3760/32B	(Y) N		(Y) N		Y N	
Designations 1. Copy of all designations (RQ-4A Pilot/IP/AC/SO) 2. Logged on Designation Form 3760/32C 3. Signed by Wing prior to flying as such. 4. FAA Pilot Cerificate.	(Y) N (Y) N (Y) N (Y) N		(Y) N (Y) N (Y) N (Y) N		Y N Y N Y N Y N	
Mission Qualifications 1. Copy of mission related qualifications (Mobile w/ Flight Line Driver's License) 2. Hawk Mobile Training Record	(Y) N (Y) (N)	Jul 2012 as of 11 Dec 11	(Y) N (Y) N	Jul 2012	Y N Y N	
Miscellaneous: N/A						
Schools/Courses 1. FORM 3760/32E 2. Annual CRM 3. Annual ORM 4. IPC/BFR 5. Student Gradesheets	(Y) N (Y) N (Y) N Y N (Y) N	 Aug 2012 Sep 2012 	(Y) N (Y) N (Y) N (Y) N (Y) N	 AUG 12 AUG 12 OCT 12 	Y N Y N Y N Y N Y N	
Physiology/Survival N/A						
Examinations: 1. Form 3760/32G 2. Completed prior to NATOPS check flight 3. Dates/scores match those on eval. 4. Copies of most current exams or answer keys	(Y) N (Y) N (Y) N (Y) N		(Y) N (Y) N (Y) N (Y) N		Y N Y N Y N Y N	
NATOPS Evals 1. Signed evals- form 3710/7 2. Completed annually 3. Lists expiration date	(Y) N (Y) N (Y) N	 OCT 2012	(Y) N (Y) N (Y) N	 OCT 12	Y N Y N Y N	
NATOPS Instrument Rating: 1. Instrument Ground School letter, w/ member listed	(Y) N	SEP 2012	(Y) N	SEP 12	Y N	
Flight Time Summary. 1. Copy of annual flight time summary	Y (N)		(Y) N		Y N	
Mishap/Violation record 1. Form 3760/32H with any mishaps recorded	(Y) N		(Y) N		Y N	

ENCLOSURE (11)

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

SECTION IA - REVIEW AND CERTIFICATION RECORD

NAME (Last, first, middle initial)	SSN
(b)(6)	

1. This jacket shall be reviewed by the Commanding Officer or a designated representative as follows:
   a. Upon reporting to a unit.
   b. Annually, within 30 days of birthday.
   c. Upon change in flying status.
2. This jacket shall be certified by the Commanding Officer or a designated representative upon detachment of the individual.

RECORDS OF REVIEW

DATE	SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE
13 OCT 11	(b)(6)				
14 FEB 12	(b)(6)				
13 APR 12	(b)(6)				

DETACHMENT CERTIFICATION

UNIT	DATE	SIGNATURE	UNIT	DATE	SIGNATURE

copy

UNITED STATES OF AMERICA
Department of Transportation
Federal Aviation Administration

MEDICAL CERTIFICATE FIRST CLASS

This certifies that *(Full name and address):*

(b)(6)

Date of Birth	Height	Weight	Hair	Eyes	Sex
(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)

has met the medical standards prescribed in part 67, Federal Aviation Regulations, for this class of Medical Certificate.

Limitations: None

Date of Examination: 04/27/2012

Examiner's Designation No.: (b)(6)

Examiner Signature: (b)(6)

Examiner Typed Name: (b)(6) MD

AIRMAN'S SIGNATURE: (b)(6)

Applicant ID: (b)(6)

Control No.: 200005550603

FAA Form 8500-9 (9-08) Supersedes Previous Edition NSN: 0052-00-670-7002

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CONDITIONS OF ISSUE

The holder of this certificate must:

- Have it in his or her personal possession at all times while exercising privileges of an airman certificate. (14CFR § 61.3)
- Understand that the issuance of a medical certificate by an Aviation Medical Examiner may be reversed by the FAA within 60 days. (14CFR § 67.407)
- Comply with validity standards specified for first-, second-, and third-class medical certificates. (14CFR § 61.23)
- Comply with any statement of functional, operational, and/or time limitation issued as a condition of certification. (14CFR § 67.401) (Note: A letter of authorization (or SODA) describing any such limitations must be kept with this certificate at all times while exercising the privileges of an airman certificate.)
- Comply with the standards relating to prohibitions on operation during medical deficiency. (14CFR §§ 61.53, 63.19, and 65.49)

For International Operations Only: Some holders may be affected by certain international medical standards. Consult the U.S. Aeronautical Information Publication for U.S. differences with ICAO Annex 1 medical standards.

Fold Here

AEROSPACE MEDICAL CERTIFICATION DIVISION, AAM - 300
FAA Civil Aerospace Medical Institute
Mike Monroney Aeronautical Center
P.O Box 26080
Oklahoma City, OK 73125-9914

(b)(6)

INCLUDES EKG

Dear Airman:

Above is your new medical certificate. It supersedes any previous one you may have been issued.

To validate this certificate, it is necessary that you sign it in the space provided (Airman's Signature).

This certificate must be in your possession at all times while exercising your pilot privileges.

Created on Friday, April 27, 2012

Department of Transportation
Federal Aviation Administration

MEDICAL CERTIFICATE FIRST CLASS

This certifies that *(Full name and address):*

(b)(6)

Date of Birth	Height	Weight	Hair	Eyes	Sex
(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)

has met the medical standards prescribed in part 67, Federal Aviation Regulations, for this class of Medical Certificate.

Limitations: None

Examiner

Date of Examination: 03/12/2011

Examiner's Designation No.: (b)(6)

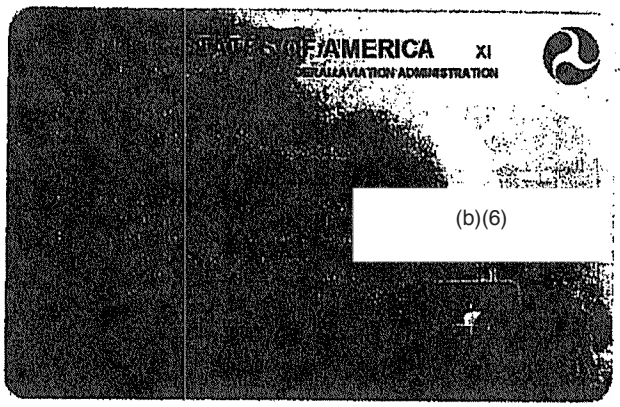
Signature: (b)(6)

Typed Name: (b)(6) MD

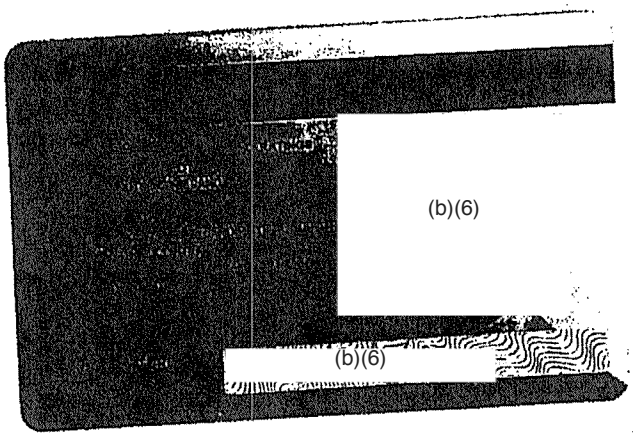
AIRMAN'S SIGNATURE (b)(6)

Applicant ID: (b)(6) Control No.: (b)(6)

FAA Form 8500-9 (9-03) Supersedes Previous Edition NSN: 0052-00-670-1002



Medical Cert



NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32D (4-90)

SECTION IIB -- MISSION QUALIFICATION RECORD

NAME *(Last, first, middle linitial)*	SSN

EFFECTIVE DATE	TYPE AIRCRAFT	MISSION QUALIFICATION	UNIT	REMARKS
20JUL2011		NAS PAX DRIVERS LICENSE		
11 DEC 11	RQ-4A	HAWK MOBILE GROUND CHASE	NGC	
14 DEC 11	RQ-4A	FOL OPS INDOC AND CERTIFICATION		

BAMS –D FOL OP TIONS INDOC AND CERTIFIC ON CHECKLIST

NAME: ____________________ CREW POSITION: BAMS-D Pilot

TMS: RQ-4A ARRIVAL/DEPT DATES: 09DEC2011 → 04MAR2012

*AIRCREW MUST COMPLETE THE FOLLOWING BEFORE FLYING UNSUPERVISED OR ASSUMING ALERT.

PREREQUISITES	OPR	DATE/INITIALS
BAMS-D STANDARDIZATION NOTES	FOL Pilot	12-13 / (b)(6)
USAFCENT/USNAVCENT MOA	FOL Pilot	12-13 / (b)(6)
UAE Airspace Brief	FOL Pilot	12-13 / (b)(6)
CTF-57 SPINs Review	FOL Pilot	12-13 / (b)(6)
380TH AEW INST 13-204 AIRFIELD OPS	Pilot	12-13 / (b)(6)

INFORMATIONAL INSTRUCTIONS	OPR	DATE/INITIALS
FOL In-Flight Guide	FOL Pilot	12-13 / (b)(6)
99 ERS Local Flying Procedures	FOL Pilot	12-13 / (b)(6)
USAFCENT/380TH FCIFs	FOL Pilot	12-13 / (b)(6)
380TH AEW VSA REQMT MEMO	Pilot	12-13 / (b)(6)

INBRIEFS	OPR	DATE/INITIALS
99th ERS DO In-Brief	SQ/DO	N/A / N/A
BAMS-D OIC In-Brief	OIC	19 DEC 11 / (b)(6)

OPERATIONS	OPR	DATE/INITIALS
Observe or perform one BAMS-D takeoff under supervision of FOL qualified pilot	FOL Pilot # 093 [illegible] 12/12/11 12/12	12/14/11 / (b)(6)
Observe or perform one BAMS-D Landing under supervision of FOL qualified pilot	FOL Pilot 12/12/11	12/14/11 (b)(6)

and. c/s (start) 19 DEC 2011 (b)(6)

(b)(6)

CREWMEMBER SIGNATURE

THIS INDIVIDUAL HAS SATISFACTORILY COMPLETED ALL PREREQUISITES AND IS QUALIFIED IAW APPLICABLE OPERATING INSTRUCTIONS TO PARTICIPATE IN FOL LAUNCH AND RECOVERIES.

(b)(6)

LCDR J. McLellan, USN

CTG 57.11 FOL OIC

I ACKNOWLEDGE THAT THIS INDIVIDUAL HAS COMPLETED THE NAVY LOCAL AREA INDOCTRINATION.

LTC (b)(3), (b)(6) NO LONGER WANTS TO BE LISTED ~~AS A~~ ON THIS FORM AS PER ~~LT COL~~ (b)(3), (b)(6) . CONVERSATION ~~99 ERS / CC~~ with (b)(6) ON 19 DEC 2011

GROUND TRAINING RECORD

PAGE 1 OF 1 PAGES

1. NAME/RANK	2. AIRCRAFT	3. CREW POSITION	4. TYPE OF TRAINING
(b)(6) / CIV	RQ-4A	Pilot	Hawk Mobile Ground Chase

5. TRAINING EVENTS	INSTRUCTOR'S NAME	DATE
1. Responsibilities	(b)(6)	08NOV11
a. Station Time	(b)(6)	08NOV11
b. Hawk Mobile is the "eyes" for the PIC	(b)(6)	08NOV11
c. Duties for Taxi/takeoff: Commence From Pin Pull to Airborne	(b)(6)	08NOV11
d. Duties for Landing/taxi Back: Commence from IAF to Engine Shutdown	(b)(6)	08NOV11
2. Directive Radio Calls	(b)(6)	08NOV11
a. Stop Taxi	(b)(6)	08NOV11
b. Abort	(b)(6)	08NOV11
c. Go Around	(b)(6)	08NOV11
3. Descriptive Radio Calls	(b)(6)	08NOV11
a. Gear Door Closing (after taxi command received)	(b)(6)	08NOV11
b. Power Up/Increasing/Down	(b)(6)	08NOV11
c. Vehicle Moving/Slowing /Stopped	(b)(6)	08NOV11
d. Vehicle on Taxiway Centerline	(b)(6)	08NOV11
e. Vehicle Left/Right of Track/Centerline, XX feet	(b)(6)	08NOV11
f. Vehicle Correcting Back (toward centerline)	(b)(6)	08NOV11
g. Vehicle Turning Left/Right	(b)(6)	08NOV11
h. Strobes on/off	(b)(6)	08NOV11
i. Any Other Pertinent Descriptive Calls	(b)(6)	08NOV11
4. Hawk Mobile Driver	(b)(6)	08NOV11
a. Chase Parking (pointed away from aircraft, engine off, parking brake set)	(b)(6)	08NOV11
b. Safe Distance (XX wingspan for takeoff/high speed abort)	(b)(6)	08NOV11
c. Safe Speed	(b)(6)	08NOV11
d. Night/Day Differences	(b)(6)	08NOV11
5. Observe one takeoffs from Hawk Mobile Vehicle	(b)(6)	08NOV11
6. Observe one landings Hawk Mobile Vehicle	(b)(6)	08NOV11
7. Demonstrate one takeoff from Hawk Mobile Vehicle with a Qualified Hawk Mobile	(b)(6)	11DEC11
8. Demonstrate one landing from Hawk Mobile Vehicle with a Qualified Hawk Mobile	(b)(6)	11DEC11

6. TRAINEE'S SIGNATURE/DATE(*When Completed*)	7. INS (b)(6) *round Training Completion)*

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

3710
Ser N5/069
11 Oct 11

From: Commander, Task Group 57.11
To: Mr. (b)(6) , Northrop Grumman, XXX-XX- (b)(6)

Subj: DESIGNATION AS AN UNMANNED AIRCRAFT SYSTEM AIR VEHICLE OPERATOR

Ref: (a) OPNAVINST 3710.7 (Series)
(b) NAVAIRINST 3710.1F
(c) NAVAIR 01-RQ4AA-NFM-100
(d) GHMD-T-0004, RQ-4A Pilot Qualification Course

1. In accordance with references (a) through (d), you are hereby designated as an Unmanned Aircraft System Air Vehicle Operator (AVO) for the Broad Area Maritime Surveillance Demonstrator RQ-4A air vehicle for Commander, Task Group 57.11 effective 11 October 2011.

2. Your designation as an RQ-4A AVO was based on your demonstration of poise, maturity, knowledge, and ability essential to the execution of safe and competent instruction. Designated AVOs are qualified to conduct all phases of aircraft operation to include both Launch and Recovery Element and Mission Control Element operations.

3. As a designated RQ-4A AVO, you shall serve as a member of the AVO Standardization Board.

4. This designation is subject to the limitations imposed by references (a) through (c) and shall remain in effect until revoked or transferred from oversight of this command.

(b)(6)

D. C. CUTTER

Copy to:
NATOPS Jacket
Training Jacket
Logs and Records
Retain File

AIRFIELD OPERATORS LICENSE: NAS PAX RIVER	CARD NO: (b)(6)	COMP NO:	
(b)(6)	DATE ISSUED: 07/20/2011	DATE EXPIRE: 07/19/2012	
DOB: (b)(6)	COLOR OF HAIR: (b)(6)	COLOR OF EYES:: (b)(6)	HEIGHT: (b)(6) / WEIGHT: (b)(6)
THE HOLDER OF THIS CARD IS QUALIFIED TO OPERATE U.S. GOVERNMENT VEHICLES ON NAS PATUXENT RIVER, MD. TAXIWAYS, RAMPS, AND RUNWAYS.			
NG OFFICIAL: (b)(6) (b)(6)	TITLE: AFD COOR		
	TITLE OF POSITION: GS-7 HAWK HORIC		

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32E

SECTION IIIA -- SCHOOL/COURSE ATTENDANCE RECORD

NAME (Last, first, middle)	SSN
(b)(6)	

RECORD ALL SPECIALIZED, FORMAL AVIATION SCHOOLS, INCLUDING:

UNDERGRADUATE PILOT/INFO FASOTRAGRP SYLLABI MAINTENANCE (3M) COURSES
FRS SYLLABI WEAPONS SYSTEMS
FIRE FIGHTING FRAMP

SCHOOL/COURSE	DATES ATTENDED	PASS/FAIL/SCORE	UNIT	REMARKS	VERIFIED BY
CRM LETTER	10 AUG 2011	PASS	BAMS-D NGC		(b)(6)
CRM CERT	13 SEP 2011	PASS	NETC NGC		(b)(6)
COURSE RULES	08 SEP 2011	PASS	BAMS-D NGC		(b)(6)
Cirrus Cert. Flight Review	17 OCT 11	PASS	NGC		(b)(6)
Cirrus Cert Inst. Prof. Check	17 OCT 11	PASS	NGC		(b)(6)
Cirrus Cert Adv. Transition Trng	17 OCT 11	PASS	NGC		(b)(6)
Course RJ's	05 MAR 2012	PASS	NGC		(b)(6)
EPSIM	17 APR 12	PASS	NGC		(b)(6)

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
47765 Ranch Road
Hangar 101 Room A-112
Patuxent River, Maryland 20670

10 August 2011

From: Northrop Grumman Global Hawk Maritime Demonstration Training Lead

To: Northrop Grumman Global Hawk Maritime Demonstration NATOPS Officer

Subj: Crew Resource Management (CRM) Annual Review

Mr (b)(6) completed his annual CRM training review on 10 August 2011 and was verified by the Northrop Grumman Global Hawk Maritime Demonstration Training Lead. This annual review will expire 31 August 2012.

(b)(6)

(b)(6)
Training Lead
Global Hawk Maritime Demonstration
Patuxent River, Maryland

cc: (b)(6)

Certificate of Completion

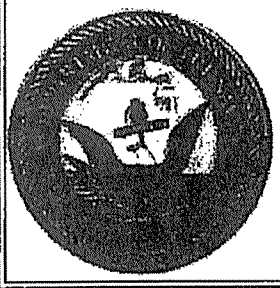
By the authority of the Naval Education and Training Command this certifies that

(b)(6)

has successfully completed all requirements and criteria provided by the course in

Manager - Directing Your Command's Risk Management

Grade: 90
Course ID: CPPD-ORM-DYCRM-1.0
Instructional Hours: 1
Recommended Reserve Points: None Provided
Continuing Education Units: None Provided



THIS CERTIFICATION EARNED ON

September 13, 2011

(Signed) JF Kilkenny
Rear Admiral, U.S. Navy

This certification may be verified at Navy eLearning by accessing the certificate holder's transcript.

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
47765 Ranch Road
Hangar 101 Room A-112
Patuxent River, Maryland 20670

05 March 2012

From: Northrop Grumman Global Hawk Maritime Demonstration Training Lead
To: Northrop Grumman Global Hawk Maritime Demonstration NATOPS Officer

The following BAMS-D pilot completed annual Course Rules Training review on 05 March 2012:

Mr. (b)(6)

The training was verified by Northrop Grumman Global Hawk Maritime Demonstration Training Lead. This annual training will expire on 31 March 2013.

(b)(6)

(b)(6)

Training Lead
Global Hawk Maritime Demonstration
Patuxent River, MD

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
47765 Ranch Road
Hangar 101 Room A-112
Patuxent River, Maryland 20670

08 September 2011

From: Northrop Grumman Global Hawk Maritime Demonstration Training Lead

To: Northrop Grumman Global Hawk Maritime Demonstration NATOPS Officer

Subj: Course Rules Annual Lecture Review

The following BAMS-D pilots have completed their annual Course Rules training review on 08 September 2011:

Mr.
Mr.
Mr.
Mr.
Mr.
Mr.
Mr. (b)(6)
Mr.
Mr.
Mr.
Mr.
Mr.
Mr.

This training was verified by the Northrop Grumman Global Hawk Maritime Demonstration Training Lead. This annual review will expire 30 September 2012.

(b)(6)

(b)(6)

Training Lead
Global Hawk Maritime Demonstration
Patuxent River, Maryland

CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

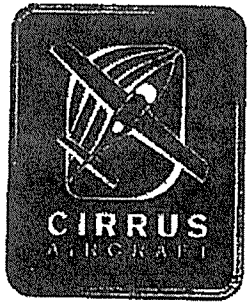
has met the course requirements for

Advanced Transition Training

In a Cirrus SR22

10-17-2011
COMPLETION DATE

(b)(6)
AUTHORIZED CIRRUS AIRCRAFT INSTRUCTOR



CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

has met the course requirements for

Instrument Proficiency Check

10-17-2011
COMPLETION DATE

In a Cirrus SR22

(b)(6)
AUTHORIZED CIRRUS AIRCRAFT INSTRUCTOR

CIRRUS DESIGN CORPORATION 4515 TAYLOR CIRCLE DULUTH MN 55811 218.788.3800

CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

has met the course requirements for

Flight Review

In a Cirrus SR22

10-17-2011
COMPLETION DATE

(b)(6)
AUTHORIZED CIRRUS AIRCRAFT INSTRUCTOR

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32G (Rev 4-90)

SECTION IIIC--EXAMINATION RECORD

NAME (Last, first, middle initial)	SSN
(b)(6)	

NATOPS EXAMS

OPEN BOOK				CLOSED BOOK			
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	PASS/FAIL	GRADED BY
03 OCT 11	3.6	P	(b)(6)	03 OCT 11	3.6	P	(b)(6)

INSTRUMENT EXAM				COURSE RULES		OTHER EXAMS				
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	TITLE	DATE	GRADE	PASS/FAIL	GRADED BY
09SEP11		PASS	(b)(6)							

NATOPS EVALUATION REPORT
OPNAV 3710/7 (4-90) S/N 0107-LF-009-8000 REPORT SYMBOL OPNAV 3710-21

NAME (Last, first, middle initial)	GRADE	SSN
(b)(3), (b)(6)	CIV	XXX-XX (b)(6)
SQUADRON/UNIT	**AIRCRAFT MODEL**	**CREW POSITION**
CPRW-2	RQ-4A	PILOT
TOTAL PILOT/FLIGHT HOURS	**TOTAL HOURS IN MODEL**	**DATE of LAST EVAL**
6166	75.7	INITIAL

NATOPS EVALUATION

REQUIREMENT	DATE COMPLETED	GRADE		
		Q	CQ	U
OPEN BOOK EXAMINATION	3 OCT 11	3.6		
CLOSED BOOK EXAMINATION	3 OCT 11	3.6		
ORAL EXAMINATION	7 OCT 11	Q		
CRM Flight	9 OCT 11	Q		
*EVALUATION FLIGHT	7 OCT 11	Q		
FLIGHT DURATION	**AIRCRAFT BUNO**	**OVERALL FINAL GRADE**		
2.0	PSAT	Qualified		

REMARKS OF EVALUATOR/INSTRUCTOR
1. Mr. Vodantis flew an excellent NATOPS check-flight in compliance with Air Force Instruction 11-2RQ-4V2, Aircrew Evaluation Criteria, and is qualified as a pilot in the RQ-4A aircraft.

2. CRM flight evaluation was completed IAW OPNAVINST 1542.7C

EXPIRES: 31 OCT 12
☐ CHECK IF CONTINUED ON REVERSE

GRADE, NAME of EVALUATOR/INSTRUCTOR	SIGNATURE	DATE
MR. (b)(6) , NGC	(b)(6)	11 OCT 11
GRADE, NAME of EVALUEE	**SIGNATURE**	**DATE**
MR. (b)(6) , NGC	(b)(6)	11 OCT 11

REMARKS OF UNIT COMMANDER

NAME, RANK of UNIT COMMANDER	SIGNATURE	DATE
CAPT D.C. CUTTER, USN	(b)(6)	120911

* WST, OFT, CPT or cockpit check in accordance with OPNAVINST 3710.7 Series

09 SEP 2011

MEMORANDUM

From: Commanding Officer, Air Test and Evaluation Squadron ONE

Subj: INSTRUMENT GROUND SCHOOL COMPLETION

Ref: (a) OPNAVINST 3710.7U

1. In accordance with reference (a), the following individuals attended Instruction Ground School and successfully passed the annual Instrument Ground School Refresher Course examination on 09 SEPTEMBER, 2011.

RANK	NAME	SERVICE	LAST 4	COMMAND
CDR	(b)(3), (b)(6)	USN	(b)(6)	NTWL
CDR	(b)(3), (b)(6)	USN	(b)(3)	USNTPS
LCDR	(b)(3), (b)(6)	USN	(b)(6)	VX-20
LT	(b)(3)	USN	(b)(6)	HX-21
CIV	(b)(6)	N/A	(b)(6)	NG
CIV	(b)(6)	N/A	(b)(6)	NG
CIV	(b)(6)	N/A	(b)(6)	UAS TEST DIR
CIV	(b)(6)	N/A	(b)(6)	WYLE
CIV	(b)(6)	N/A	(b)(6)	NG

IGS Instructor: LT (b)(3), (b)(6)

(b)(3), (b)(6)

LT USN
By Direction

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32H (4-81)

SECTION IVB --MISHAP/FLIGHT VIOLATION RECORD

NAME *(Last, first, middle initial)*	SSN

DATE	UNIT	MISHAP DESCRIPTION	COMMANDING OFFICER'S SIGNATURE

(b)(6)

Copy of Mishap/Flight Violation Record for (b)(3), (b)(6)
from his NATOPS Jacket. LCDR (b)(6)

NORTHROP GRUMMAN

Flight Time Report for (b)(6)

BAMS 30 Day SUMMARY

2012	12.2	0.0	0.0	0	0	3	0	0	0
Total	12.2	0.0	0.0	0	0	3	0	0	0

BAMS 90 Day SUMMARY

2012	54.3	0.0	2.0	0	0	15	1	1	1
Total	54.3	0.0	2.0	0	0	15	1	1	1

BAMS 120 Day SUMMARY

2012	62.8	0.0	2.0	0	0	18	1	1	1
Total	62.8	0.0	2.0	0	0	18	1	1	1

BAMS 180 Day SUMMARY

2011	2.4	0.0	0.0	1	1	1	0	0	0
2012	69.5	0.0	2.0	4	1	22	1	1	1
Total	71.9	0.0	2.0	5	2	23	1	1	1

ENCLOSURE (12)

NORTHROP GRUMMAN

BAMSD Logbook Detail for (b)(6)

Date	Aircraft Type	Dept Base	Arr Base	Mission Type	Actual Time	AC Time	Sim Time	Takeoffs	Landings	Sim Takeoffs	Sim Landings
8/3/2011	Sim	KNHK	KNHK	SIM 1	0.0	0.0	3.0	0	0	0	0
8/5/2011	Sim	KNHK	KNHK	SIM 2	0.0	0.0	2.0	0	0	1	0
8/8/2011	Sim	KNHK	KNHK	SIM 3	0.0	0.0	3.5	0	0	1	0
8/9/2011	Sim	KNHK	KNHK	SIM 4	0.0	0.0	3.0	0	0	1	1
8/10/2011	Sim	KNHK	KNHK	SIM 5	0.0	0.0	3.0	0	0	1	1
8/10/2011	Sim	KNHK	KNHK	SIM 6	0.0	0.0	2.5	0	0	1	1
8/12/2011	Sim	KNHK	KNHK	SIM 7	0.0	0.0	2.0	0	0	1	1
8/16/2011	Sim	KNHK	KNHK	SIM 8	0.0	0.0	3.0	0	0	1	1
8/17/2011	Sim	OMAM	OMAM	SIM 9	0.0	0.0	3.0	0	0	1	1
8/18/2011	Sim	OMAM	OMAM	SIM 10	0.0	0.0	3.0	0	0	1	1
8/19/2011	Sim	KNHK	KNHK	SIM 11	0.0	0.0	3.0	0	0	1	1
8/23/2011	Sim	KNHK	KNHK	SIM 12	0.0	0.0	3.0	0	0	1	1
8/24/2011	RQ4A	KNHK	KNHK	TRAINING	2.6	0.0	0.0	1	1	0	0
8/26/2011	RQ4A	KNHK	OMAM	TRAINING	4.2	0.0	0.0	0	0	0	0
9/1/2011	Sim	OMAM	OMAM	SIM 13	0.0	0.0	2.5	0	0	1	1
9/2/2011	Sim	OMAM	OMAM	SIM 14	0.0	0.0	2.5	0	0	1	1
9/8/2011	Sim	KNHK	KNHK	SIM 15	0.0	0.0	2.5	0	0	1	1
9/12/2011	Sim	KNHK	KNHK	SIM 16	0.0	0.0	2.5	0	0	1	1
9/14/2011	RQ4A	OMAM	KNHK	TRAINING	3.7	0.0	0.0	0	1	0	0
9/18/2011	RQ4A	OMAM	OMAM	TRAINING	4.0	0.0	0.0	0	0	0	0
9/20/2011	Sim	KNHK	KNHK	SIM 17	0.0	0.0	3.0	0	0	1	1

Date	Aircraft Type	Dept Base	Arr Base	Mission Type	Actual Time	AC Time	Sim Time	Takeoffs	Landings	Sim Takeoffs	Sim Landings
3/30/2012	RQ-4A	OMAM	OMAM	5v1	5.0	0.0	0.0	0	0	0	0
4/3/2012	RQ-4A	OMAM	OMAM	5v1	4.0	0.0	0.0	0	0	0	0
4/12/2012	RQ-4A	OMAM	OMAM	5v1	3.0	0.0	0.0	0	0	0	0
4/15/2012	RQ-4A	OMAM	OMAM	5v1	4.5	0.0	0.0	0	0	0	0
4/17/2012	SIM	KNHK	KNHK	EP	0.0	0.0	2.0	0	0	1	1
4/19/2012	RQ-4A	OMAM	OMAM	5V1	4.0	0.0	0.0	0	0	0	0
4/20/2012	RQ-4A	KNHK	KNHK	5v1	3.6	0.0	0.0	0	0	0	0
4/23/2012	RQ-4A	OMAM	OMAM	5v1	2.0	0.0	0.0	0	0	0	0
4/29/2012	RQ-4A	OMAM	OMAM	5v1	5.1	0.0	0.0	0	0	0	0
5/12/2012	RQ-4A	OMAM	OMAM	5v1	3.0	0.0	0.0	0	0	0	0
5/15/2012	RQ-4A	OMAM	OMAM	5v1	4.0	0.0	0.0	0	0	0	0
5/22/2012	RQ-4A	OMAM	OMAM	5v1	4.2	0.0	0.0	0	0	0	0
5/23/2012	RQ-4A	KNHK	KNHK	5v1	3.4	0.0	0.0	0	0	0	0
6/7/2012	RQ-4A	OMAM	OMAM	5v1	4.3	0.0	0.0	0	0	0	0
6/11/2012	RQ-4A	KNHK	KNHK	5v1	0.3	0.0	0.0	0	0	0	0
Total					**139.4**	**0.0**	**56.0**	**8**	**7**	**20**	**18**

NORTHROP GRUMMAN

Currency Report for (b)(6)

6 sorties in the last 180 days

Total Sorties
23

5 RQ-4A flight hours (no more than 2.5 simulated) in the last 90 days

Actual Time	Sim Time
54.3	2.0

2 actual or simulated takeoffs and landings in the last 90 days

Actual Takeoffs	Simulated Takeoffs	Actual Landings	Simulated Landings
0	**1**	**0**	**1**

40 flight hours (no more than 20 simulated) in last 180 days

Actual Time	Sim Time
71.9	2.0

100 flight hours (no more than 50 simulated) in last year

Actual Time	Sim Time
139.4	**56.0**

1 sortie (actual or simulated) in the last 90 days

Actual Sorties	Simulated Sorties
15	1

Date of Last EP Sim	Date of Last NATOPS Check
4/17/2012	10/7/2011

[redacted] [redacted]

ENCLOSURE (13)

CONTRACTOR CREWMEMBER RECORD

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 45 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.

PRIVACY ACT STATEMENT

AUTHORITY: 10 USC 8012, 44 USC 3101, and EO 9397, November 1943 (SSN).

PURPOSE AND USE: To record individual contractor flight crew personnel records and approval to operate Government aircraft. Serves as a record of approval of private contractor personnel who will operate Government aircraft.

DISCLOSURE: Voluntary; however, failure to complete form will prevent approval of contractor flight crew members from operating Government aircraft.

NAME OF CREWMEMBER *(First, last, middle initial)*
(b)(6)

CONTRACTOR REPRESENTED *(Name and address)*
Northrop Grumman Corporation
Hangar 101, Room 120
47765 Ranch Road
NAS Patuxent River, MD 20670

IDENTIFY CREW POSITION

☒ TEST _____ ☒ SUPPORT

☒ FUNCTIONAL _____ ☐ OTHER *(Specify)*

MISSION, DESIGN AND SERIES AIRCRAFT OR OTHER REQUIREMENT FOR THIS QUALIFICATION
RQ-4

BASE OR LOCATION WHERE QUALIFICATION ACCOMPLISHED
NAS Patuxent River, MD

☒ INITIAL QUALIFICATION ☐ REQUALIFICATION

SECTION I - FLIGHT EXPERIENCE *(Time to nearest hour)*

FLYING TIME ABOVE TYPE
JET 0 HRS TURBO PROP 4,322 HRS RECIPROCATING 125 HRS ROTARY 1,725 HRS

TOTAL FLYING TIME 6,172

MISSION DESIGN AND SERIES AIRCRAFT	PERIOD OF TIME	IP	1ST PILOT				COPILOT	AIRCRAFT COMMANDER	OTHER CREW MEMBERS *(Specify)*
			TOTAL	WX	HOOD	NIGHT			
G-159	LAST 12 MOS	0	120	15	3	1	120	0	
	LAST 4 YRS	0	655	45	15	5	655	0	
	TOTAL	0	655	45	15	5	655	0	
Metro III	LAST 12 MOS	0	0	0	0	0	0	0	
	LAST 4 YRS	0	565	0	0	0	0	0	
	TOTAL	204	650	110	28	85	250	430	
C-26B	LAST 12 MOS	0	0	0	0	0	0	0	
	LAST 4 YRS	0	0	0	0	0	0	0	
	TOTAL	513	2,831	660	175	350	670	2,161	
SH-60B	LAST 12 MOS	0	0	0	0	0	0	0	
	LAST 4 YRS	0	0	0	0	0	0	0	
	TOTAL	50	830	140	70	217	360	470	
SH-2F	LAST 12 MOS	0	0	0	0	0	0	0	
	LAST 4 YRS	0	0	0	0	0	0	0	
	TOTAL	0	754	120	90	275	450	304	
TH-57	LAST 12 MOS	0	0	0	0	0	0	0	
	LAST 4 YRS	0	0	0	0	0	0	0	
	TOTAL	0	145	7	35	12	145	0	
T-34C	LAST 12 MOS	0	0	0	0	0	0	0	
	LAST 4 YRS	0	0	0	0	0	0	0	
	TOTAL	0	134	7	30	12	127	7	

ENCLOSURE (14)

(b)(6) APPR

Oct 11 17.9	~~6~~
Nov 3.4	17 in last 6 Mos
Dec 1.5	0
Jan 0	
Feb 0	
Mar 8.1	~~6~~
APR 3.0	~~5~~
May 3.7	(18) in last 6 mos IFR Current
~~37.6 Total~~	

Cirrus SR22 flight hours for (b)(6)

ENCLOSURE (15)

NATOPS JACKET REVIEW CHECKLIST

NAME (b)(6)	DATE 11/18	RLT	DATE 11/24/09	RLT	DATE 04/07/11
Review and Certification 1 1. Form 3760/32A Upon Check-in. 2. Upon major change in flight status 3. Periodic	(Y) N (Y) N (Y) N		Y N Y N (Y) N		Y N Y N (Y) N
PCS Orders N/A	N/A		N/A		(N/A)
Medical Clearance 1. Current FAA Class II flight physical. 8-26-09	(Y) N		(Y) N		Y N
Flight Equipment Issue 1. Form 3760/32B	(Y) N		(Y) N		Y N
Designations 1. Copy of all designations (RQ-4A Pilot/IP/AC/SO) 2. Logged on Desig. Form 2628 & Form 3760/32C 3. Signed by Wing prior to flying as such. 4. FAA Pilot Cerificate.	(Y) N Y (N) (Y) N Y (N)	N/A	(Y) N (Y) N (Y) N Y N	N/A	(Y) N (Y) N (Y) N Y (N)
Mission Qualifications 1. Copy of mission related qualifications (Mobile w/ Flight Line Driver's License, TACCO). (N/A) 2. Hawk Mobile Designation	Y (N) Y (N)		Y (N) Y (N)	N/A N/A	Y (N) Y (N)
Miscellaneous: N/A	N/A		N/A		(N/A)
Schools/Courses 1. FORM 3760/32E 2. RQ-4A IPQT/ISOQT 3. Annual CRM 4. Annual ORM	(Y) N Y (N) (Y) N (Y) N	N/A	(Y) N (Y) N (Y) N (Y) N		(Y) N Y (N) (Y) N (Y) N
Physiology/Survival N/A	N/A		N/A		(N/A)
Examinations: 1.Original of ~~open~~/closed exams, form 3760/32G 2. Completed prior to NATOPS check flight 3. Dates/scores match those on eval. 4. Copies of most current exams or answer keys 5. Instrument Exam (if available).	(Y) N (Y) N (Y) N (Y) N Y (N)	N/A	(Y) N (Y) N Y N (Y) N Y N	N/A	(Y) N (Y) N (Y) N (Y) N Y (N)
NATOPS Evals 1. Original of all evals, ~~form 3710/7~~ See checklist 2. Completed annually form #9 3. Lists exp. Date schools/courses	(Y) N Y (N) Y (N)	N/A N/A N/A	Y N Y N Y N		(Y) N (Y) N (Y) N

ENCLOSURE (16)

NATOPS JACKET REVIEW CHECKLIST

Name	DATE 11/18	RLW	DATE 11/24/09		DATE
NATOPS Instrument Rating: 1.Instrument Ground School letter, w/member listed 2.Meets FAR 61.57 (c/d) w/in last 6 mo: 6 appr/holding/intercept-track, or IPC if over 1 yr. 3. Logbook reflects currency.	Y N Y N Y N	N/A	Y N Y N Y N	N/A	Y N Y N Y N
Flight Time Summary. 1. Copy of annual flight time summary	(Y) N		(Y) N		(Y) N
Mishap/Violation record 1. Record of any mishaps logged.	(Y) N		(Y) N		(Y) N

UNITED STATES OF AMERICA (b)(6)
Department of Transportation
Federal Aviation Administration

MEDICAL CERTIFICATE ~~2nd~~ CLASS
AND STUDENT PILOT CERTIFICATE

This certifies that *(Full name and address):*

(b)(6)

Date of Birth	Height	Weight	Hair	Eyes	Sex
(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)

has met the medical standards prescribed in part 67, Federal Aviation Regulations, for this class of Medical Certificate.

Limitations: None

Date of Examination: 09-14-2011

Examiner's Designation No.: (b)(6)

Examiner

(b)(6)

Typed Name: (b)(6) M.D.

AIRMAN'S SIGNATURE

(b)(6)

FAA Form 8420-2 (9-08) Supersedes Previous Edition

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

SECTION IIIA – FLIGHT PERSONNEL DESIGNATION RECORD

NAME (Last, first, middle initial) (b)(6)	SSN

DATE	DESIGNATION	MODEL	UNIT	PROMULGATION BY	VERIFIED
20May09	Sensor Operator	RQ-4A	Wing 5	(b)(6)	(b)(6)
01Sep09	Sensor Operator	RQ-4A	Wing 2	(b)(6)	(b)(6)
13 MAY 09	CONTRACTOR CREW)	RQ-4A		(b)(6)	(b)(6)

OPNAV 3760/32C (APR 1981)

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

3710
Ser N00/146
1 Sep 09

From: Commander, Patrol and Reconnaissance Wing TWO
To: Mr. (b)(6) , Northrop Grumann, XXX-XX- (b)(6)

Subj: DESIGNATION AS A PATROL UNMANNED AERIAL VEHICLE (UAV) SENSOR OPERATOR

Ref: (a) OPNAVINST 3710.7 (Series)
(b) COMPATRECONGRUINST 3500.25 (Series)
(c) NAVAIR 01-RQ4AA-NFM-100

1. In accordance with references (a) through (c), you are hereby designated as a Patrol UAV Sensor Operator in the RQ-4A aircraft for Patrol and Reconnaissance Wing TWO.

2. Your selection as a Patrol UAV Sensor Operator was based on your consistent demonstration of poise, maturity, knowledge, and ability essential to the execution of safe and competent instruction. Designated Sensor Operators are qualified to function in all phases of aircraft operation.

3. As a designated Patrol UAV Sensor Operator you shall provide input to the Sensor Operator Standardization Board.

4. This designation is subject to the limitations imposed by references (a) through (c) and shall remain in effect until revoked or transferred from oversight of this command.

(b)(6)

R. M. URBANO

DEPARTMENT OF THE NAVY
COMMANDER PATROL AND RECONNAISSANCE WING FIVE
NAVAL AIR STATION
5 JAY BEASLEY CIRCLE
BRUNSWICK, MAINE 04011-5000

3710
Ser N00/128
20 May 09

From: Commander, Patrol and Reconnaissance Wing FIVE
To: Mr. (b)(6) , Northrop Grumman, XXX-XX- (b)(6)

Subj: DESIGNATION AS A PATROL UNMANNED AERIAL VEHICLE (UAV) SENSOR OPERATOR

Ref: (a) OPNAVINST 3710.7 (Series)
(b) COMPATRECONGRUINST 3500.25 (Series)
(c) NAVAIR 01-RQ4AA-NFM-100

1. In accordance with references (a) through (c), you are hereby designated as a Patrol UAV Sensor Operator in the RQ-4A aircraft for Patrol and Reconnaissance Wing FIVE.

2. Your selection as a Patrol UAV Sensor Operator was based on your consistent demonstration of poise, maturity, knowledge, and ability essential to the execution of safe and competent instruction. Designated Sensor Operators are qualified to function in all phases of aircraft operation.

3. As a designated Patrol UAV Sensor Operator you shall provide input to the Sensor Operator Standardization Board.

4. This designation is subject to the limitations imposed by references (a) through (c) and shall remain in effect until revoked or transferred from oversight of this command.

(b)(6)

G. B. HOKE

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32E

SECTION IIIA -- SCHOOL/COURSE ATTENDANCE RECORD

NAME (Last, first, middle)	SSN
(b)(6)	

RECORD ALL SPECIALIZED, FORMAL AVIATION SCHOOLS, INCLUDING:

UNDERGRADUATE PILOT/INFO
FRS SYLLABI
FIRE FIGHTING
FASOTRAGRP SYLLABI
WEAPONS SYSTEMS
FRAMP
MAINTENANCE (3M) COURSES

SCHOOL/COURSE	DATES ATTENDED	PASS/FAIL/SCORE	UNIT	REMARKS	VERIFIED BY
Initial Sensor Operator Course	16 Mar 09 - 5 May 09	Pass / 84%	Wing 5		
ORM Fundamentals Course	09 July 09	Pass	Wing 5		
CRM	SEPT 09	PASS	WINGS		
ORM	21 JUN 2010	PASS	CPRW-2	N/A	(b)(6)
CRM	15 MAR 2010	PASS	CPRW-2		
CRM	29 MAR 2011	PASS	CPRW-2		(b)(6)
ORM	14 JUN 2011	PASS/80	CPRW-2		(b)(6)
CRM	11 APR 2011	PASS	CPRW2		(b)(6)
ORM	8 JUN 2012	PASS	CPRW2		(b)(6)

07 April 2011

From: LT (b)(3), (b)(6)

To: LCDR (b)(3), (b)(6)

Subj: BAMS-D Annual CRM Training

The following personnel completed annual CRM training on 29 March 2011. This qualification expires on 31 March 2012.

LCDR (b)(3), (b)(6)
LCDR (b)(3), (b)(6)
LT (b)(3), (b)(6)
LT (b)(3), (b)(6)
LT (b)(3), (b)(6)
LT (b)(3), (b)(6)
AWO2 (b)(3), (b)(6)
AWO1 (b)(3), (b)(6)
AWO2 (b)(3), (b)(6)
(b)(6)
(b)(6)
(b)(6)
(b)(6)
(b)(6)
(b)(6)
(b)(6)
(b)(6)
(b)(6)
(b)(6)
(b)(6)
AWO1 (b)(3), (b)(6)
(b)(6)
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(b)(6)
(b)(6)
(b)(6)
(b)(6)

Very Respectfully,

(b)(3), (b)(6)

LT USN

Certificate of Completion

By the authority of the Naval Education and Training Command this certifies that

(b)(6)

has successfully completed all requirements and criteria provided by the course in

Individual - Managing Your Risk

Grade: 80
Course ID: CPPD-ORM-MYR-1.0
Instructional Hours: 1
Recommended Reserve Points: None Provided
Continuing Education Units: None Provided

THIS CERTIFICATION EARNED ON

June 08, 2012

(Signed) D.P. Quinn
Rear Admiral, U.S. Navy

This certification may be verified at Navy eLearning by accessing the certificate holder's transcript.

NATOPS EVALUATION REPORT
OPNAV 3710/7 (4-90) S/N 0107-LF-009-8000 REPORT SYMBOL OPNAV 3710-21

NAME (Last, first, middle initial)	GRADE	SSN
(b)(6)	CIV.	XXX-XX (b)(6)
SQUADRON/UNIT	**AIRCRAFT MODEL**	**CREW POSITION**
CPRW-2	RQ-4A	SENSOR OPERATOR
TOTAL PILOT/FLIGHT HOURS	**TOTAL HOURS IN MODEL**	**DATE of LAST EVAL**
2378.00	1078.00	22 May 2011

NATOPS EVALUATION

REQUIREMENT	DATE COMPLETED	GRADE		
		Q	CQ	U
OPEN BOOK EXAMINATION	15 May 2012	100		
CLOSED BOOK EXAMINATION	15 May 2012	96		
ORAL EXAMINATION	15 May 2012	Q		
CRM Flight	15 May 2012	Q		
*EVALUATION FLIGHT		Q		
FLIGHT DURATION	**AIRCRAFT BUNO**	**OVERALL FINAL GRADE**		
4.0	02-0510	Qualified		

REMARKS OF EVALUATOR/INSTRUCTOR

1. Mr. (b)(6) flew an excellent NATOPS check-flight in compliance with Air Force Instruction 11-2RQ-4V2, Aircrew Evaluation Criteria, and is fully qualified as a Sensor Operator in the RQ-4A aircraft

2. A CRM flight evaluation was completed IAW OPNAVINST 1542.7C

3. Date of Last Evaluation is 22 May 2011.

EXPIRES: **31 MAY 13**
☐ CHECK IF CONTINUED ON REVERSE

GRADE, NAME of EVALUATOR/INSTRUCTOR	SIGNATURE	DATE
CIV, (b)(6) , NGC	(b)(6)	15 May 2012
GRADE, NAME of EVALUEE	**SIGNATURE**	**DATE**
CIV, (b)(6) , NGC	(b)(6)	15May 2012

REMARKS OF UNIT COMMANDER

NAME, RANK of UNIT COMMANDER	SIGNATURE	DATE
CAPT C.P. RAMSDEN, USN	(b)(6)	23 May 12

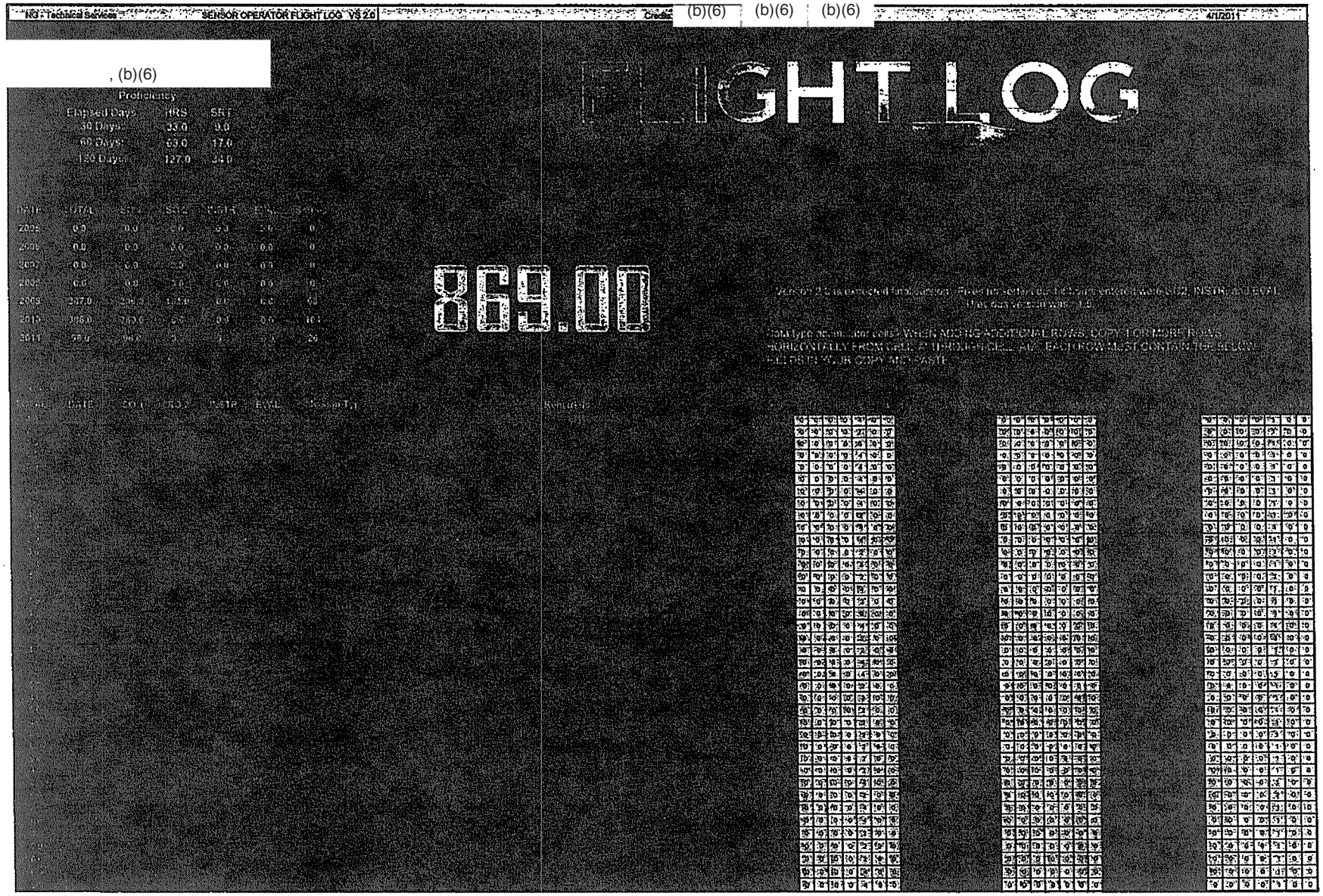
* WST, OFT, CPT or cockpit check in accordance with OPNAVINST 3710.7 Series

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32H (4-81)

SECTION IVB --MISHAP/FLIGHT VIOLATION RECORD

NAME (Last, first, middle initial) (b)(6)			SSN
DATE	UNIT	MISHAP DESCRIPTION	COMMANDING OFFICER'S SIGNATURE

SENSO FLIGHT LOG



(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(6) (TS) | (b)(6) @ngc.com]
Sent: Thursday, June 21, 2012 7:31 AM
To: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: (b)(6) Hours

Hours to date of sensor operation on RQ4-A: 1195.3

Anything else just let me know.
(b)(6)

GHMD Sensor Operator
Northrop Grumman (TS)
(b)(6)

ENCLOSURE (17)

NATOPS JACKET REVIEW CHECKLIST

NAME (b)(6)	DATE 11/18	RLY	DATE 11/24/09	RLY	DATE 04/07/11
Review and Certification 1. Form 3760/32A Upon Check-in. 2. Upon major change in flight status 3. Periodic	Y N Y N Y N		Y N Y N Y N		Y N Y N Y N
PCS Orders N/A	N/A		N/A		N/A
Medical Clearance 1. Current FAA Class III flight physical. 11-4-09	Y N	✓	Y N		Y N
Flight Equipment Issue 1. Form 3760/32B	Y N		Y N	N/A	Y N
Designations 1. Copy of all designations (RQ-4A Pilot/IP/AC/SO) 2. Logged on Desig. Form 2628 & Form 3760/32C 3. Signed by Wing prior to flying as such. 4. FAA Pilot Cerificate.	Y N Y N Y N Y N	N/A	Y N Y N Y N Y N	N/A	Y N Y N Y N Y N
Mission Qualifications 1. Copy of mission related qualifications (Mobile w/ Flight Line Driver's License, TACCO). 2. Hawk Mobile Designation	Y N Y N	N/A	Y N Y N	N/A N/A	Y N Y N
Miscellaneous: N/A	N/A		N/A		N/A
Schools/Courses 1. FORM 3760/32E 2. RQ-4A IPQT/ISOQT 3. Annual CRM 4. Annual ORM	Y N Y N Y N Y N	N/A	Y N Y N Y N Y N		Y N Y N Y N Y N
Physiology/Survival N/A	N/A		N/A		N/A
Examinations: 1.Original of ~~open~~/closed exams, form 3760/32G 2. Completed prior to NATOPS check flight 3. Dates/scores match those on eval. 4. Copies of most current exams or answer keys 5. Instrument Exam (if available).	Y N Y N Y N Y N Y N	N/A	Y N Y N Y N Y N Y N	N/A	Y N Y N Y N Y N Y N
NATOPS Evals 1. Original of all evals, ~~form 3710/7~~ 2. Completed annually 3. Lists exp. Date	Y N Y N Y N	N/A N/A	Y N Y N Y N		Y N Y N Y N

ENCLOSURE (18)

NATOPS JACKET REVIEW CHECKLIST

Name (b)(6)	DATE 11/18	RLY	DATE 11/29/09		DATE
NATOPS Instrument Rating:		N/A		N/A	
1.Instrument Ground School letter, w/member listed	Y N		Y N		Y N
2.Meets FAR 61.57 (c/d) w/in last 6 mo: 6 appr/holding/intercept-track, or IPC if over 1 yr.	Y N		Y N		Y N
3. Logbook reflects currency.	Y N		Y N		Y N
Flight Time Summary. 1. Copy of annual flight time summary	(Y) N		(Y) N		(Y) N
Mishap/Violation record 1. Record of any mishaps logged.	(Y) N		(Y) N		(Y) N

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

SECTION IA - REVIEW AND CERTIFICATION RECORD

NAME *(Last, first, middle initial)*	(b)(6)	SSN

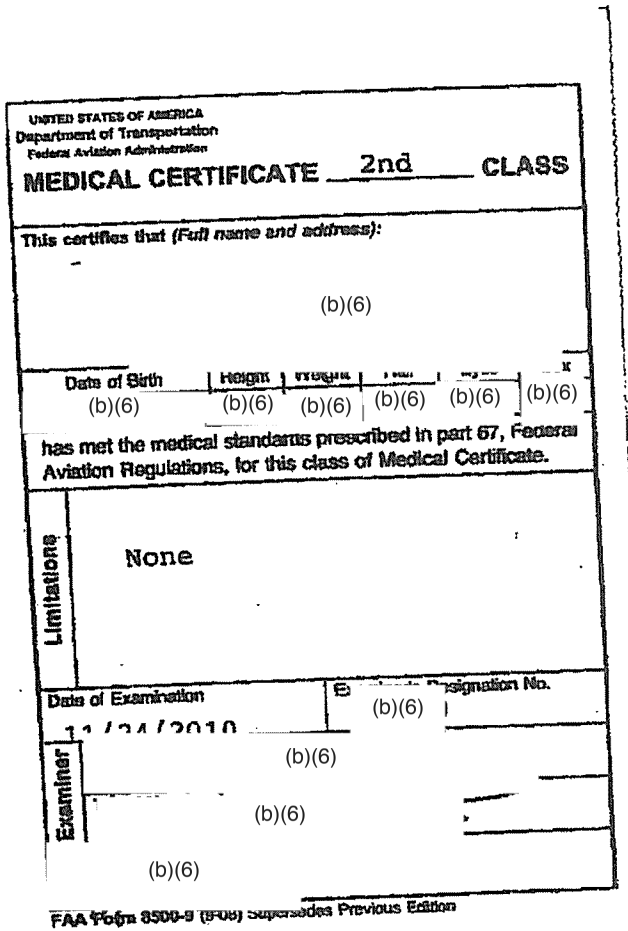
1. This jacket shall be reviewed by the Commanding Officer or a designated representative as follows:
   a. Upon reporting to a unit.
   b. Annually, within 30 days of birthday.
   c. Upon change in flying status.
2. This jacket shall be certified by the Commanding Officer or a designated representative upon detachment of the individual.

RECORDS OF REVIEW

DATE	SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE
11-24-09	(b)(6)				
2/5/11	(b)(6)				

DETACHMENT CERTIFICATION

UNIT	DATE	SIGNATURE	UNIT	DATE	SIGNATURE



UNITED STATES OF AMERICA
Department of Transportation
Federal Aviation Administration

MEDICAL CERTIFICATE 2nd **CLASS**

This certifies that *(Full name and address)*:

(b)(6)

Date of Birth	Height	Weight			
(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)

has met the medical standards prescribed in part 67, Federal Aviation Regulations, for this class of Medical Certificate.

Limitations: None

Date of Examination: 11/24/2010

Examiner Designation No.: (b)(6)

(b)(6)

(b)(6)

(b)(6)

FAA Form 8500-9 (8-08) Supersedes Previous Edition

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

SECTION IIIA -- FLIGHT PERSONNEL DESIGNATION RECORD

NAME *(Last, first, middle linitial,* (b)(6) SSN

DATE	DESIGNATION	MODEL	UNIT	PROMULGATION BY	VERIFIED
23 APR 09	S.O.	RQ-4A	NAC	(b)(6)	(b)(6)
13 MAY 09	S.O.	RQ-4A	CPRW-5	(b)(6)	(b)(6)
01 SEP 09	VAU SO.	RQ-4A	CPRW-2	(b)(6)	(b)(6)
27 APR 09	CONTRACTOR CREW	RQ-4A	NAVAIR	(b)(6)	(b)(6)

OPNAV 3760/32C (APR 1981)

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

3710
Ser N00/145
1 Sep 09

From: Commander, Patrol and Reconnaissance Wing TWO
To: Mr. (b)(6) , Northrop Grumann, XXX-XX- (b)(6)

Subj: DESIGNATION AS A PATROL UNMANNED AERIAL VEHICLE (UAV) SENSOR OPERATOR

Ref: (a) OPNAVINST 3710.7 (Series)
(b) COMPATRECONGRUINST 3500.25 (Series)
(c) NAVAIR 01-RQ4AA-NFM-100

1. In accordance with references (a) through (c), you are hereby designated as a Patrol UAV Sensor Operator in the RQ-4A aircraft for Patrol and Reconnaissance Wing TWO.

2. Your selection as a Patrol UAV Sensor Operator was based on your consistent demonstration of poise, maturity, knowledge, and ability essential to the execution of safe and competent instruction. Designated Sensor Operators are qualified to function in all phases of aircraft operation.

3. As a designated Patrol UAV Sensor Operator you shall provide input to the Sensor Operator Standardization Board.

4. This designation is subject to the limitations imposed by references (a) through (c) and shall remain in effect until revoked or transferred from oversight of this command.

(b)(6)

R. M. URBANO

DEPARTMENT OF THE NAVY
COMMANDER PATROL AND RECONNAISSANCE WING FIVE
NAVAL AIR STATION
5 JAY BEASLEY CIRCLE
BRUNSWICK, MAINE 04011-5000

3710
Ser N00/126
13 May 09

From: Commander, Patrol and Reconnaissance Wing FIVE
To: Mr. (b)(6) Northrop Grumman, XXX-XX- (b)(6)

Subj: DESIGNATION AS A PATROL UNMANNED AERIAL VEHICLE (UAV) SENSOR OPERATOR

Ref: (a) OPNAVINST 3710.7 (Series)
(b) COMPATRECONGRUINST 3500.25 (Series)
(c) NAVAIR 01-RQ4AA-NFM-100

1. In accordance with references (a) through (c), you are hereby designated as a Patrol UAV Sensor Operator in the RQ-4A aircraft for Patrol and Reconnaissance Wing FIVE.

2. Your selection as a Patrol UAV Sensor Operator was based on your consistent demonstration of poise, maturity, knowledge, and ability essential to the execution of safe and competent instruction. Designated Sensor Operators are qualified to function in all phases of aircraft operation.

3. As a designated Patrol UAV Sensor Operator you shall provide input to the Sensor Operator Standardization Board.

4. This designation is subject to the limitations imposed by references (a) through (c) and shall remain in effect until revoked or transferred from oversight of this command.

(b)(6)

J. B. HOKE

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32E

SECTION IIIA – SCHOOL/COURSE ATTENDANCE RECORD

NAME (Last, first, middl	SSN
(b)(6)	

RECORD ALL SPECIALIZED, FORMAL AVIATION SCHOOLS, INCLUDING:

UNDERGRADUATE PILOT/NFO
FRS SYLLABI
FIRE FIGHTING
FASOTRAGRP SYLLABI
WEAPONS SYSTEMS
FRAMP
MAINTENANCE (3M) COURSES

SCHOOL/COURSE	DATES ATTENDED	PASS/FAIL/SCORE	UNIT	REMARKS	VERIFIED BY
BASIC SENSOR QUAL COURSE	23JAN09/ to 20APR09	PASS	WINGS		(b)(6)
CRM	26JAN09	PASS	WINGS		(b)(6)
ORM	23FEB09	PASS / 95	WINGS		(b)(6)
CRM	SEPT 09	PASS	WINGS		(b)(6)
ORM	03Feb10	Pass /92	WING 2		(b)(6)
CRM	15MAR2010	PASS	CPRW-2		(b)(6)
ORM	26JAN2011	PASS/80	CPRW-2		(b)(6)
CRM	29 MAR 2011	PASS	CPRW-2		(b)(6)
CRM	7 APR 2011	PASS	CPRW-2		(b)(6)
CRM	15 MAR 2012	P	CPRW-2		(b)(6)

15 March 2012

From: LT (b)(3), (b)(6), Mission Commander, BAMS-D
To: LCDR (b)(3), (b)(6) Officer in Charge, BAMS-D

Subj: BAMS-D Annual CRM Training

1. The following personnel completed annual CRM training on 15 March 2012. This qualification expires on 31 March 2013.

LCDR (b)(3), (b)(6)
LCDR (b)(3), (b)(6)
LCDR (b)(3), (b)(6)
LT (b)(3), (b)(6)
LT (b)(3), (b)(6)
LT (b)(3), (b)(6)
LT (b)(3), (b)(6)
AWO1 (b)(6)
AWO1 (b)(6)
AWO1 (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mrs. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(3), (b)(6)
Mr. (b)(3), (b)(6)
Mr. (b)(3), (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mrs. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)
Mr. (b)(6)

(b)(6), (b)(3)

(b)(6)

Certificate of Completion

By the authority of the Naval Education and Training Command this certifies that

(b)(6)

has successfully completed all requirements and criteria provided by the course in

Individual - Managing Your Risk

Grade: 80
Course ID: CPPD-ORM-MYR-1.0
Instructional Hours: 1
Recommended Reserve Points: None Provided
Continuing Education Units: None Provided

THIS CERTIFICATION EARNED ON

January 26, 2011

(Signed) JF Kilkenny
Rear Admiral, U.S. Navy

This certification may be verified at Navy eLearning by accessing the certificate holder's transcript.

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32G (Rev 4-90) S/N 0107-LF-009-7800

SECTION IIIC – EXAMINATION RECORD

NAME (Last, first, middle initial)	SSN
(b)(6)	

NATOPS EXAMS

OPEN BOOK				CLOSED BOOK			
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	PASS/FAIL	GRADED BY
~~06Feb09~~	~~90%~~	Pass	(b)(6)	06Feb09	90%	Pass	(b)(6)
2APR2010	100%	PASS	(b)(6)	11 APR 2011	94%	PASS	(b)(6)
11 APR 2011	100%	PASS	(b)(6)	24APR 2012	96%	PASS	(b)(6)
24 APR 2012	100%	PASS	(b)(6)				

INSTRUMENT EXAM				COURSE RULES		OTHER EXAMS				
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	TITLE	DATE	GRADE	PASS/FAIL	GRADED BY

*U.S. GPO: 1990-704-119/20080

NATOPS EVALUATION REPORT
OPNAV 3710/7 (4-90) S/N 0107-LF-009-8000 REPORT SYMBOL OPNAV 3710-21

NAME (Last, first, middle initial)	GRADE	SSN
(b)(6)	CIV.	XXX-XX (b)(6)
SQUADRON/UNIT	**AIRCRAFT MODEL**	**CREW POSITION**
CPRW-2	RQ-4A	SENSOR OPERATOR
TOTAL PILOT/FLIGHT HOURS	**TOTAL HOURS IN MODEL**	**DATE of LAST EVAL**
2145.00	1100.00	24 APR 2011

NATOPS EVALUATION

REQUIREMENT	DATE COMPLETED	GRADE		
		Q	CQ	U
OPEN BOOK EXAMINATION	24 APR 2012	4.0		
CLOSED BOOK EXAMINATION	24 APR 2012	3.8		
ORAL EXAMINATION	28 APR 2012	Q		
CRM Flight	28 APR 2012	Q		
*EVALUATION FLIGHT	28 APR 2012	Q		

FLIGHT DURATION	AIRCRAFT BUNO	OVERALL FINAL GRADE
3.0	166510	Qualified

REMARKS OF EVALUATOR/INSTRUCTOR

1. Mr. (b)(6) flew an excellent NATOPS check-flight in compliance with Air Force Instruction 11-2RQ-4V2, Aircrew Evaluation Criteria, and is fully qualified as a Sensor Operator in the RQ-4A aircraft

2. A CRM flight evaluation was completed IAW OPNAVINST 1542.7C

EXPIRES: 30 APR 13
☐ CHECK IF CONTINUED ON REVERSE

GRADE, NAME of EVALUATOR/INSTRUCTOR	SIGNATURE	DATE
CIV, (b)(6) NGC	(b)(6)	30 APR 2012
GRADE, NAME of EVALUEE	**SIGNATURE**	**DATE**
CIV, (b)(6) , NGC	(b)(6)	16 MAY 2012

REMARKS OF UNIT COMMANDER

NAME, RANK of UNIT COMMANDER	SIGNATURE	DATE
CAPT C.P. RAMSDEN, USN	(b)(6)	21 may 12

* WST, OFT, CPT or cockpit check in accordance with OPNAVINST 3710.7 Series

NATOPS FLIGHT PERSONNEL TRA . JUALIFICATION JACKET
OPNAV 3160/32H (4-81) SN 0107-LF-7

SECTION IVB – MISHAP/FLIGHT VIOLATION RECORD

NAME *(Last, first, middle initial)* | SSN

DATE	UNIT	MISHAP DESCRIPTION	COMMANDING OFFICER'S SIGNATURE

☆U.S. GOVERNMENT PRINTING OFFICE: 1989 - 604-005/91336

Copy of Mishap/Flight Violation Record from his NATOPS for jacket.

(b)(6)

(b)(3), (b)(6)
(b)(6)

SENSO FLIGHT LOG

(b)(6)

Proficiency

Elapsed Days	HRS	SRT
30 Days:	18.0	6.0
60 Days:	42.0	14.0
120 Days:	78.0	23.0

DATE	TOTAL	SO 1	SO 2	INSTR	EVAL	Sorties
2009	267.0	154.0	113.0	0.0	0.0	60
2010	483.0	329.0	154.0	0.0	0.0	87
2011	45.0	45.0	0.0	0.0	0.0	15
2012	0.0	0.0	0.0	0.0	0.0	0
2013	0.0	0.0	0.0	0.0	0.0	0
2014	0.0	0.0	0.0	0.0	0.0	0
2015	0.0	0.0	0.0	0.0	0.0	0

LIGHT

795.00

TOTAL	DATE	SO 1	SO 2	INSTR	EVAL	Shift Worked	Remarks
4.0							
6.0							
4.0							
4.0							
5.0							
4.0							
5.0							
5.0							

(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(6) (TS) (b)(6) @ngc.com]
Sent: Thursday, June 21, 2012 7:31 AM
To: (b)(6), (b)(3) LCDR CPRW-2, N7
Subject: Hours

I have about 1250 hours with BAMSD.
(b)(6)

Northop Grumman (TS)
(b)(6)

ENCLOSURE (19)

NATOPS JACKET REVIEW CHECKLIST

Reviewed by: (b)(6)

NAME (b)(6)	DATE 6/7/12 Expires	DATE Expires	DATE Expires
Review and Certification 1. Form 3760/32A Upon Check-in. 2. Upon major change in flight status 3. Periodic	(Y) N Y (N) (Y) N	Y N Y N Y N	Y N Y N Y N
PCS Orders N/A			
Medical Clearance 1. Current FAA Class II flight physical	(Y) N 9/2012	Y N	Y N
Flight Equipment Issue 1. Form 3760/32B	Y N	Y N	Y N
Designations 1. Copy of all designations (RQ-4A Pilot/IP/AC/SO) 2. Logged on Designation Form 3760/32C 3. Signed by Wing prior to flying as such. 4. FAA Pilot Cerificate.	(Y) N (Y) N (Y) N (Y) N	Y N Y N Y N Y N	Y N Y N Y N Y N
Mission Qualifications 1. Copy of mission related qualifications (Mobile w/ Flight Line Driver's License) 2. Hawk Mobile Training Record	(Y) N (Y) N	Y N Y N	Y N Y N
Miscellaneous: N/A			
Schools/Courses 1. FORM 3760/32E 2. Annual CRM 3. Annual ORM 4. IPC/BFR 5. Student Gradesheets	(Y) N (Y) N APR 13 (Y) N APR 13 (Y) N MAR 13 (Y) N	Y N Y N Y N Y N Y N	Y N Y N Y N Y N Y N
Physiology/Survival N/A			
Examinations: 1. Form 3760/32G 2. Completed prior to NATOPS check flight 3. Dates/scores match those on eval. 4. Copies of most current exams or answer keys	(Y) N (Y) N (Y) N (Y) N	Y N Y N Y N Y N	Y N Y N Y N Y N
NATOPS Evals 1. Signed evals- form 3710/7 2. Completed annually 3. Lists expiration date	(Y) N (Y) N (Y) N APR 13	Y N Y N Y N	Y N Y N Y N
NATOPS Instrument Rating: 1. Instrument Ground School letter, w/ member listed	(Y) N APR 13	Y N	Y N
Flight Time Summary. 1. Copy of annual flight time summary	(Y) N	Y N	Y N
Mishap/Violation record 1. Form 3760/32H with any mishaps recorded	(Y) N	Y N	Y N

ENCLOSURE (20)

UNITED STATES OF AMERICA
Department of Transportation
Federal Aviation Administration

MEDICAL CERTIFICATE 2nd **CLASS**

This certifies that *(Full name and address):*

(b)(6)

Date of Birth	Height	Weight	Hair	Eyes	Sex
(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)

has met the medical standards prescribed in part 67, Federal Aviation Regulations, for this class of Medical Certificate.

Limitations

None

Date of Examination (b)(6)

(b)(6) esignation No.

Examiner

(b)(6)

(b)(6)

AIRMAN'S SIGNATURE

(b)(6)

FA ious Edition

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET

SECTION IIIA -- FLIGHT PERSONNEL DESIGNATION RECORD

NAME *(Last, first, middle linitial)*	(b)(6)	SSN

DATE	DESIGNATION	MODEL	UNIT	PROMULGATION BY	VERIFIED
21 MAR 12	Airmen Cert		FAA	FAA	(b)(6)
01 MAY 12	UAS AVO	RQ-4A	CPRW2	(b)(6), (b)(3)	(b)(6)

OPNAV 3760/32C (APR 1981)

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

3710
Ser N5/
1 May 12

From: Commander, Task Group 57.11
To: Mr. (b)(6) , Northrop Grumman, XXX-XX- (b)(6)

Subj: DESIGNATION AS AN UNMANNED AIRCRAFT SYSTEM AIR VEHICLE OPERATOR

Ref: (a) OPNAVINST 3710.7 (Series)
(b) NAVAIRINST 3710.1F
(c) NAVAIR 01-RQ4AA-NFM-100
(d) GHMD-T-0004, RQ-4A Pilot Qualification Course

1. In accordance with references (a) through (d), you are hereby designated as an Unmanned Aircraft System Air Vehicle Operator (AVO) for the Broad Area Maritime Surveillance Demonstrator RQ-4A air vehicle for Commander, Task Group 57.11 effective 1 May 2012.

2. Your designation as an RQ-4A AVO was based on your demonstration of poise, maturity, knowledge, and ability essential to the execution of safe and competent instruction. Designated AVOs are qualified to conduct all phases of aircraft operation to include both Launch and Recovery Element and Mission Control Element operations.

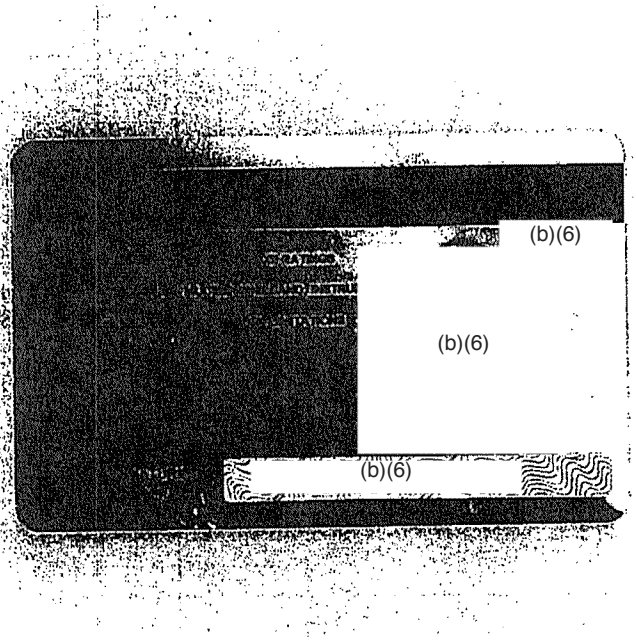
3. As a designated RQ-4A AVO, you shall serve as a member of the AVO Standardization Board.

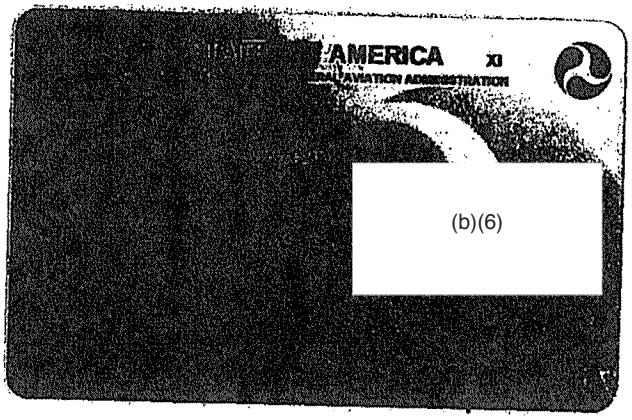
4. This designation is subject to the limitations imposed by references (a) through (c) and shall remain in effect until revoked or transferred from oversight of this command.

(b)(6)

C. P. RAMSDEN

Copy to:
NATOPS Jacket
Training Jacket
Logs and Records
Retain File


(b)(6)
(b)(6)
(b)(6)


AMERICA
(b)(6)

AIRFIELD OPERATORS LICENSE:	CARD NO:	COMP NO:
NAS PAX RIVER	(b)(6)	
(b)(6)	DATE ISSUED: (b)(6)	DATE EXPIRE: 04/19/2013

DOB:	COLOR OF HAIR:	COLOR OF EYES:	HEIGHT:	WEIGHT:
(b)(6)	(b)(6)	(b)(6)	(b)(6)	(b)(6)

THE HOLDER OF THIS CARD IS QUALIFIED TO OPERATE U.S. GOVERNMENT VEHICLES ON NAS PATUXENT RIVER, MD. TAXIWAYS, RAMPS, AND RUNWAYS.

(b)(6)	TITLE: AFD COOR
SIGNATURE OF OPERATOR:	TITLE OF POSITION:

NOT TRANSFERABLE. CARD MUST BE CARRIED AT ALL TIMES WHEN OPERATING GOVERNMENT EQUIPMENT.

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32E

SECTION IIIA – SCHOOL/COURSE ATTENDANCE RECORD

NAME (Last, first, middle)	SSN
(b)(6)	

RECORD ALL SPECIALIZED, FORMAL AVIATION SCHOOLS, INCLUDING:

UNDERGRADUATE PILOT/INFO
FRS SYLLABI
FIRE FIGHTING
FASOTRAGRP SYLLABI
WEAPONS SYSTEMS
FRAMP
MAINTENANCE (3M) COURSES

SCHOOL/COURSE	DATES ATTENDED	PASS/FAIL/SCORE	UNIT	REMARKS	VERIFIED BY
CIRRUS IPC	29 MAR 12	PASS	NGC	(b)(6)	(b)(6)
CIRRUS TRANSITION	29 MAR 12	PASS	NGC	(b)(6)	(b)(6)
CIRRUS BFR	29 MAR 12	PASS	NGC	(b)(6)	(b)(6)
ORM	24 APR 12	PASS	NGC	NKO CBTWS	(b)(6)
CRM	24 APR 12	PASS	NGC	CD	(b)(6)
le CRS RULES	02 APR 12	PASS	NGC	(b)(6)	(b)(6)

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
47765 Ranch Road
Hangar 101 Room A-112
Patuxent River, Maryland 20670

02 April 2012

From: Northrop Grumman Global Hawk Maritime Demonstration Training Lead
To: Northrop Grumman Global Hawk Maritime Demonstration NATOPS Officer

The following BAMS-D pilot completed annual Course Rules Training review on 02 April 2012:

Mr. (b)(6)

The training was verified by Northrop Grumman Global Hawk Maritime Demonstration Training Lead. This annual training will expire on 30 April 2013.

(b)(6)

(b)(6)

Training Lead
Global Hawk Maritime Demonstration
Patuxent River, MD

NORTHROP GRUMMAN

Northrop Grumman Corporation
Technical Services

NAS Patuxent River
47765 Ranch Road
Hangar 101 Room A-112
Patuxent River, Maryland 20670

24 April 2012

From: Northrop Grumman Global Hawk Maritime Demonstration Training Lead

To: Northrop Grumman Global Hawk Maritime Demonstration NATOPS Officer

Subj: Crew Resource Management (CRM) Annual Review

Mr. (b)(6) and Mr. (b)(6) completed their annual CRM training review on 24 April 2012 and were verified by the Northrop Grumman Global Hawk Maritime Demonstration Training Lead. This annual review will expire on 30 April 2013.

(b)(6)

(b)(6)

Training Lead
Global Hawk Maritime Demonstration
Patuxent River, MD

cc: (b)(6) / (b)(6)

Certificate of Completion

By the authority of the Naval Education and Training Command this certifies that

(b)(6)

has successfully completed all requirements and criteria provided by the course in

Manager - Directing Your Command's Risk Management

Grade: 80
Course ID: CPPD-ORM-DYCRM-1.0
Instructional Hours: 1
Recommended Reserve Points: None Provided
Continuing Education Units: None Provided

THIS CERTIFICATION EARNED ON

April 24, 2012

(Signed) D.P. Quinn
Rear Admiral, U.S. Navy

This certification may be verified at Navy eLearning by accessing the certificate holder's transcript.

CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

has met the course requirements for

Instrument Proficiency Check

3-29-12
COMPLETION DATE

In a Cirrus SR22

(b)(6)
AUTHORIZED CIRRUS AIRCRAFT INSTRUCTOR

CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

has met the course requirements for

Advanced Transition Training

3-28-12
COMPLETION DATE

In a Cirrus SR22

(b)(6)
AUTHORIZED CIRRUS AIRCRAFT INSTRUCTOR

CERTIFICATE OF COMPLETION

this document certifies that

(b)(6)

has met the course requirements for

Flight Review

3-29-12
COMPLETION DATE

In a Cirrus SR22

(b)(6)
AUTHORIZED CIRRUS AIRCRAFT INSTRUCTOR

CIRRUS DESIGN CORPORATION 4515 TAYLOR CIRCLE DULUTH MN 55811 218.788.3600

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32G (Rev 4-90)

SECTION IIIC--EXAMINATION RECORD

NAME (Last, first, middle initial)	SSN
(b)(6)	

NATOPS EXAMS

OPEN BOOK				CLOSED BOOK			
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	PASS/FAIL	GRADED BY
16 APR 2012	4.0	PASS	(b)(6)	24 APR 2012	3.8	PASS	(b)(6)

INSTRUMENT EXAM				COURSE RULES		OTHER EXAMS				
DATE	GRADE	PASS/FAIL	GRADED BY	DATE	GRADE	TITLE	DATE	GRADE	PASS/FAIL	GRADED BY
6 APR 12		PASS	(b)(6)							

NATOPS EVALUATION REPORT
OPNAV 3710/7 (4-90) S/N 0107-LF-009-8000

REPORT SYMBOL OPNAV 3710-21

NAME (Last, first, middle initial)	GRADE	SSN
(b)(6)	CIV	XXX-XX- (b)(6)
SQUADRON/UNIT	**AIRCRAFT MODEL**	**CREW POSITION**
CPRW-2	RQ-4A	PILOT
TOTAL PILOT/FLIGHT HOURS	**TOTAL HOURS IN MODEL**	**DATE of LAST EVAL**
2250	300	INITIAL

NATOPS EVALUATION

REQUIREMENT	DATE COMPLETED	GRADE		
		Q	CQ	U
OPEN BOOK EXAMINATION	16 APR 12	4.0		
CLOSED BOOK EXAMINATION	24 APR 12	3.8		
ORAL EXAMINATION	26 APR 12	Q		
CRM Flight	30 APR 12	Q		
*EVALUATION FLIGHT	30 APR 12	Q		

FLIGHT DURATION	AIRCRAFT BUNO	OVERALL FINAL GRADE
3.5	166510	Qualified

REMARKS OF EVALUATOR/INSTRUCTOR

1. Mr. (b)(6) flew an excellent NATOPS check-flight in compliance with Air Force Instruction 11-2RQ-4V2, Aircrew Evaluation Criteria, and is fully qualified as an Air Vehicle Operator in the RQ-4A aircraft.

2. A CRM flight evaluation was completed IAW OPNAVINST 1542.7C.

3. An Annual Global Hawk Instrument Review was conducted.

EXPIRES: **30 APR 13**

☐ CHECK IF CONTINUED ON REVERSE

GRADE, NAME of EVALUATOR/INSTRUCTOR	SIGNATURE	DATE
MR. (b)(6) , NGC	(b)(6)	30 APR 12
GRADE, NAME of EVALUEE	**SIGNATURE**	**DATE**
MR. (b)(6) NGC	(b)(6)	30 APR 12

REMARKS OF UNIT COMMANDER

NAME, RANK of UNIT COMMANDER	SIGNATURE	DATE
CAPT C.P. RAMSDEN, USN	(b)(6)	7 MAY 12

* WST, OFT, CPT or cockpit check in accordance with OPNAVINST 3710.7 Series

06 APR 2012

MEMORANDUM

From: Commanding Officer, Air Test and Evaluation Squadron ONE

Subj: INSTRUMENT GROUND SCHOOL COMPLETION

Ref: (a) OPNAVINST 3710.7U

1. In accordance with reference (a), the following individuals attended Instrument Ground School and successfully passed the annual Instrument Ground School Refresher Course examination on 06 April 2012.

RANK	NAME	SERVICE	LAST 4	COMMAND
CW2	(b)(3), (b)(6)	USA	8303	TPS
LCDR	(b)(3)	USN	8443	VX-1
LT	(b)(3), (b)(6)	USN	9960	TPS
CTR	(b)(6)	GOV	3419	UASTD
CTR	(b)(6)	GOV	5861	NGC
CAPT	(b)(3), (b)(6)	USMC	9852	HX-21
CW3	(b)(3), (b)(6)	USA	7569	TPS
LCDR	(b)(3), (b)(6)	USN	8262	TPS
LT	(b)(3), (b)(6)	USN	4806	HX-21
LT	(b)(3), (b)(6)	USN	5449	SAR
CW4	(b)(3), (b)(6)	USA	3696	TPS
CTR	(b)(6)	GOV	3690	NG

IGS Instructor: LT (b)(3), (b)(6)

(b)(6)

(b)(3), (b)(6)

LT USN
By Direction

NATOPS FLIGHT PERSONNEL TRAINING/QUALIFICATION JACKET
OPNAV 3760/32H (4-81)

SECTION IVB --MISHAP/FLIGHT VIOLATION RECORD

NAME *(Last, first, middle initial)* (b)(6)	SSN

DATE	UNIT	MISHAP DESCRIPTION	COMMANDING OFFICER'S SIGNATURE

SECTION II - FLIGHT CHECK *(Instructor fill in remarks where applicable)*			
1. PREFLIGHT INSPECTION AND FORMS		7. IN-FLIGHT EMERGENCY PROCEDURES	
2. EMERGENCY ESCAPE PROCEDURES		8. PRELANDING CHECK, TRAFFIC PATTERN AND LANDINGS	
3. PRESTART COCKPIT PROCEDURE AND ENGINE START		9. POSTFLIGHT INSPECTION	
4. COMMUNICATIONS AND TAXI PROCEDURES		10. ACCOMPLISHMENT OF FORMS AND AIRCRAFT SECURITY	
5. PRETAKEOFF COCKPIT CHECK AND ENGINE RUNUP		11. INSTRUMENT PROFICIENCY CHECK	
6. TAKEOFF AND FLIGHT PROCEDURES		12. OTHER *(Specify)*	

SECTION III - ADDITIONAL REQUIREMENTS *(Fill in where applicable)*				
REQUIREMENT	CHECKED BY	GRADE	DATE AND PLACE	HOURS
13. PHYSICAL EXAMINATION				
14. PHYSIOLOGICAL/ATTITUDE INDOCTRINATION				
15. PRESSURE SUIT TRAINING				
16. GROUND SCHOOL *(By Subject)*				
AIRCRAFT GENERAL				
AIRCRAFT PREFLIGHT				
AIRCRAFT EMERGENCY PROCEDURE				
ENGINE SYSTEM				
OXYGEN SYSTEM				
AIR CONDITIONING				
PRESSURIZATION				
FUEL SYSTEM				
INSTRUMENT SYSTEM				
ELECTRICAL SYSTEM				
HYDRAULIC POWER SYSTEM				
UTILITY SYSTEM				
FLIGHT CONTROL SYSTEM				
AUTO PILOT SYSTEM				
ENGINE				
COMMUNICATIONS & NAVIGATION				
ROTARY SYSTEM				
OTHER REQUIREMENTS AS STATED IN APPROVED CONTR OPR PROCD				
17. QUESTIONNAIRE ON AIRCRAFT				
18. FLIGHT SIMULATOR				
19. SURVIVAL SCHOOL				
20. OTHER *(Specify)*				

21. HAVE YOU EVER HAD AN AIRCRAFT ACCIDENT *(as defined by FAR or military procedures)* OR PHYSIOLOGICAL REACTION *(e.g., hypoxia, decompression sickness, hyperventilation, spatial disorientation)* AS A PILOT, OR OTHER CREW MEMBER? *(If yes, explain.)*

NO

22. HAVE YOU EVER BEEN CHARGED WITH A FLYING VIOLATION? *(If so, state the violation and circumstances.)*

NO

23. REMARKS *(For additional space use blank sheet.)*

CERTIFICATION OF QUALIFICATION

This is to certify that _____
(Name and Crew Position)

has satisfactorily completed the training or special qualification indicated hereon:

YEAR	TRAINING OR SPECIAL QUALIFICATIONS	DATE COMPLETED	CERTIFYING OFFICIAL
	GROUND PHASE		
	WRITTEN EXAMINATION		
	EMERGENCY PROCEDURES		
	CONTRACTOR FLIGHT OPERATIONS PROCEDURES		
	EGRESS TRAINING		
	PHYSIOLOGICAL TRAINING		
	OTHER *(Specify)1*		
	FLIGHT PHASE		
	PROFICIENCY		
	INSTRUMENT		
	OTHER *(Specify)1*		
	GROUND PHASE		
	WRITTEN EXAMINATION		
	EMERGENCY PROCEDURES		
	CONTRACTOR FLIGHT OPERATIONS PROCEDURES		
	EGRESS TRAINING		
	PHYSIOLOGICAL TRAINING		
	OTHER *(Specify)1*		
	FLIGHT PHASE		
	PROFICIENCY		
	INSTRUMENT		
	OTHER *(Specify)1*		

1 Formation, Refueling, Night or other special maneuver requirements.

SECTION IV - CERTIFICATIONS

I certify that I have read and understand all pertinent technical orders, handbooks, contractor's operating procedures, and pilot's operating instructions pertaining to the above aircraft.

DATE	SIGNATURE OF CREWMEMBER
6 30 2011	(b)(6)

The above named crewmember has/has not demonstrated proficiency in, and has/has not a satisfactory knowledge of _____ MDS aircraft and has/has not satisfactorily completed the flight requirements for the type of flight check indicated above, and is/is not fully qualified in this type aircraft.

The checkout consisted of _____ hours dual, _____ hours solo, _____ landings from right *(or rear)* seat, and _____ landings from left *(or front)* seat.

DATE	BASE OR HOME STATION OF INSTRUCTOR	TYPED OR PRINTED NAME OF INSTRUCTOR
		SIGNATURE OF INSTRUCTOR

NORTHROP GRUMMAN

Flight Time Report for (b)(6)

BAMS 30 Day SUMMARY

Year	Actual Time	AC Time	Sim Time	Takeoffs	Landings	Sorties	Sim Takeoffs	Sim Landings	Sim Sorties
2012	8.1	0.0	0.0	0	0	2	0	0	0
Total	8.1	0.0	0.0	0	0	2	0	0	0

BAMS 90 Day SUMMARY

Year	Actual Time	AC Time	Sim Time	Takeoffs	Landings	Sorties	Sim Takeoffs	Sim Landings	Sim Sorties
2012	18.6	0.0	0.0	2	1	6	0	0	0
Total	18.6	0.0	0.0	2	1	6	0	0	0

BAMS 120 Day SUMMARY

Year	Actual Time	AC Time	Sim Time	Takeoffs	Landings	Sorties	Sim Takeoffs	Sim Landings	Sim Sorties
2012	18.6	0.0	0.0	2	1	6	0	0	0
Total	18.6	0.0	0.0	2	1	6	0	0	0

BAMS 180 Day SUMMARY

Year	Actual Time	AC Time	Sim Time	Takeoffs	Landings	Sorties	Sim Takeoffs	Sim Landings	Sim Sorties
2012	18.6	0.0	0.0	2	1	6	0	0	0
Total	18.6	0.0	0.0	2	1	6	0	0	0

ENCLOSURE (21)

CONTRACTOR CREWMEMBER RECORD

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 45 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.

PRIVACY ACT STATEMENT

AUTHORITY: 10 USC 8012, 44 USC 3101, and EO 9397, November 1943 (SSN).

PURPOSE AND USE: To record individual contractor flight crew personnel records and approval to operate Government aircraft. Serves as a record of approval of private contractor personnel who will operate Government aircraft.

DISCLOSURE: Voluntary; however, failure to complete form will prevent approval of contractor flight crew members from operating Government aircraft.

NAME OF CREWMEMBER *(First, last, middle initial)*
(b)(6)

CONTRACTOR REPRESENTED *(Name and address)*
Northrop Grumman Corporation
Hangar 101, Room 120
47765 Ranch Road
NAS Patuxent River, MD 20670

IDENTIFY CREW POSITION

☒ TEST _____ ☒ SUPPORT

☐ FUNCTIONAL _____ ☐ OTHER *(Specify)*

MISSION, DESIGN AND SERIES AIRCRAFT OR OTHER REQUIREMENT FOR THIS QUALIFICATION
RQ-4A

BASE OR LOCATION WHERE QUALIFICATION ACCOMPLISHED
NAS Patuxent River, MD 20670

☐ INITIAL QUALIFICATION ☒ REQUALIFICATION

SECTION I - FLIGHT EXPERIENCE *(Time to nearest hour)*

FLYING TIME ABOVE TYPE
JET 2,150 HRS TURBO PROP 94 HRS RECIPROCATING 50 HRS ROTARY _____ HRS

TOTAL FLYING TIME
2,294

MISSION DESIGN AND SERIES AIRCRAFT	PERIOD OF TIME	IP	1ST PILOT				COPILOT	AIRCRAFT COMMANDER	OTHER CREW MEMBERS *(Specify)*
			TOTAL	WX	HOOD	NIGHT			
RQ-4B	LAST 12 MOS		115					115	
	LAST 4 YRS								
	TOTAL		115					115	
RQ-4A	LAST 12 MOS		20					20	
	LAST 4 YRS		106					106	
	TOTAL		126					126	
KC-10A	LAST 12 MOS								
	LAST 4 YRS								
	TOTAL		1,670	300		174	1,200	470	
T-1A	LAST 12 MOS								
	LAST 4 YRS								
	TOTAL		185	75	50				
T-6	LAST 12 MOS								
	LAST 4 YRS								
	TOTAL		94	15	45				
SR-22	LAST 12 MOS		15		7		15		
	LAST 4 YRS								
	TOTAL								
C-172	LAST 12 MOS								
	LAST 4 YRS								
	TOTAL		35				35		

ENCLOSURE (22)

SECTION II - FLIGHT CHECK *(Instructor fill in remarks where applicable)*			
1. PREFLIGHT INSPECTION AND FORMS		7. IN-FLIGHT EMERGENCY PROCEDURES	
2. EMERGENCY ESCAPE PROCEDURES		8. PRELANDING CHECK, TRAFFIC PATTERN AND LANDINGS	
3. PRESTART COCKPIT PROCEDURE AND ENGINE START		9. POSTFLIGHT INSPECTION	
4. COMMUNICATIONS AND TAXI PROCEDURES		10. ACCOMPLISHMENT OF FORMS AND AIRCRAFT SECURITY	
5. PRETAKEOFF COCKPIT CHECK AND ENGINE RUNUP		11. INSTRUMENT PROFICIENCY CHECK	
6. TAKEOFF AND FLIGHT PROCEDURES		12. OTHER *(Specify)*	

SECTION III - ADDITIONAL REQUIREMENTS *(Fill in where applicable)*				
REQUIREMENT	CHECKED BY	GRADE	DATE AND PLACE	HOURS
13. PHYSICAL EXAMINATION				
14. PHYSIOLOGICAL/ATTITUDE INDOCTRINATION				
15. PRESSURE SUIT TRAINING				
16. GROUND SCHOOL *(By Subject)*				
AIRCRAFT GENERAL				
AIRCRAFT PREFLIGHT				
AIRCRAFT EMERGENCY PROCEDURE				
ENGINE SYSTEM				
OXYGEN SYSTEM				
AIR CONDITIONING				
PRESSURIZATION				
FUEL SYSTEM				
INSTRUMENT SYSTEM				
ELECTRICAL SYSTEM				
HYDRAULIC POWER SYSTEM				
UTILITY SYSTEM				
FLIGHT CONTROL SYSTEM				
AUTO PILOT SYSTEM				
ENGINE				
COMMUNICATIONS & NAVIGATION				
ROTARY SYSTEM				
OTHER REQUIREMENTS AS STATED				
IN APPROVED CONTR OPR PROCD				
17. QUESTIONNAIRE ON AIRCRAFT				
18. FLIGHT SIMULATOR				
19. SURVIVAL SCHOOL				
20. OTHER *(Specify)*				

21. HAVE YOU EVER HAD AN AIRCRAFT ACCIDENT *(as defined by FAR or military procedures)* OR PHYSIOLOGICAL REACTION *(e.g., hypoxia, decompression sickness, hyperventilation, spatial disorientation)* AS A PILOT, OR OTHER CREW MEMBER? *(If yes, explain.)*

NO

22. HAVE YOU EVER BEEN CHARGED WITH A FLYING VIOLATION? *(If so, state the violation and circumstances.)*

NO

23. REMARKS *(For additional space use blank sheet.)*

CERTIFICATION OF QUALIFICATION

This is to certify that (b)(6) , Pilot

(Name and Crew Position)

has satisfactorily completed the training or special qualification indicated hereon:

YEAR	TRAINING OR SPECIAL QUALIFICATIONS	DATE COMPLETED	CERTIFYING OFFICIAL
	GROUND PHASE		
	WRITTEN EXAMINATION		
	EMERGENCY PROCEDURES		
	CONTRACTOR FLIGHT OPERATIONS PROCEDURES		
	EGRESS TRAINING		
	PHYSIOLOGICAL TRAINING		
	OTHER *(Specify)1*		
	FLIGHT PHASE		
	PROFICIENCY		
	INSTRUMENT		
	OTHER *(Specify)1*		
	GROUND PHASE		
	WRITTEN EXAMINATION		
	EMERGENCY PROCEDURES		
	CONTRACTOR FLIGHT OPERATIONS PROCEDURES		
	EGRESS TRAINING		
	PHYSIOLOGICAL TRAINING		
	OTHER *(Specify)1*		
	FLIGHT PHASE		
	PROFICIENCY		
	INSTRUMENT		
	OTHER *(Specify)1*		

1 Formation, Refueling, Night or other special maneuver requirements.

SECTION IV - CERTIFICATIONS

I certify that I have read and understand all pertinent technical orders, handbooks, contractor's operating procedures, and pilot's operating instructions pertaining to the above aircraft.

DATE	SIGNATURE OF
03 APR 12	(b)(6)

The above named crewmember has/h n, and has/has not a satisfactory knowledge of

not satisfactorily completed the flight requirements for the type of flight check indicated above, and is/is not fully qualified in this type aircraft.

The checkout consisted of _____ hours dual, _____ hours solo, _____ landings from right *(or rear)* seat, and _____ landings from left *(or front)* seat.

DATE	BASE OR HOME STATION OF INSTRUCTOR	TYPED OR PRINTED NAME OF INSTRUCTOR
		SIGNATURE OF INSTRUCTOR

DEPARTMENT OF THE NAVY
COMMANDER
PATROL AND RECONNAISSANCE WING TWO
BOX 64000
MARINE CORPS BASE HAWAII
KANEOHE BAY, HI 96863-4001

COMPATRCONWINGTWOINST 3313.1A
N3
8 Dec 11

COMPATRECONWINGTWOINST 3313.1A

Subj: BROAD AREA MARITIME DEMONSTRATOR (BAMS-D) PLATFORM STANDARD OPERATING PROCEDURES FOR THE RQ-4A

Ref: (a) OPNAVINST 3710.7T
(b) RQ-4A Flight Manual
(c) East Coast FAA Certificate of Authorization
(d) ATC Services for Global Hawk Operations
(e) CTF-57 Operational Guidance for CTG 57.11 BAMS-D

1. Purpose. To set forth operational and administrative procedures to be followed by all designated BAMS-D operators and aircrew, military or civilian.

2. Cancellation. COMPATRCONWINGTWOINST 3313.1.

3. Discussion. This instruction standardizes various ground and flight procedures, establishes training, qualification and waiver guidelines but does not contain tactical guidance. This instruction, with stipulated requirements and procedures is mandatory except as authorized h

(b)(6)

C. P. RAMSDEN

ENCLOSURE (23)

BROAD AREA MARITIME DEMONSTRATOR (BAMS-D) RQ-4A STANDARD OPERATING PROCEDURES

1.0 Personnel.

1.1 BAMS-D Officer-In-Charge (OIC).

The BAMS-D OIC is the direct representative for the assigned CTG. The OIC shall be the final arbitrator of conflicts, mission safety-of-flight, supervision of detachment personnel and all administrative requirements for the detachment. Additionally, the OIC will be responsible for the smooth coordination of operational requirements through the BAMS-D Liaison Officer (LNO) co-located with the operational commander. Furthermore, the OIC will also be responsible for coordinating all maintenance and logistic requirements of the BAMS-D system. The BAMS-D OIC shall administratively report to and be designated by the assigned CTG and shall be noted as such on the Flight Schedule. Operationally, the OIC shall report to the supported Task Force Commander.

1.2 BAMS-D Qualifications Officer (QO).

The CTG shall designate a BAMS-D Qualifications Officer, who shall be responsible for determining and certifying BAMS-D pilot and aircrew qualifications, administering check flights, recommending aircrew designations to the CTG and performing other duties noted in this instruction. Contractor pilot qualifications must also be approved by the GFR. A contractor may serve as QO as evaluated and approved by the GFR and designated by the CTG. The QO shall be considered functionally equivalent to a NATOPS Officer for aircraft with a NATOPS program.

1.3 Government Flight Representative (GFR).

The GFR is responsible aircraft operations conducted by commercial contactors using DoD aircraft and also for reviewing and approving contractor positions of UAC, AVO, MPO, and Engine System Operators (ESO).

1.4 BAMS-D Liaison Officer (LNO).

The LNO is responsible for the coordination of mission planning and execution with the associated CTF. LNO shall be co-located with the supported CTF.

1.5 Aircrew Definitions.

The aircrew shall consist of all personnel who are performing mission tasks in the LRE, MCE and TAGS. Aircrew roles and responsibilities are defined as follows:

a. UAS Mission Commander (UMC): commissioned officer responsible for all phases of the assigned mission except those aspects of safety of flight that are related to the control of the UA and are within the prerogative of the UAC.

b. UAS Aircraft Commander (UAC): ultimately responsible for the safe, orderly flight and physical condition of the aircraft and has the authority to override the Air Vehicle Operator (AVO). All flights shall have a designated UAC. The UAC shall be designated by name on the flight schedule for all flight and/or high speed

taxi events requiring a UAC. UACs shall be designated as such by the CTG.

c. Air Vehicle Operator (AVO): The AVO monitors and operates the aircraft and inputs contingency plans to the UAV as required in accordance with OPNAVINST 3710.7. The primary duty of the AVO is safety-of-flight. The AVO is responsible for communicating with ATC and obtaining taxi, takeoff and flight clearances and for handling in-flight emergencies in accordance with approved procedures. The AVO is also responsible for executing the midair collision avoidance plan using available resources. The AVO performs duties similar to those of pilot-in-command on a manned aircraft. This individual has ultimate control over aircraft flight path, is the ultimate decision-maker as to safe aircraft operation during the mission, unless overridden by the UAC. The AVO shall be designated as such by the CTG.

d. UAS Tactical Coordinator (UTC): The UTC coordinates all mission-related action as delineated by the Mission Commander (UMC) within the MCE. The UTC is responsible for the tactical employment of the air vehicle. UTCs are approved for operations by the BAMS-D OIC.

e. Mission Payload Operator (MPO): The MPO operates the payload systems from the MPO station in the MCE. All MPOs shall be designated as such by the CTG.

f. TAGS Operations Officer (TAGS OPSO): The TAGS OPSO is responsible for maintaining mission flow and is the primary UAS Mission Commander (UMC) for mission tasking and re-tasking from external sources and from the UAC/AVO. He is primarily responsible for the completion of mission requirements, tactical employment of the platform and sensors as well as the direction of the TAGS staff. TAGS Officers are approved for operations by the BAMS-D OIC.

g. TAGS Sensor Operator (TSO): The TSO is responsible for the exploitation and handling of all sensor products from the platform sensors. TSOs are approved for operations by the BAMS-D OIC.

h. Common Tactical Picture Operator (CTP): The CTP coordinates all maritime search related information and manipulation of GCCS-M and interfaces within the TAGS. CTPs are approved for operations by the BAMS-D OIC.

1.6 Aircrew Qualifications.

NOTE 1

GFR positional approval applies only to contracted maintenance and crew members.

Aircrew qualification shall be as follows:

a. UAC:
   i. Qualified as Global Hawk pilot.
   ii. Minimum of 700 hours manned pilot flight time and 100 hours Global Hawk pilot flight time.

iii. FAA Commercial Pilot Certificate and Instrument Rating or military equivalent.
iv. Successful completion of BAMS-D training syllabus.
v. Meets FAA or Navy currency requirements to act as a pilot-in command in IFR conditions.
vi. Shall be Takeoff and Landing current for emergency takeoff/landing requirements. Currency may be maintained by means of MCE primary takeoffs and landings.
vii. Annual standardization qualification.
viii. Annual FAA or AVMED physical examination.
ix. Approved by the GFR.
x. Designated by the assigned CTG.

b. AVO:
i. Minimum of 250 hours manned pilot flight time and have completed Global Hawk pilot training syllabus.
ii. FAA Commercial Pilot Certificate and Instrument Rating or military equivalent.
iii. Successful completion of BAMS-D training syllabus.
iv. Meets FAA or Navy currency requirements to act as a pilot-in-command in IFR conditions.
v. Annual standardization qualification.
vi. Annual FAA or AVMED physical examination.
vii. Approved by the GFR
viii. Designated by the assigned CTG.

NOTE 2

If aircraft are not available for local LRE training flights, AVOs may complete initial qualification and fly in the MCE only until such time as they can complete LRE training.

c. TAGS OPSO:
i. Designated Naval Aviator, NFO, LDO/CWO or assigned government employee (GS or CTR).
ii. Complete the established TAGS OPSO personnel qualification syllabus.
iii. Approved as a TAGS OPSO by the BAMS-D OIC.

d. UTC, MPO, TSOs and TAGS CTPs:
i. Complete the BAMS-D UTC, MPO, TSO or CTP syllabus and/or complete the BAMS-D differences training for previously qualified RQ-4 MPO.
ii. Designated by the GFR. (MCE SENSO only)
iii. Designated by the assigned CTG (MCE SENSO only)
iv. Approved as a UTC, TSO or CTP by the BAMS-D OIC.

1.7 Aircrew Currency.

Aircrew currency requirements shall be as follows:

a. AVO: Civilian AVOs shall maintain IFR currency in accordance with FAA regulations. Military AVOs shall maintain IFR currency in accordance with

NATOPS. BAMS-D specific currency requirements are presented in Table 1-1.

AVO CURRENCY REQUIREMENTS[1]

Event (RQ-4A)	Period
1 Sortie (actual or simulated)	90 Days[2]
6 Sorties (actual or simulated)	180 Days[2]
5 RQ-4A Flight Hours (no more than 50% simulated)	90 Days[2]
2 Takeoffs (actual or simulated)	90 Days[2]
2 Landings (actual or simulated)	90 Days[2]
1 Emergency Procedures Simulation	180 Days
40 Flight Hours (no more than 50% simulated)	180 Days[2]
100 Flight Hours (no more than 50% simulated)	1 Year[2]

Table 1-1

[1] Does not include IFR currency requirements
[2] In compliance with OPNAVINST 3710.7 Series.

b. MPO:
   i. Shall perform a minimum of one MCE Pre-mission (must include Target Deck processing, setup of SO workstations, and ISS Startup) every 90 days.
   ii. Shall perform three MCE Pre-Missions every 180 days. In the event flight operations cease for greater than 30 days, simulated Pre-Missions shall be accomplished to maintain currency until flight operations resume.

c. UTC and TAGS OPSO: Shall perform UTC/TAGS OPSO duties in a flight once every 60 days.

1.7.1 Aircrew Back-In-the-Saddle.

Aircrew requalification requirements shall be as follows:

a. AVO: One flight under the supervision of a qualified AVO Instructor Evaluator (AVO IE). AVOs who have exceeded Take-Off and/or Landing currency must re-qualify under the supervision of an AVO IE.

b. AVOs may maintain takeoff and landing currency by means of the LRE or MCE Primary takeoffs and landings. AVOs who have been in a non-current status for less than 6 months may accomplish only those events required to re-establish currency. AVOs that have not flown the Global Hawk for more than 6 months are required to complete the annual standardization qualification check-ride process.

c. MPO: One flight operating sensors under the supervision of a qualified MPO Instructor Evaluator (MPO IE).

d. UTC and TAGS OPSO: One flight exercising UTC/TAGS OPSO duties under the supervision of a qualified UTC/TAGS OPSO.

1.8 Other Aircrew.

RQ-4A rated aircrew from other Global Hawk flying organizations may be assigned to the flight schedule provided they are appropriately designated by the assigned CTG. All aircrew are required to be familiar with this instruction.

a. Other aircrew operating the BAMS-D at NAS Patuxent River shall receive a course rules brief, a briefing on divert fields, a brief on BAMS-D aircraft and operations and discuss the CTG specific mishap/ORM procedures.

b. In addition to the items listed in the above paragraph, aircrew operating the BAMS-D during operational missions shall receive a briefing on BAMS-D tactical operations and procedures, complete a SPINS review and test, and shall execute at least one operational mission under the direct supervision of an instructor.

1.9 Crew Relief.

a. Contractor crew day shall not exceed twelve hours. Authority to waive crew duty periods resides with the assigned CTG and the GFR. GFR may approve a 2 hour extension if necessary.

b. Military crew day shall not exceed 18 hours. Authority to waive crew duty periods resides solely with the assigned CTG. Crew day and rest requirements of OPNAVINST 3710.7 shall be observed.

c. At least two AVOs shall be assigned to each event longer than four hours. AVOs occupying different shelters shall count toward this requirement only if the ground stations are close enough to allow the AVOs to switch from one shelter to another, or if the manned shelter has two operating command links with the UAV in order to maintain dual link redundancy with one shelter unmanned.

d. Crew day and rest requirements of OPNAVINST 3710.7 shall be observed by all MCE/TAGS personnel.

2.0 <u>Flight Definitions and Manning Requirements</u>

The minimum aircrew requirements for the BAMS-D UAS are established to safely meet the needs of each mission as set forth in the following mission hierarchy:

2.1 Local Training Operations.

Local training operations are flights for the purpose of training, currency or tactics development. These flights may be flown in the areas defined by Ref (a) and (b).

a. Local UAV training operation flights must have the following minimum crew:
   i. One AVO per shelter used for the mission. At least one of the AVOs must be a designated UAC.
   ii. One of the AVOs may be an RQ-4A AVO under instruction, or upgrading AVO under the supervision of an RQ-4A AVO IE.

b. Local UAV training operation flights must have the following minimum support personnel:
   i. Adequate Landing Recovery Element (LRE)/Mission Control Element (MCE) mission field support representative.
   ii. Adequate maintenance personnel to include: ground segment support personnel and a qualified ground chase observer.

2.2 Operational Missions.

Operational missions are those missions that are flown in direct support of mission requirements as set forth by an operational commander. They may or may not be flown locally.

a. BAMS-D operational missions must have the following minimum crew:
   i. One AVO per shelter used for the mission. At least one of the AVOs must be a designated UAC. One of the AVOs can be an AVO under instruction, or upgrading AVO under the supervision of an AVO IE.
   ii. One UMC
   iii. One TAGS OPSO
   iv. One TSO
   v. One CTP
   vi. One MPO

b. UAV operational flights must have the following minimum support personnel:
   i. Adequate LRE/MCE mission field support representatives.
   ii. Adequate maintenance personnel to include: ground segment support personnel and a qualified ground chase observer, as well as TAGS server support.

2.3 Maintenance Flights.

These flights shall be performed in accordance with approved GFR procedures. Procedures shall be in accordance with the applicable BAMS-D RQ-4A Technical Orders. They shall be supported and manned the same as BAMS-D local training operations set forth in paragraph 2.1 above.

2.4 Test Flights.

All BAMS-D Test flights shall be performed IAW an approved NAVAIR test plan. The test plan shall be signed by the assigned CTG as well as the cognizant test squadron. These flights shall be performed in accordance with approved GFR procedures and the applicable BAMS-D RQ-4A Technical Orders.

3.0 Flight Operations Policy.

3.1 Ground Operations.

a. Taxi Operations. Unless specifically authorized, Taxi operations will be limited to those approved for particular airfield configuration. The UAV shall not be taxied over field arresting gear, including takeoff or landing roll. When taxiing, the pilot

shall send the STOP TAXI command at least 150 feet short of all hold short lines to prevent runway incursions.

b. Take Off and Landing Operations. Departure end gear may remain rigged if current TOLD calculations indicate that the UAV can become airborne at least 1500 feet or stopped prior to the arresting gear. At NAS Patuxent River, both approach and departure end arresting gear shall be de-rigged for Takeoff and Landing.

c. Ground Power. Ground power carts will have electric current protection; otherwise, an in-line circuit breaker (for example: Northrop-Grumman Power Pedestal) will be used to protect the aircraft from over-currents.

3.2 Hawk Mobile (Ground Chase) Procedures.

3.2.1 General.

A ground chase vehicle will be used to provide the UAV operators with enhanced situational awareness during taxi, takeoff, and recovery operations. All events involving the movement of the UAV on the ground under its own power, including taxi, takeoff aborts, launch, and landing operations, shall be conducted using a ground chase. Detailed procedures are presented below.

3.2.2 Engine Start.

The Hawk Mobile vehicle should be positioned such that key locations of the aircraft are visible by the crew of the chase vehicle. All RQ-4A aircraft anomalies observed during startup will be transmitted to the Vehicle Test Controller (VTC) and LRE. The Starting Engine and Before Taxi Checklist may proceed up to but not including Step 15: Aircraft Taxi Preparation prior to the ground chase vehicle being in position.

3.2.3 Taxi.

The Hawk Mobile vehicle will follow the RQ-4A during all taxi operations in a relative position not less than 60 ft behind the aircraft and at least 20 ft to one side of aircraft centerline. Any aircraft anomalies observed during taxi will be transmitted to the LRE.

3.2.4 Takeoff.

The Hawk Mobile vehicle will be positioned to provide the chase observer the best field of view before the pilot gives the takeoff command. The driver of the chase vehicle will be responsible for maintaining/increasing spacing during the initial portion of the takeoff roll. The ground chase operator is responsible for making tracking calls, confirmation of takeoff, and, if necessary, to call for abort. Any aircraft anomalies observed during the takeoff will be transmitted to the LRE. Once the aircraft is airborne, the ground chase will proceed to the end of the active runway or to a taxiway and exit with a confirmation radio call to the tower operator. In the event of an aborted or rejected takeoff, ground chase personnel will follow standard RQ-4A procedures to render the aircraft safe and remove it from the runway.

3.2.5 Landing.

During approach and landing of the UAV, the Hawk Mobile vehicle will preposition near the approach end of the active runway and observe the UAV crossing the runway threshold. When the aircraft clears the chase position, the ground vehicle will proceed onto the runway behind the landing aircraft. This allows the chase personnel to call touchdown and provide status to the pilot. The aircraft will be followed as it decelerates to a stop. If fuel load, landing distance, and mission plan configuration permit taxiing off the runway, the chase crew will advise the AVO as to the ability to taxi. The chase crew will follow the aircraft during taxi to the end of mission or planned shutdown waypoint. Checklist procedures for shutdown of the UAV will be followed. Once the aircraft is secured, it will be towed to the hangar. Ground chase personnel will remain in radio contact with the airfield until the tow is complete.

3.2.6 Hawk Mobile Speed Limit.

The ground chase vehicle shall not be intentionally operated at speeds above 80 mph.

3.2.7 Hawk Mobile Personnel Requirements.

a. Hawk Mobile Driver. The driver of the ground chase vehicle shall hold a current authorization or airfield drivers license to drive on the airfield. The Hawk Mobile Driver may also serve as the Hawk Mobile Observer if so qualified.

b. Hawk Mobile Observer. The ground chase observer shall be certified by the BAMS-D Qualification Officer after completion of the Hawk Mobile qualification syllabus. Certification as an RQ-4A AVO or completion of the Hawk Mobile training syllabus shall constitute ground chase observer qualification. The ground chase observer duties are to communicate to the LRE, observe VTC and preflight procedures and act as taxi/takeoff safety observer for the chase effort. As a minimum, the chase vehicle shall be manned by a qualified ground chase safety observer each time RQ-4A ground chase operations are required. The Hawk Mobile Observer may also serve as the Hawk Mobile Driver if so qualified.

3.2.8 Hawk Mobile (Ground Chase) Vehicle Requirements.

The Hawk Mobile (ground chase) vehicle must meet airfield access requirements and be capable of communication with the LRE, Tower, and VTC using both FM ground radios and standard ATC communications capable radios.

4.0 Flight Operations.

4.1 Mission Planning.

All BAMS-D flights shall be flown using only a validated and approved mission plan.

4.1.1 Mission Plan Validation.

Mission plans shall be validated by the BAMS-D team consisting of the BAMS-D Officer-in-Charge, Mission Planner and Lead Pilot or his designee (Aircraft Commander) using the following process:

a. The BAMS-D team shall provide the mission planner with the mission plan requirements, including proposed divert airfields and candidate crash/ditch points.

b. The mission planner shall develop a rough mission plan and submit it for review by the BAMS-D team.

c. The BAMS-D team and mission planner shall iterate the mission plan until it meets the needs of the mission.

d. The mission planner shall submit the final draft mission plan to Northrop-Grumman for kinematic validation in a 6-degree-of-freedom (6-DOF) computer model. Any problems identified shall be corrected and this process repeated to validate the corrections.

e. The approved 6-DOF mission plan shall be manually reviewed by at least two designated AVOs. The 6-DOF mission plan should also be reviewed by at least one mission planner not involved with the development of the original mission plan. The AVOs and mission planner who perform the review shall complete the Mission Plan Review Checklist. Any problems identified shall be corrected and this step repeated to check the corrections.

f. The mission plan and signed mission plan review checklist shall be submitted to a Mission Plan Technical Analysis (MPTA) team for review. The MPTA team shall include, at minimum, one AVO, one mission planner, one individual involved in the 6-DOF check process, one representative of Northrop-Grumman management, the BAMS-D Class Desk Engineer or his designee, and the BAMS-D OIC or his designee.

g. At least one AVO should fly the draft mission plan in a closed loop simulation on the Pilot Stand Alone Trainer (PSAT).

h. The mission plan shall be briefed to the assigned CTG or his designated representative for final approval. Final approval shall include the MPTA signature page.

4.1.2 Divert Fields.

Contingency approaches to diverts or crash points may be either "stitched" or "unstitched" into the mission plan. "Stitched" approaches are segments that may be executed autonomously should the aircraft encounter a lost communications (C1) contingency. "Unstitched" approaches exist in the mission plan, but cannot be executed without AVO intervention (necessitating a command and control data link). Divert fields may be utilized when approved in accordance with this instruction or theater doctrine.

4.1.2.1 Divert Field Approval Procedures.

The following sequence of events will be followed in order to fully approve and incorporate a divert field into a mission plan:

a. Draft mission plan of divert routing.

b. Brief prospective divert field personnel on BAMS-D system and operating characteristics, to include contingency/emergency conditions and procedures. The following minimum personnel should attend the BAMS-D divert field brief:
   i. Air Operations Officer
   ii. Airfield Manager
   iii. Airfield ATC supervisors (Senior Radar Supervisor & Senior Tower Chief)
   iv. Airfield Frequency Manager
   v. Fire Chief
   vi. Senior Transient Line Supervisor
   vii. Any other interested party that the divert airfield may deem necessary.

c. Coordinate with divert ATC and airfield representatives on the contingency/ emergency routing into the divert field. Survey applicable runway/taxiway points needed to plan and execute a safe divert into the field, if existing field survey data does not include the necessary data. Include in discussions the decision for autonomous (stitched) or non-autonomous (un-stitched) routing. No autonomous routing will be planned into a divert field unless approved by the divert field CO or his representative.

d. Incorporate any changes to divert mission plan as result of route discussions with divert personnel.

e. Initiate 6-DOF analysis and mission plan review. This shall be completed prior to incorporation of the divert field into the mission plans.

f. Identify EMI/EMC hazards and points of contact. This may be performed in parallel with route planning.

g. Draft a MOU with the divert field, to be co-signed by the assigned CTG and divert field CO or his designated representative. The MOU shall contain the following:
   i. Coordinated routing depiction.
   ii. Runways to be utilized in the case of divert.
   iii. Agreed-to procedures between the assigned CTG, divert field personnel and BAMS-D AVOs to follow in the case of divert.
   iv. Applicable telephone numbers and radio frequencies for local ATC, approach, tower, airfield crash crew, divert field POC for BAMS-D, CTG personnel, BAMS-D experiment team, and Northrop Grumman engineering support.
   v. Divert ground personnel tow/maintenance procedures.

h. Update divert binder with updated approved divert information to be placed in BAMS-D ground station shelters. Send a signed copy of the approved MOU to the divert field(s).

4.2 Pre-Flight Procedures.

4.2.1 Pre-Mission Coordination.

At forward operating locations, pre-mission coordination shall comply with applicable command guidance.

a. For operations at NAS Patuxent River, the following actions shall be taken not less than three working days before planned UAV event time:
   i. All affected ATC facilities and divert fields shall be notified of the planned event time and mission operating areas in accordance with the FAA Certificate of Authorization (COA).
   ii. A Notice to Mariners (NOMAR) shall be submitted stating the planned at-sea crash points. The NOMAR may be long-term and submitted well in advance of flights.

b. The following actions shall be taken not less than 24 hours before the planned UAV event time:
   i. A Notice to Airmen (NOTAM) shall be submitted stating the planned operating areas, altitudes, and approximate times.
   ii. All affected ATC facilities and divert fields shall be notified of any updates to the mission or timeline.

4.2.2 Mission Briefings.

A flight briefing shall be held prior to each mission.

a. The main flight briefing shall be attended by the flight crew, and key TAGS and maintenance personnel. Attendance may be by telephone. Personnel may be excused from those portions of the briefing that do not impact their duties or require their support. The main flight briefing shall review the UAV and ground station maintenance status including outstanding discrepancies, the route of flight, the mission tasks, the mission timeline, divert fields, weather, communications procedures, and any hazards peculiar to that mission.

b. A turnover briefing shall be conducted between each shift. The turnover brief shall update the UAV and ground station maintenance status, the weather, and any other relevant mission information.

4.3 Operating Limitations.

All flights will be flown within the limits established by the most recent version of the Navy's RQ-4A NATOPS supplement, Operation and Maintenance Manual Set, Global Hawk Technical Orders, RQ-4A Block 10 Pubs and these STAN Notes.

4.3.1 Weather Limits.

Flight Manual weather limits apply. The CTG approved specific weather limits for all BAMS-D Operations are presented in Table 4-1.

Weather Limits for BAMS-D Operations

Parameter	Limit
Thunderstorm and lightning activity	None within 25mi
Winds aloft	When operating inside the Patuxent River restricted areas: a. The RQ-4 will climb safely with strong westerly winds (>125 knots) as long as the track remains on the mission plan or all turns are made into the winds at high wind altitudes. The climb should be maintained to avoid level off at the altitudes with the strongest winds. b. The Figure 8 mission plan works well with strong westerly winds as turns are made into the wind at all times. **It is not recommended to make downwind turns at altitudes with the strongest winds (>125 knots).** c. Strong easterly winds will require pilot use of the Override steering function to prevent spilling out of the restricted area on westerly turns. d. Due to the confined airspace in the NAS Patuxent River restricted area, it has proven desirable to use PSAT simulations to develop precise winds aloft envelopes.
Airfield weather minimums for launch and recovery (± 1 hour recovery)	500 ft ceiling and ¾ mi visibility (RVR=4000ft or 1200m)
Ceiling and/or visibility below mins for takeoff	Approval is required from the CTG and the following additional procedures shall be followed: a. AVO will request that ATC/Tower make a warning call in the blind on all appropriate airfield frequencies. b. Ground chase will perform a runway sweep. c. If available, ground chase will request that the Tower activate any anti-bird devices. d. Ground chase will position behind the aircraft throughout taxi evolution until positioned onto the runway. e. Ground chase will not attempt to follow the aircraft after it begins its takeoff roll. f. Ground chase vehicles shall remain in sight of each other during all movements, and will provide tower with position calls as appropriate.
Ceiling and/or visibility below mins for recovery (± 1 hour)	Approval is required from the CTG and the following additional procedures shall be followed: a. Notify ATC/Tower, BAMS-D maintenance, and ground chase crew of required low ceiling/visibility approach one hour prior to landing time. Low-visibility procedures will be reviewed by the ground chase crew. b. AVO will request that ATC/Tower make a warning call in the blind on all appropriate airfield frequencies. c. Ground chase will perform a runway sweep. d. If available, ground chase will request that the Tower

	activate any anti-bird devices. e. Ground chase will position with the maintenance vehicles at a central location on the airfield no earlier than 30 minutes prior to landing. f. Ground chase will remain well clear of the landing runway until the Global Hawk aircraft comes to a complete stop on the runway and the LRE AVO provides an approximate position. g. Ground chase vehicles shall remain in sight of each other during all movements and will provide tower with position calls as appropriate. For visibility less than ¼ mi (RVR=1600ft or 400m), the following additional procedures shall be followed: h. For recoveries near busy taxi areas, consider posting a stationary observer with a radio clear of the runway to ensure no runway intrusions. i. The UAV shall not taxi following landing. The UAV shall remain in position on the runway until the ground chase and maintenance crew reach the aircraft and perform post-flight shutdown procedures. There will be additional emphasis on ground position reporting to the tower during towing operations from the landing point to the hangar. The lead maintenance vehicle or ground chase will report all changes in position, turns, stops, and starts to the Tower.

Table 4-1

4.3.1.1 Takeoff and Landing Temperature Limitations.
The following temperature limitations for takeoff and landings shall take precedence over the Flight Manual IQ-4(R) A-2-WA-2.

a. Do not takeoff or conduct unnecessary C4A (Go Around) maneuvers when the field ambient temperature is less than 23 degrees Fahrenheit or (-5 C).

b. When field temperature is between 23F and 41F, land with 4000 lb Fuel Quantity Remaining (FQR) or greater.

c. When field temperature is between 41F and 59F, land with 2500 lb FQR or greater.

4.3.2 Frequency Management.
Frequency coordination has been performed with NAVAIRSYSCOM. Emitters at NAS Patuxent River that could pose a hazard are presented in Table 4-2. Emitters that pose a potential risk will be put in STANDBY or OFF modes when the UAV is taxiing or flying within their field of regard, and within 10 nm of NAS Patuxent River below 10,000 ft MSL. The AVO shall be responsible for calling to have emitters secured.

POTENTIAL EMI/EMC HAZARDS AT NAS PATUXENT RIVER

Emitter	Purpose	Hazard Distance	POC	Phone (301 prefix)
AN/SPN-46(v)	Precision Approach and Landing System	Directed toward UAV	(b)(6)	(b)(6)

Table 4-2

NOTE 1

For offsite operations, frequency coordination shall be performed prior to operations at the offsite location.

4.3.3 Other Operating/Tactical Guidance.

All missions shall be scheduled to minimize adverse impact on manned aircraft operations to the maximum extent practicable.

a. The BAMS-D aircraft shall not be operated within 500 ft of tactical jet aircraft running at MAXIMUM power.

b. Standoff shall be IAW Ref (e): "Approval (CTF-57 – Actual) for request to operate BAMS-D inside a 2nm buffer of all required stand-offs unless directed by NAVCENT."

c. The BAMS-D aircraft is required to return to base if more than 5 consecutive sensor package reboots without successful restart are performed while on-station.

4.4 In-Flight Procedures

4.4.1 General

All flights will be conducted in accordance with the FAA COA (as applicable), OPNAVINST 3710.7, Technical Order procedures, and these STAN Notes.

4.4.2 Terminology

The following terminology shall be used in BAMS-D operations:
"TERMINATE, TERMINATE, TERMINATE": Terminate the vehicle (after prior discussion).

WARNING

The word, "TERMINATE," shall not be used to refer to any activity other than destruction of the UAV. During a flight, the word "TERMINATE" shall be used only to direct the destruction of the UAV.

4.4.3 Airspace.

All climbs and descents associated with approaches to and departures from NAS Patuxent River shall be conducted within the boundaries of the NAS Patuxent River restricted airspace, unless explicitly authorized by the assigned CTG or necessitated by a declared emergency. The BAMS-D OIC shall be notified immediately of a declared emergency.

4.4.4 Communication Links.

The UAV shall be flown with at least two operating communications links. These links can be in a single shelter or split between two shelters. An operational link is defined as a green RDY/RDY light with an AVO available to take control. For launch and recovery, at least one link shall be a Line-of-Sight (LOS) link, unless specifically approved by the assigned CTG, or included in an Experiment or Test Plan, or when returning to base after a system failure. In the event of communications system failures reducing the UAV to one operating link, the crew will attempt to regain a second link with the aircraft. If the crew is unable to re-establish a second link with the aircraft, the crew shall RTB.

To the maximum extent practicable both the LRE and MCE should be operating and have an *available* link to the aircraft for all flights. Momentary losses of link to the MCE to cycle landing gear or temporary INMARSAT re-dials are not considered to be "loss of link" events for the purpose of an RTB decision.

Pre-planned single link operations for Trans-oceanic ferry flights may be approved on a case by case basis by the BAMS-D OIC.

4.4.5 External Lighting.

External lights, including strobes, landing lights, and taxi lights, shall be used to the maximum extent possible.

4.4.6 Flight Log.

An electronic or paper logbook shall be kept throughout the duration of the flight, including pre-launch and post-launch operations. Required entries shall be: takeoff, landing, entering or leaving restricted airspace (intentional or otherwise), crew changes, and transfer of command to another ground element.

4.4.7 Transfer of UAV Control.

Transfer of UAV control from one shelter to another shall be accomplished as detailed in the RQ-4A flight manuals and checklists.

4.4.8 Visitor Policy.

Visitors are defined as any person entering the LRE or MCE who are not essential to the conduct of the mission.

All visitors shall be briefed prior to entering a shelter during a flight, and shall not enter without the approval of the UAC, and prior approval by the CTG, or the BAMS-D OIC. Visitors shall be escorted at all times, and shall at no time be allowed to interfere with UAV operations. No visitors shall enter the LRE or MCE while the UAV is below 18,000 ft MSL unless they have attended the flight briefing. Visitors may be removed from the LRE or MCE at the discretion of the AVO, UAC or UMC.

4.4.9 IMMC Yellow Faults.

The following procedures for operations of UAVs during Yellow IMMC Faults shall take precedence over the Flight Manual 1Q-4(R) A-2-WA-2 until rescinded or superseded by the CTG.

a. On occurrence of an IMMC Yellow 99, RTB or land as soon as practicable.

b. On occurrence of an IMMC Yellow subsystem fault with no associated fault code, RTB or land as soon as practicable.

c. On occurrence of an IMMC Yellow that fails to clear, RTB, or land as soon as practicable.

4.4.10 Flight Termination.

Flight termination, if deemed necessary, will be executed by the pilot. If time permits, the OIC shall be notified of any emergency requiring termination of the UAV. It should be noted that the flight termination command is irreversible, and may be sent through any available RQ-4A encrypted command and control link.

The preferred termination location for operations in the NAS Patuxent River restricted area is west of Bloodsworth Island, at 38° 10' N, 76° 6' W.

4.4.11 Chase Aircraft.

Safety chase aircraft will not normally be used to support RQ-4A operations. Should safety chase operations be required, it will be authorized by the CTG for that event.

4.4.12 Airborne Chase Procedures.

All airborne chase operations shall observe the following precautions:

a. Chase operations shall be briefed prior to takeoff of the UAV and chase.

b. The chase aircraft shall not approach closer than 100 feet from any part of the UAV.

c. The chase aircraft shall not illuminate the RQ-4A aircraft with its radar at ranges less than 100 yards (300 feet).

d. The chase aircraft shall not pass directly under the UAV at altitudes below 20,000 ft MSL, in order to prevent inadvertent triggering of the radar altimeter.

e. Unless specifically authorized by the CTG, all chase operations shall be performed in day VMC conditions.

f. The chase aircraft should be provided with the waypoints for the portion of the mission plan where chase coverage is expected in sufficient time for the waypoints to be entered into the navigation system of the chase aircraft.

g. The chase aircraft shall not execute a formation takeoff or landing with the RQ-4A aircraft.

h. Airborne chase pickup is authorized.

i. In the event of an airborne emergency requiring a safety chase, airborne briefing of a compatible chase airplane is authorized.

j. If providing see-and-avoid support pursuant to the FAA COA, the chase airplane separation from the UAV shall not exceed 1 mile laterally and 3,000 feet vertically, in accordance with the COA requirements.

APPENDIX A – ACRONYMS AND ABBREVIATIONS

6-DOF	6-Degree-of-Freedom
ACAT	Acquisition Category
ACTD	Advanced Concept Technology Demonstration
AESG	Aeronautical Equipment Systems Group
AFB	Air Force Base
AFFTC	Air Force Flight Test Center
AIU	Antenna Interface Unit
ASF	Auxiliary Support Facility
ATC	Air Traffic Control
AVO	Air Vehicle Operator
AVO IE	Air Vehicle Operator, Instructor and Evaluator
BAMS-D	Broad Area Maritime Surveillance-Demonstrator
C2	Command and Control
C4I	Command, Control, Communication, Computer, and Intelligence
CDL	Common Data Link
CG	Center of Gravity
COA	Certificate of Authorization
COI	Contact of Interest
COMSEC	Communications Security
CONOPS	Concept of Operations
COP	Common Operating Picture
CR	Cruise
CRS	Coarse Resolution Search
CTF	Commander, Task Force
CTG	Commander, Task Group
CTP	Common Tactical Picture
CTR	Contractor
CWO	Chief Warrant Officer
DARPA	Defense Advanced Research Projects Agency
DAWS	Data Analysis Workstation
DGPS	Differential Global Positioning System
DOD	Department of Defense
EIS	Environmental Impact Statement
EMD	Engineering Manufacturing Development
EO/IR	Electro-Optical/Infrared
ESH	Environmental, Safety, and Health
ESM	Electronic Support Measures
ESO	Engine System Operator
FAA	Federal Aviation Administration
FADEC	Full Authority Digital Engine Control
FQR	Fuel Quantity Remaining
GHEN	Global Hawk Engineering Network
GCCS-M	Global Command and Control System - Maritime
GFR	Government Flight Representative
GIG	Global Information Grid
GMTI	Ground Moving Target Indicator

GPS	Global Positioning System
HAE	High Altitude Endurance
HRS	High Resolution Search
IFR	Instrument Flight Rules
IMMC	Integrated Mission Management Computer
INS	Inertial Navigation System
ISAR	Inverse Synthetic Aperture Radar
ISEET	Integrated Systems Evaluation, Experimentation, and Test Department
ISR	Intelligence, Surveillance, and Reconnaissance
LDO	Limited Duty Officer
LOS	Line of Sight
LNO	Liaison Officer
LRE	Launch and Recovery Element
MCE	Mission Control Element
MFR	Memorandum for Record
MOU	Memorandum of Understanding
MPO	Mission Payload Operator
MPO IE	Mission Payload Operator, Instructor and Evaluator
MPRC	Mission Plan Review Committee
MPTA	Mission Plan Technical Analysis
MRS	Medium Resolution Search
MS	Maritime Search
MST	Mobile Ship Target
MTA	Maritime Target Acquisition
NAS	Naval Air Station
NATOPS	Naval Air Training and Operating Procedures Standardization
NAWC	Naval Air Warfare Center
NAWCAD	Naval Air Warfare Center, Aircraft Division
NAWCWD	Naval Air Warfare Center, Weapons Division
NOAA	National Oceanographic and Atmospheric Administration
NFO	Naval Flight Officer
NOMAR	Notice to Mariners
NOTAM	Notice to Airmen
OEP	Operational Environmental Planning
OIC	Officer In Charge
OPSO	Operations Officer
OS	Operational Security
PA	Powered Approach
PAC	Product Acceptance Criteria
PSAT	Pilot Stand-Alone Trainer
QO	Qualifications Officer
RAID	Redundant Array of Inexpensive Disks
RDTE	Research Development Test and Evaluation
RDY/RDY	Ready/Ready
RPU	Receiver/Processor Unit
RTB	Return To Base
RVR	Runway Visual Range
SAR	Synthetic Aperture Radar

SC	Satellite Communications
SIL	Systems Integration Laboratory
SPINS	Special Instructions
TAGS	Tactical Auxiliary Ground Station
TO	Takeoff
TSC	Tactical Support Center
TSO	TAGS Sensor Operator
TX	Taxi
UAC	UAS Aircraft Commander
UAV	Unmanned Aerial Vehicle
UAS	Unmanned Aircraft System
UMC	UAS Mission Commander
UHF	Ultra High Frequency
UTC	UAS Tactical Coordinator
VHF	Very High Frequency
VTC	Vehicle Test Controller
WAS	Wide Area Search

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		Technical Services
Command		Division
23 June – 7 September		
TAD from/to		Until (give dates)
Forward Operating Location		(b)(6)
Whereabouts for next 30 days		Phone

I, (b)(6) , hereby make the following statement to Lieutenant Commande (b)(3), (b)(6) , U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

The flight was put on the schedule a week prior as a local flight for aircraft N5. I was listed as the LRE pilot and the Aircraft Commander. Normal notifications required for a COA local flight went out. We received notification of the range being scheduled on Friday. The flight was scheduled from 1200 to 1600 with a brief time on 1000. Normal brief is 2 hours before takeoff with the preflight being 1 hour prior to takeoff.

I arrived at work at 0800 in the Eagle building. I reviewed, via the web, NOTAMS, weather, and did my preliminary planning. I didn't yet have the Configuration Summary/Flight Release (CSFR) which I needed to complete my brief. I also completed the DD175 flight plan.

After that I came to the hangar and faxed the flight plan to base ops and weather and called to verify they had received it. I received the CFSR from the QA shop and completed my brief slides. There was an airfield NOTAM for runway 32 being closed for MK 7 operations. Mk 7 is a runway arresting gear similar to what they have on aircraft carrier and allows them to practice aircraft carrier landings. Per the NAVAIR Interim Flight Clearance we are not allowed taxi or conduct flight operations across cross deck arresting gear. The weather as I remember had winds at 120 at 7 knots. The crosswind limit for the aircraft is 15 knots. Another option was to takeoff runway 6 which was within the crosswind limits and I briefed the mission as such.

The brief was conducted in the large conference room. In attendance other than myself was (b)(6) ; the ground chase car drivers (b)(6) and I (b)(6) , the VTC operator (crew chief), the sensor operators, a QA rep, the maintenance lead and shelter support personnel. There were no uniformed personnel present. The purpose of the flight was a sensor subsystem operational check.

Emphasis items in the brief were the responsibility to call "knock it off" for any situations out of the normal. Briefed the weather, call sign, and other normal items. Briefed the NOTAM for runway 32 not being available. On runway 6, due to the a small rise at the start up position it is common to have pilot to crew chief communications issues. A routine work around for this is to talk to the chase car and use it to relay comms. This was emphasized in the brief as well.

I checked out a pubs bag which contains the emergency plan as well as flight pubs. (b)(6) noted that there was only 1 set of pubs in the bag. I was okay with that due to the MCE and LRE being close to each other. I directed (b)(6) to conduct the walk around of the aircraft. The run up pad for runway 6 is about 2 miles from MCE. It is normal procedure to have another qualified Global Hawk pilot do the walk around.

About 10 minutes to 1100 I reported to the shelter. Went to Base Ops which right next to the shelter. Asked if MK-7 operations were really going on. Was told they were rigging for it then. Asked them to give the T-line crew a "heads up" to derig the runway 6 arresting gear. Asked if there were any problems with the flight plan. There wasn't and they had it in the system already. Went into base weather. They had the weather brief available. There were no weather concerns of note.

ENCLOSURE (24)

I then headed to the box and established communications with the ground crew. The expected voice comm issues occurred and had to relay through the chase car, as briefed. Called ground and was advised that the short field arresting gear was derigged but the long field was still rigged. Did a communications check with MCE which was good and started working through the ground station setup checklist. I set up the screens and started the mission ground system software normally.

Shortly after 1100, I directed the Crew Chief to start engines when he was ready. After about 10 minutes the Crew Chief advised that he was ready and to dial up INMARSAT. I then began to receive information from the aircraft. I was advised of a fuel fault indication, a wet float switch, which was resolved as being a normal condition. My subsystems status indication showed a "green board".

The rest of the start up and aircraft preparations were normal. The aircraft had completed a normal bit 2 and we pressed on with launch point procedures. The ground crew cleared the area around the aircraft and pulled the safety pin. CDL showed ACQ only until the aircraft transmitter was turned on, then went RDY/RDY. The LRE was up UHF LOS and TCDL, and the MCE was up Ku SATCOM and INMARSAT, our expected C2 communications configuration.

Completed the starting engines and before flight checklist. The navigators were working normally. Pressed to the taxi checklist, including a crew briefing. I had a "green board". I set the altimeter and briefed my crew the IFR clearance received earlier: "Triton 39, cleared to PAX 159/85, as filed, on departure fly runway heading, climb and maintain 4500ft, expect a climb to FL600 in 10 minutes, departure frequency 250.3, squawk 4232" (or something in the 4000s. I don't remember specifically).

As part of the crew brief, I had directed Hawk Mobile to call my stop 200 ft short of the hold short position. I briefed Nick to do normal co-pilot duties after takeoff as well as back me up on the gear. He had no issues. Pushed everyone to PAX Ground frequency and requested taxi from high power runup area on TXY "A" to runway 6. Hawk Mobile called taxi path clear. The aircraft taxied normally with a left hand turn onto taxiway "A". Stop Taxi sent to the aircraft to conduct a brake check. Set the altimeter. Hawk Mobile again called taxi path clear and I taxied the aircraft another 100 to 200 yds or so to a position near the hold short line, and stopped when Hawk Mobile called my Stop Taxi.

Called all players to push to tower. Hawk Mobile spoke up saying he needed to work on setting the frequency into his radio. I called "knock it off" to give him time to get set up. In a minute or two, Hawk Moble resolved his "button pushing" issue. I called Pax Tower and requested to line up and wait on runway 6. Tower cleared me for line up and wait. Hawk Mobile called the path clear and I taxied the aircraft onto the runway. Tower asked how long I would be in position. I said 1 minute. I was cleared by PAX Tower for takeoff. After stopping, I checked the aircraft pitch attitude and completed the Before Takeoff checklist.

Polled the crew "are you go for flight". Received response that the "MCE was Go for Flight". Initiated takeoff, and called Pax Tower with "Triton 39 rolling 6". Tower rogered up. The aircraft tracked normally down the runway and after about 2000 ft the aircraft lifted off. I called Tower with airborne and they kicked me to Departure. Takeoff time was approximately 1151.

Pushed the crew to Departure. Had normal green board indications passing through 200-300 ft. Waited for a moment for the MCE to come up on Departure frequency. Called PAX Approach and called passing about 1500-1800. Approach requested ident so I brought the IFF window to squawk "ident". Pax Approach (the Departure controller) responded "radar contact". Then I retracted the gear.

At this point the aircraft was turning off runway heading making a right hand turn to the warning areas to the south. (b)(6) had set my "in control C" flags and my C1 Timer for me, for normal lost comms config. Just about this time the aircraft rolled level and was climbing through 3500 ft., I got an Actuator Red 40 and GNC Red 11 faults. My first crew action was to observe what the aircraft was doing. It remained stable with wings level and in a climb. No dips or perturbations; just normal. I immediately requested an actuator detail status. I read the pilot advisory window which showed an Actuator Red 40 fault. There might have been other faults but the highest was the Actuator Red 40 fault.

PRIVACY ACT STATEMENT

Name: (b)(6) Rank/Rate: CIV

Command: NORTHROP GRUMMAN Department:

Telephone number: (b)(6)

Today, 18 June, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

1. AUTHORITY: 5 U.S.C. 301; 10 U.S.C. 972, 1201-1221, 2733, 2734-2734b., 2737, 5013, 5031-5036, 5131-5150, 5947, 6148, 7205, 7622-7623; 28 U.S.C. 1346, 2671-2680; 31 U.S.C.240-243, 3521-3531, 3701-3702, 3717-3718; 37 U.S.C. 802; 38 U.S.C. 105; 42 U.S.C. 2651-2653; 44 U.S.C. 3101; 49 U.S.C. 1901.

2. PRINCIPAL PURPOSES. The information which will be solicited is intended principally and may be used for the following purposes:

a. Determinations on the status of personnel regarding entitlements to pay during disability, disability benefits, severance pay, retirement pay, increases of pay for longevity, survivor's benefits, involuntary extensions of enlistments, date of expiration of active obligated service, and accrual of annual leave.

b. Determinations on disciplinary or punitive action.

c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

f. Other determinations, as required, in the course of naval administration.

g. Public information releases.

h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

3. ROUTINE USES: In addition to being used within the Department of the Navy and Defense for the purpose(s) indicated above, records of investigations are routinely furnished, as appropriate, to the Department of Veterans Affairs for use in determinations concerning entitlement to veterans' and survivors' benefits; to Servicemen's Group Life Insurance administrators for determinations concerning payment of life insurance proceeds; to the U.S. General Accounting Office for purposes of determinations concerning relief of accountable personnel from liability for losses of public funds and related fiscal matters; and to the Department of Justice for use in litigation involving the Government. Additionally, such investigations are sometimes furnished to agencies of the Department of Justice and to State or local law enforcement and court authorities for use in connection with civilian criminal and civil court proceedings. The records of investigations are provided to agents and authorized representatives of persons involved in the incident, for use in legal or administrative matters. The records are provided to contractors for use in connection with settlements, adjudication, or defense of claims by or against the Government, and for use in design and evaluation of products, services, and systems. The records are also furnished to agencies of the Federal, State, or local law enforcement authorities, and regulatory authorities, for use in connection with civilian and military criminal, civil, administrative, and regulatory proceedings and actions.

4. MANDATORY/VOLUNTARY DISCLOSURE, CONSEQUENCES OF REFUSING TO DISCLOSE:

a. Where an individual is a subject of an investigation for purpose 2a or 2b, above: Disclosure is voluntary. You are advised that you are initially presumed to be entitled to have the [personnel determination] [disciplinary determinations] in paragraph 2, above, resolved in your favor, but the final determination will be based on all the evidence in the investigative record. If you do not provide the requested information, you will be entitled to a favorable determination if the record does not contain sufficient evidence to overcome the presumption in your favor. If the completed record does contain sufficient evidence to overcome the presumption in your favor, however, your election not to provide the requested information possible could prevent the investigation from obtaining evidence which may be needed to support a favorable determination.

b. Where an individual is a subject of an investigation for purpose 2c, above: Disclosure is voluntary, and if you do not provide the requested information, any determination as to whether you should be held pecuniarily liable for repayment of the Government's loss would be based on the other evidence in the investigative record, which possibly might not support a favorable determination.

c. Where the individual is a claimant or potential claimant in an investigation for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could prevent the investigation from obtaining sufficient information to substantiate any claim which you have made or may make against the Government as a result of the incident under investigation.

d. Where the individual was treated at Government expense for injuries caused by third parties in connection with a matter being investigated for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could result in a requirement for you to assign to the Government your medical care claims against third parties in connection with the incident, or authorize withholding of the records of your treatment in naval medical facilities.

e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

(b)(6)

X _____ _____

SIGNATURE AND DATE

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
TAD from/to		Until (give dates)
No trips scheduled		(b)(6)
Whereabouts for next 30 days		Phone

I, (b)(6) hereby make the following statement to Lieutenant Commander (b)(3), (b)(6) (b)(3), (b)(6), U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

The crew was myself as co-pilot and (b)(6) was the Aircraft Commander. He is very experienced. We are both qualified with a current NATOPS check and current CRM. Everything is up to date. The flight was on the schedule. It was a normal flight. The purpose was to exercise the equipment and the plane.

For the brief the whole team was assembled. No one was late, it was a smooth brief. The brief was at 1000. After the brief everyone disbursed and went to their assigned station. With my experience with Northrop Grumman everything went smoothly. Engine Starts were about an hour after the brief making it about 1100. Everything went smooth. The taxi went smooth.

I was in MCE and (b)(6) was in the LRE. The LRE is where the actual duties of getting the aircraft airborne occur. The MCE assists the LRE. It backs up the pilot and corroborates the mission plan. (b)(6) established comms. It was a smooth takeoff. A little ahead of schedule. After takeoff the LRE pilot raises the gear and the MCE backs that up. I think that morning there was a delay in getting the gear up due to an ATC call. The gear went up and I verified it.

The plane was climbing and turning; climbing to an altitude hold. It was busy. As this is happening I am setting the comms time out timer. As the aircraft was making a right hand turn and heading south we got an Actuator 40 fault. It happened very quickly after takeoff. When the right inboard ruddervator has a discrepancy it is a big deal. We joined forces as a crew to deal with the problem.

I swear (or affirm) that the information above and on the 1 attached page(s) is true to the best of my knowledge or belief.

(b)(6)

(Witness' Signature)	07 July 2012 (Date)	1830 CST Time

(b)(6) Fax received

~~Sworn to before~~

(b)(3), (b)(6)

LBOR	9 July 2012 (Date)	1940 CST Time

ENCLOSURE (25)

07/09/2012 19:34 FAX 9729292251 HONEWOOD-SUITES 002/003

(b)(6)

We have a sim to use to practice these procedures. It's a big deal but we can deal with it. I knew the mission was complete and we would be running the procedures to bring the aircraft back. In the MCE there is a laptop to the right of where I set with the spec view and checklists on it. I brought up the Actuator 40 checklist. It's not like a like a Navy PCL. It's a pages of running commentary. A somewhat complicated procedure. ^couple of

(b)(6) did an excellent job and had great SA. He declared an emergency right away. You know in the back of your mind that any issues with an actuator can lead to an uncontrollable situation. We were headed toward St Mary's county. The aircraft was in a stable climb. He puts in a left hand turn away from St Mary's county. As he's on the radio declaring and emergency, I'm reading the procedure and waiting for the workload to slow to read through the emergency procedure, as a crew.

About that same time we got an Actuator fault, we also got a GNC 8. The fault indicates the aircraft is not stable; something is causing the aircraft to jump around. Maybe turbulence. It made sense. The Actuator 40 fault was latched on and couldn't be cleared. Then got a GNC 11 which is more severe. Came on a few minutes after the Actuator 40 and GNC 8 faults.

(Mr (b)(6) had opened the Actuator 40 procedure and was reviewing it) → /GNC 8/GNC 11

The aircraft was in a climbing left hand turn and we were working through the procedures. Didn't know the position of the ruddervator. If get a ~~condition~~ 2 timer it will cause the plane to return home. (b)(6)'s left hand turn had reset that. A couple of minutes later (it was about 11 minutes from the Actuator 40 fault to the Air Data 7) got an Air Data 4 fault. Means the air data computer is inop. Think both (b)(6) and I realized that this was a different problem, more serious. After a couple of seconds got and air data 7 fault, which is a very big deal. Means both air data systems are inop.

My Stale Data Meter was growing. It's a colored bar telling you, you lost link. → (connectivity) I lost link, and the screens froze because I wasn't getting any data from the plane. Gyro froze showing 10-15° down. I was trying to establish link and coordinating with the LRE. At this point MCE was not able to effect control on the aircraft. I think the Sensor Operators did a commendable job. They let the chain of command know what was going on.

At the best of my knowledge, (b)(6) was talking on the headset and conveying that he had link but no longer could affect control and the plane was in an out of control flight regime. He was coordinating with ATC and making altitude calls. He lost link around 1000 ft and gave ATC the last known coordinates. ATC relayed them to an F18 in the area, who confirmed the crash and wreckage.

Note: At no time during the entire flight was I acting as the pilot at the flight controls (i.e. I was the non-flying pilot)

* and turned the aircraft away from a populated area.

8 July 2012

TO: LCDR (b)(3), (b)(6)

FM: (b)(6)

SUB: WITNESS STATEMENT

FAX: (b)(6)

PAGES: COVER + 2

PRIVACY ACT STATEMENT

Name (b)(6) Rank/Rate: CIVILIAN

Command: Northrop Grumman Department: RAMS-D

Telephone number: (b)(6)

Today, 19 JUNE, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

1. AUTHORITY: 5 U.S.C. 301; 10 U.S.C. 972, 1201-1221, 2733, 2734-2734b., 2737, 5013, 5031-5036, 5131-5150, 5947, 6148, 7205, 7622-7623; 28 U.S.C. 1346, 2671-2680; 31 U.S.C.240-243, 3521-3531, 3701-3702, 3717-3718; 37 U.S.C. 802; 38 U.S.C. 105; 42 U.S.C. 2651-2653; 44 U.S.C. 3101; 49 U.S.C. 1901.

2. PRINCIPAL PURPOSES. The information which will be solicited is intended principally and may be used for the following purposes:

a. Determinations on the status of personnel regarding entitlements to pay during disability, disability benefits, severance pay, retirement pay, increases of pay for longevity, survivor's benefits, involuntary extensions of enlistments, date of expiration of active obligated service, and accrual of annual leave.

b. Determinations on disciplinary or punitive action.

c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

f. Other determinations, as required, in the course of naval administration.

g. Public information releases.

h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

3. ROUTINE USES: In addition to being used within the Department of the Navy and Defense for the purpose(s) indicated above, records of investigations are routinely furnished, as appropriate, to the Department of Veterans Affairs for use in determinations concerning entitlement to veterans' and survivors' benefits; to Servicemen's Group Life Insurance administrators for determinations concerning payment of life insurance proceeds; to the U.S. General Accounting Office for purposes of determinations concerning relief of accountable personnel from liability for losses of public funds and related fiscal matters; and to the Department of Justice for use in litigation involving the Government. Additionally, such investigations are sometimes furnished to agencies of the Department of Justice and to State or local law enforcement and court authorities for use in connection with civilian criminal and civil court proceedings. The records of investigations are provided to agents and authorized representatives of persons involved in the incident, for use in legal or administrative matters. The records are provided to contractors for use in connection with settlements, adjudication, or defense of claims by or against the Government, and for use in design and evaluation of products, services, and systems. The records are also furnished to agencies of the Federal, State, or local law enforcement authorities, and regulatory authorities, for use in connection with civilian and military criminal, civil, administrative, and regulatory proceedings and actions.

4. MANDATORY/VOLUNTARY DISCLOSURE, CONSEQUENCES OF REFUSING TO DISCLOSE:

a. Where an individual is a subject of an investigation for purpose 2a or 2b, above: Disclosure is voluntary. You are advised that you are initially presumed to be entitled to have the [personnel determination] [disciplinary determinations] in paragraph 2, above, resolved in your favor, but the final determination will be based on all the evidence in the investigative record. If you do not provide the requested information, you will be entitled to a favorable determination if the record does not contain sufficient evidence to overcome the presumption in your favor. If the completed record does contain sufficient evidence to overcome the presumption in your favor, however, your election not to provide the requested information possible could prevent the investigation from obtaining evidence which may be needed to support a favorable determination.

b. Where an individual is a subject of an investigation for purpose 2c, above: Disclosure is voluntary, and if you do not provide the requested information, any determination as to whether you should be held pecuniarily liable for repayment of the Government's loss would be based on the other evidence in the investigative record, which possibly might not support a favorable determination.

c. Where the individual is a claimant or potential claimant in an investigation for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could prevent the investigation from obtaining sufficient information to substantiate any claim which you have made or may make against the Government as a result of the incident under investigation.

d. Where the individual was treated at Government expense for injuries caused by third parties in connection with a matter being investigated for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could result in a requirement for you to assign to the Government your medical care claims against third parties in connection with the incident, or authorize withholding of the records of your treatment in naval medical facilities.

e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

(b)(6)

X

SIGNATURE AND DATE

Comfort Suites

2005 Center Point Lane
Greenville, TX 75402
Phone:903-259-6343
Fax:903-259-6364

Fax

To: LCDR (b)(3), (b)(6) ,USN From: (b)(6) (NGC)

Fax: (b)(6) Pages: Cover + 2

Re: PRIVACY ACT CC: /

☐:Urgent ☐:For Review ☐:Please Comment ☐:Please Reply ☐:Please Recycle

- Comments:

Comfort Suites

2005 Center Point Lane
Greenville, TX 75402
Phone:903-259-6343
Fax:903-259-6364

Fax

To: LeDR (b)(3), (b)(6) From: (b)(6) (WGC)

Fax: (b)(6) Pages: Cover + 1

Re: Privacy Act pg 2 CC: ✓

☐:Urgent ☐:For Review ☐:Please Comment ☐:Please Reply ☐:Please Recycle

- Comments:

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
TAD from/to		Until (give dates)
No trips scheduled		(b)(6)
Whereabouts for next 30 days		Phone

I, (b)(6) , hereby make the following statement to Lieutenant Commander (b)(3), (b)(6)
(b)(3), (b)(6) U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

I swear (or affirm) that the information above and on the 1 attached page(s) is true to the best of my knowledge or belief.

(b)(6) _____ 6/21/12 (Date) 1046 Time

(b)(6)

is date.

(b)(6) COR _____ 21 Jun 2012 (Date) 1046 Time

ENCLOSURE (26)

Shortly after takeoff the aircraft gave a red actuator 40 fault followed by a red gnc 11 fault. The aircraft commander immediately called an emergency with ATC. He then tried to establish aircraft controllability while continuing his climb out to 25,000. While turning back towards the field we received a few yellow gnc 08 faults. Once we made the turn to come back and descend, we received more red gnc faults followed quickly by a red airdata 04 and a red airdata 07 in rapid succession. It was at this time that we lost our communication links with the aircraft in the MCE. I had determined at that point in time that the aircraft had in fact crashed. The entire process took roughly 15 minutes.

(b)(6)

(b)(6)

PRIVACY ACT STATEMENT

Name: (b)(6) Rank/Rate: Civilian

Command: Northrop Grumman Department: _____

Telephone number: (b)(6)

Today, 19 June, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

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b. Determinations on disciplinary or punitive action.

c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

f. Other determinations, as required, in the course of naval administration.

g. Public information releases.

h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

3. ROUTINE USES: In addition to being used within the Department of the Navy and Defense for the purpose(s) indicated above, records of investigations are routinely furnished, as appropriate, to the Department of Veterans Affairs for use in determinations concerning entitlement to veterans' and survivors' benefits; to Servicemen's Group Life Insurance administrators for determinations concerning payment of life insurance proceeds; to the U.S. General Accounting Office for purposes of determinations concerning relief of accountable personnel from liability for losses of public funds and related fiscal matters; and to the Department of Justice for use in litigation involving the Government. Additionally, such investigations are sometimes furnished to agencies of the Department of Justice and to State or local law enforcement and court authorities for use in connection with civilian criminal and civil court proceedings. The records of investigations are provided to agents and authorized representatives of persons involved in the incident, for use in legal or administrative matters. The records are provided to contractors for use in connection with settlements, adjudication, or defense of claims by or against the Government, and for use in design and evaluation of products, services, and systems. The records are also furnished to agencies of the Federal, State, or local law enforcement authorities, and regulatory authorities, for use in connection with civilian and military criminal, civil, administrative, and regulatory proceedings and actions.

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b. Where an individual is a subject of an investigation for purpose 2c, above: Disclosure is voluntary, and if you do not provide the requested information, any determination as to whether you should be held pecuniarily liable for repayment of the Government's loss would be based on the other evidence in the investigative record, which possibly might not support a favorable determination.

c. Where the individual is a claimant or potential claimant in an investigation for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could prevent the investigation from obtaining sufficient information to substantiate any claim which you have made or may make against the Government as a result of the incident under investigation.

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e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

(b)(6)

X _____ - 19 Jun 12

SIGNATURE AND DATE

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
TAD from/to		Until (give dates)
No trips scheduled		(b)(6)
Whereabouts for next 30 days		Phone

I, (b)(6) , hereby make the following statement to Lieutenant Commander (b)(3), (b)(6)
(b)(3), (b)(6) U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

(b)(6) and I went out the box (MCE) after the brief. (b)(6) set up the sensor station. Right after takeoff I saw the Actuator 40 fault. Shortly after the Actuator 40 fault I heard that the aircraft was going to come back. I went out and smoked a cigarette. When a came back I fielded a couple of calls from (b)(6) . Then we received a bunch of GNC and Air Data faults. It was after that that I heard that the plane was lost. I called (b)(6) to let him know what was going on. Then I got the Mishap binder ready for the pilots.

I swear (or affirm) that the information in the statement above is true to the best of my knowledge or belief.

(b)(6)

(Witness' Signature)		21 JUN 12 (Date)	0945 Time

(b)(6)

ate.

(b)(6)	LCDR	21 Jun 12 (Date)	0945 Time

ENCLOSURE (27)

PRIVACY ACT STATEMENT

Name:_ (b)(6) _____ Rank/Rate:_____.

Command: BAMS-D Department: OPS.

Telephone number:__ (b)(6) _____.

Today, 19JUN, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

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g. Public information releases.

h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

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e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

(b)(6)

X 19JUN12

SIGNATURE AND DATE

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
23 -30 June		
TAD from/to		Until (give dates)
Daytona, FL		(b)(6)
Whereabouts for next 30 days		Phone

I, (b)(6), hereby make the following statement to Lieutenant Commander (b)(6), U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

I was the Hawk Mobile driver. The brief was at 1000 and it was a normal brief for what the plan was. Nothing out of the ordinary. It was a training ride for me on the driving portion. I was at the aircraft about 1100 local. The walk around was complete about 1105. I was looking for the standard things; pressure bottles, static wicks, position of the ruddervater, the spoilers and ailerons. It was a pretty normal walk around.

Around 1115 they started engines. It was very smooth ground ops. Nothing out of the ordinary. Did an FTS check. Just checking to that all flight controls moved as they were supposed to . At 1150 aircraft taxied out. Had good brake check. Got takeoff clearance. Takeoff was pretty much on time as 1200 or a little after. For takeoff you're looking for the ruddervator to cock up at the pilots command. Everything worked as normal. Takeoff was normal. Last I saw the aircraft at about 3000 ft in a good climb. Then we exited the runway. About 15 minutes after takeoff, I heard radio declaring an emergency. About 25 minutes after takeoff, I heard pilot call mark tapes, the aircraft is uncontrollable.

I swear (or affirm) that the information above is true to the best of my knowledge or belief.

(b)(6) _____ 21 Jun 12 (Date) 1400 Time

(b)(6)

(b)(6) LCDR 21 June 2012 (Date) 1406 Time

(Investigator's Signature)

ENCLOSURE (28)

PRIVACY ACT STATEMENT

Name: (b)(6) Rank/Rate: Civilian

Command: Northrop Grumman Department:

Telephone number: (b)(6)

Today, 18 June 2012, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

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b. Determinations on disciplinary or punitive action.

c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

f. Other determinations, as required, in the course of naval administration.

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h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

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e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

X (b)(6) 18 June 2012

SIGN

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
		Until (give dates)
TAD from/to		
No trips scheduled		(b)(6)
Whereabouts for next 30 days		Phone

I, (b)(6), hereby make the following statement to Lieutenant Commander (b)(3), (b)(6) U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

I swear (or affirm) that the information above and on the 2 attached page(s) is true to the best of my knowledge or belief.

(b)(6) _____ 19 Jun 12 (Date) 1115 Time

(b)(6)

Swo e.

(Inves (b)(6) _____ 19 Jun 12 (Date) 1115 Time

ENCLOSURE (29)

On June 11, 2012 I arrived at work around 0500. I prepared to conduct the morning maintenance meeting which would include a launch event for aircraft N5 168739.

0600 Briefed the maintenance team to prep N5 for launch, to include mechanical and electrical preflight. I reviewed the flight folder and other maintenance records throughout the morning.

0945 Reviewed the flight folder again.

1000, Attended the flight brief with VTC operators, QA, Aircrew, Hawk mobile, L3, RES & RFC Field Support Representatives. Standard mission brief was conduct. Maintenance portion brief concluded at around 1015L.

Returned to office reviewed flight folder and verified Agile was clear.

1030 Directed maintenance team to tow the aircraft to starting point for a Runway 6 departure.

1040 Aircraft was on spot.

1045 Conducted FOD walk of launch spot, observed GSE equipment being stage in position and hooked up to the aircraft to prep for launch.

1050 Pilot completed aircraft walk around.

1055L Conduct Maintenance Safety and Launch brief.

1100 Pilot cleared VTC operator for Engine Start. Prelaunch checklist began at this time; engine start was at approximately 1108. The overall launch sequence was very smooth. The only anomaly noted was Green Fuel 27. Pilots, VTC operators concurred to continue with checklist. Checklist proceeded with no issues. Pilot called for Configuration read back was, read back was normal and concurred with by all. Taxi preps were smooth, all safety gear (down locks, Nose gear pin and chalks) were accounted. Pin Pull was good with a smooth transition. FTS checks were good. Aircraft ready for taxi. Mobile driver cleared taxi path. Aircraft taxied at approximately 1143. Once aircraft was straight on taxi way, brake check was initiated and executed smoothly. Aircraft powered up and continued taxi and was cleared to go on to runaway 06. Aircraft stopped once in position. Pilot hiked Nose Gear, no issues observed. Aircraft was cleared for launch, powered up and was airborne at 1151.

The entire launch event was very smooth and uneventful.

The Maintenance crew and I headed back to hangar 101, with support equipment in tow.

Approximately 1200 I heard pilot declare IFE for ruddervator problem. I arrived at hangar 101 at the same time.

I called (b)(6) NG site lead to see if he copied information. As I walked into the hangar, Pilot request to go to flight level 250 and advised he would be back on deck in about 25 minutes. I directed maintenance crew to get ready for an immediate recovery. Before the crew was headed out pilot advised the aircraft had departed controlled flight and was going down.

1206 aircraft was down.

Mishap plan was initiated at that point. All aircraft records/ logbooks and the VTC were put into my office. I directed QA to Lock N5 Agile account. All material was turned over to the PMA.

(b)(6)

PRIVACY ACT STATEMENT

Name: (b)(6) Rank/Rate: Deputy Site Lead

Command: Department:

Telephone number: (b)(6)

Today, 18 Jun 12, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

1. AUTHORITY: 5 U.S.C. 301; 10 U.S.C. 972, 1201-1221, 2733, 2734-2734b., 2737, 5013, 5031-5036, 5131-5150, 5947, 6148, 7205, 7622-7623; 28 U.S.C. 1346, 2671-2680; 31 U.S.C.240-243, 3521-3531, 3701-3702, 3717-3718; 37 U.S.C. 802; 38 U.S.C. 105; 42 U.S.C. 2651-2653; 44 U.S.C. 3101; 49 U.S.C. 1901.

2. PRINCIPAL PURPOSES. The information which will be solicited is intended principally and may be used for the following purposes:

a. Determinations on the status of personnel regarding entitlements to pay during disability, disability benefits, severance pay, retirement pay, increases of pay for longevity, survivor's benefits, involuntary extensions of enlistments, date of expiration of active obligated service, and accrual of annual leave.

b. Determinations on disciplinary or punitive action.

c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

f. Other determinations, as required, in the course of naval administration.

g. Public information releases.

h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

3. ROUTINE USES: In addition to being used within the Department of the Navy and Defense for the purpose(s) indicated above, records of investigations are routinely furnished, as appropriate, to the Department of Veterans Affairs for use in determinations concerning entitlement to veterans' and survivors' benefits; to Servicemen's Group Life Insurance administrators for determinations concerning payment of life insurance proceeds; to the U.S. General Accounting Office for purposes of determinations concerning relief of accountable personnel from liability for losses of public funds and related fiscal matters; and to the Department of Justice for use in litigation involving the Government. Additionally, such investigations are sometimes furnished to agencies of the Department of Justice and to State or local law enforcement and court authorities for use in connection with civilian criminal and civil court proceedings. The records of investigations are provided to agents and authorized representatives of persons involved in the incident, for use in legal or administrative matters. The records are provided to contractors for use in connection with settlements, adjudication, or defense of claims by or against the Government, and for use in design and evaluation of products, services, and systems. The records are also furnished to agencies of the Federal, State, or local law enforcement authorities, and regulatory authorities, for use in connection with civilian and military criminal, civil, administrative, and regulatory proceedings and actions.

4. MANDATORY/VOLUNTARY DISCLOSURE, CONSEQUENCES OF REFUSING TO DISCLOSE:

a. Where an individual is a subject of an investigation for purpose 2a or 2b, above: Disclosure is voluntary. You are advised that you are initially presumed to be entitled to have the [personnel determination] [disciplinary determinations] in paragraph 2, above, resolved in your favor, but the final determination will be based on all the evidence in the investigative record. If you do not provide the requested information, you will be entitled to a favorable determination if the record does not contain sufficient evidence to overcome the presumption in your favor. If the completed record does contain sufficient evidence to overcome the presumption in your favor, however, your election not to provide the requested information possible could prevent the investigation from obtaining evidence which may be needed to support a favorable determination.

b. Where an individual is a subject of an investigation for purpose 2c, above: Disclosure is voluntary, and if you do not provide the requested information, any determination as to whether you should be held pecuniarily liable for repayment of the Government's loss would be based on the other evidence in the investigative record, which possibly might not support a favorable determination.

c. Where the individual is a claimant or potential claimant in an investigation for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could prevent the investigation from obtaining sufficient information to substantiate any claim which you have made or may make against the Government as a result of the incident under investigation.

d. Where the individual was treated at Government expense for injuries caused by third parties in connection with a matter being investigated for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could result in a requirement for you to assign to the Government your medical care claims against third parties in connection with the incident, or authorize withholding of the records of your treatment in naval medical facilities.

e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

X (b)(6) 18 JUN 12

SIGI

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
TAD from/to		Until (give dates)
No trips scheduled		(b)(6)
Whereabouts for next 30 days		Phone

I, (b)(6), hereby make the following statement to Lieutenant Commander (b)(3), (b)(6), U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

I swear (or affirm) that the information above and on the 1 attached page(s) is true to the best of my knowledge or belief.

(b)(6) _____ 6/21/12 (Date) 0952 Time

(b)(6)

; date.

(b)(6) UOR 21 June 2012 (Date) 0952 Time

ENCLOSURE (30)

STATEMENT OF EVENTS

On June 11, 2012 I arrived to begin work at 0600. At 0600 my manager, (b)(6) , held a maintenance meeting and set maintenance priority for the day. We would be launching N5 at 1200 that day. (b)(6) and I began the electrical portion of the preflight inspection at 0630. We conducted our inspection up to battery change. We removed the batteries IAW technical publication data and obtained required (2 rated) batteries from the battery shop. Batteries were installed at approximately 0900. At this point the preflight inspection could continue. All data link keys were loaded by approximately 0930 by L3 with I at the VTC. Preflight inspection was complete at approximately 0945 IAW current technical publication data and there were no discrepancies noted during the preflight. At 1000, (b)(6) and I went to the before flight brief. Mission objectives, weather, ORM, and various other items were discussed during the brief. I was also given KU, IMARSAT, UHF line of sight, and CDL frequency/UCF information. I felt all involved understood their particular role during the launch evolution. At 1015 I completed all required preflight inspection paperwork and noted the mission plan number and checksum as it was given to me during the brief. At 1030 we towed the aircraft on spot to Runway 6 for our 1200 scheduled departure. I conducted my aircraft walk around prior to the pilot aircraft walk around. The aircraft was in good flying order with no discrepancies noted during my walk around. FOD walk down was complete at approximately 1045. All required support equipment was hooked up and I began the prelaunch checklist as a VTC Operator in training with (b)(6) as my instructor. My two-way radio was unable to communicate with the pilot in the LRE. As a result, I conducted relay operations through Hawk Mobile to the pilot as previously briefed during the mission briefing. The engine was started at approximately 1110 after the pilot had given permission to do so. The checklist was continued with one discrepancy. I had a Green Fuel 27 as indicated on my ECS1 page. My fuel load indicated that FS5 not empty box was not checked indicating that the aft fuselage tank was without fuel and was the proper indication for an approximate 11,000 pound fuel load. According to the technical publication, FS5 should remain unchecked until the aircraft reaches 12,000 pounds of fuel. (b)(6) and I looked up this discrepancy and we both agreed that this was a normal and safe CG condition to continue the launch checklist. This discrepancy was reported to the pilot that also concurred to continue. There were no other abnormalities during the launch checklist. Subsystem status and crosscheck was requested by the pilot. I indicated to him through Hawk Mobile that he had a green board with standard yellows. The checklist was continued and with CAMA WOW override and taxi preparations completed by me. The ground safety pin was removed by me as directed by the pilot. FTS checks were completed by the pilot and visually confirmed by me. I informed the pilot that all his flight control surfaces had reset and I passed full control of the aircraft to him. He acknowledged control. The aircraft

was airborne at approximately 1200. About 15 minutes later I heard over the radio the aircraft was coming back for a flight control malfunction. I heard Hawk Mobile over the radio attempt to obtain ATC clearance for an immediate landing on runway 32. Once back in the maintenance spaces, I heard the pilot inform ATC that he lost control of the aircraft and the aircraft was not responding to his commands. He asked ATC to mark the position and began calling out altitudes. We all knew the aircraft had crashed. Our managers (b)(6) and (b)(6) immediately ordered AGILE to be locked down and took custody of the VTC computer. These are the events that happened as I remember them to the best of my knowledge.

(b)(6)

Field Technician 4

Northrop Grumman

PRIVACY ACT STATEMENT

Name: (b)(6) Rank/Rate: CIV

Command: Northrop Grumman Department:

Telephone number: (b)(6)

Today, June 18, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

1. AUTHORITY: 5 U.S.C. 301; 10 U.S.C. 972, 1201-1221, 2733, 2734-2734b., 2737, 5013, 5031-5036, 5131-5150, 5947, 6148, 7205, 7622-7623; 28 U.S.C. 1346, 2671-2680; 31 U.S.C.240-243, 3521-3531, 3701-3702, 3717-3718; 37 U.S.C. 802; 38 U.S.C. 105; 42 U.S.C. 2651-2653; 44 U.S.C. 3101; 49 U.S.C. 1901.

2. PRINCIPAL PURPOSES. The information which will be solicited is intended principally and may be used for the following purposes:

a. Determinations on the status of personnel regarding entitlements to pay during disability, disability benefits, severance pay, retirement pay, increases of pay for longevity, survivor's benefits, involuntary extensions of enlistments, date of expiration of active obligated service, and accrual of annual leave.

b. Determinations on disciplinary or punitive action.

c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

f. Other determinations, as required, in the course of naval administration.

g. Public information releases.

h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

3. ROUTINE USES: In addition to being used within the Department of the Navy and Defense for the purpose(s) indicated above, records of investigations are routinely furnished, as appropriate, to the Department of Veterans Affairs for use in determinations concerning entitlement to veterans' and survivors' benefits; to Servicemen's Group Life Insurance administrators for determinations concerning payment of life insurance proceeds; to the U.S. General Accounting Office for purposes of determinations concerning relief of accountable personnel from liability for losses of public funds and related fiscal matters; and to the Department of Justice for use in litigation involving the Government. Additionally, such investigations are sometimes furnished to agencies of the Department of Justice and to State or local law enforcement and court authorities for use in connection with civilian criminal and civil court proceedings. The records of investigations are provided to agents and authorized representatives of persons involved in the incident, for use in legal or administrative matters. The records are provided to contractors for use in connection with settlements, adjudication, or defense of claims by or against the Government, and for use in design and evaluation of products, services, and systems. The records are also furnished to agencies of the Federal, State, or local law enforcement authorities, and regulatory authorities, for use in connection with civilian and military criminal, civil, administrative, and regulatory proceedings and actions.

4. MANDATORY/VOLUNTARY DISCLOSURE, CONSEQUENCES OF REFUSING TO DISCLOSE:

a. Where an individual is a subject of an investigation for purpose 2a or 2b, above: Disclosure is voluntary. You are advised that you are initially presumed to be entitled to have the [personnel determination] [disciplinary determinations] in paragraph 2, above, resolved in your favor, but the final determination will be based on all the evidence in the investigative record. If you do not provide the requested information, you will be entitled to a favorable determination if the record does not contain sufficient evidence to overcome the presumption in your favor. If the completed record does contain sufficient evidence to overcome the presumption in your favor, however, your election not to provide the requested information possible could prevent the investigation from obtaining evidence which may be needed to support a favorable determination.

b. Where an individual is a subject of an investigation for purpose 2c, above: Disclosure is voluntary, and if you do not provide the requested information, any determination as to whether you should be held pecuniarily liable for repayment of the Government's loss would be based on the other evidence in the investigative record, which possibly might not support a favorable determination.

c. Where the individual is a claimant or potential claimant in an investigation for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could prevent the investigation from obtaining sufficient information to substantiate any claim which you have made or may make against the Government as a result of the incident under investigation.

d. Where the individual was treated at Government expense for injuries caused by third parties in connection with a matter being investigated for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could result in a requirement for you to assign to the Government your medical care claims against third parties in connection with the incident, or authorize withholding of the records of your treatment in naval medical facilities.

e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

X (b)(6) 6/22/12

SIGNA

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
		Until (give dates)
TAD from/to		(b)(6)
No trips scheduled		
Whereabouts for next 30 days		Phone

I, (b)(6) hereby make the following statement to Lieutenant Commander (b)(3), (b)(6) U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

I swear (or affirm) that the information above and on the 1 attached page(s) is true to the best of my knowledge or belief.

(b)(6) _____ 21 June 2012 (Date) 0945 Time
(Witness' Signature)

(b)(6)

e.

(b)(6) COR _____ 21 June 2012 (Date) 0946 Time

ENCLOSURE (31)

Statement of events at NAS Pax River 11 June 2012

(b)(6) – Vehicle Test Controller (VTC)

I arrived for work at 0600 and started setting up equipment for electrical preflight (b)(6) and (b)(6) performed the VTC functions pre-flighting IMMC A and B . 0830 (b)(6) and I went and picked up the flight batteries from the shop and installed them in the jet. Approximately 0915 completed electrical preflight. Loaded crypto keys into the jet with L-3. At 1000 (b)(6) and I attended the scheduled flight brief.

After brief, we towed aircraft (@1030) and equipment to launch spot for runway 06 and set up equipment. Pilot completed his walk around. This was a training launch for (b)(6) and I was observing over the shoulder. Shortly after 1100 we commenced power up of the aircraft and then engine start. We received a green fuel 27 indication. I checked the known issues table in the Tech Orders which stated FS5 should be checked with 12000 lbs of fuel on board, we had 11,398. and FS5 was unchecked. I had (b)(6) relay this information to the pilot. We continued and set up links with shelter, all normal links were established. (b)(6) completed the configuration call out with the pilot. The Air vehicle manager page was showing all green systems (with standard yellows). This was relayed to the pilot when he called for subsystem status. After CAMA WoW, the pilot called for taxi prep, which was completed. Standing by for pin pull I verified with (b)(6) that we had "A" indicated for vehicle status, and after pin pull it transitioned to "6". The area was cleared for wideband power up and the (b)(6) completed FTS checks and turned the aircraft over to the pilot for taxi. We watched the aircraft taxi and takeoff, then loaded up and headed for our hanger. Upon arrival at the Hanger we overheard on the radio a call for emergency landing. We unhooked equipment and prepared for landing recovery. Shortly after 1200 ,we heard the aircraft had crashed. We started post event procedures. secured and accounted for tooling and aircraft equipment.

(b)(6)

21 June 2012

PRIVACY ACT STATEMENT

Name: (b)(6) Rank/Rate: Civ / Contractor

Command: Northrop Grumman Department: Navy

Telephone number: (b)(6)

Today, 21 June, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

1. AUTHORITY: 5 U.S.C. 301; 10 U.S.C. 972, 1201-1221, 2733, 2734-2734b., 2737, 5013, 5031-5036, 5131-5150, 5947, 6148, 7205, 7622-7623; 28 U.S.C. 1346, 2671-2680; 31 U.S.C.240-243, 3521-3531, 3701-3702, 3717-3718; 37 U.S.C. 802; 38 U.S.C. 105; 42 U.S.C. 2651-2653; 44 U.S.C. 3101; 49 U.S.C. 1901.

2. PRINCIPAL PURPOSES. The information which will be solicited is intended principally and may be used for the following purposes:

a. Determinations on the status of personnel regarding entitlements to pay during disability, disability benefits, severance pay, retirement pay, increases of pay for longevity, survivor's benefits, involuntary extensions of enlistments, date of expiration of active obligated service, and accrual of annual leave.

b. Determinations on disciplinary or punitive action.

c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

f. Other determinations, as required, in the course of naval administration.

g. Public information releases.

h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

3. ROUTINE USES: In addition to being used within the Department of the Navy and Defense for the purpose(s) indicated above, records of investigations are routinely furnished, as appropriate, to the Department of Veterans Affairs for use in determinations concerning entitlement to veterans' and survivors' benefits; to Servicemen's Group Life Insurance administrators for determinations concerning payment of life insurance proceeds; to the U.S. General Accounting Office for purposes of determinations concerning relief of accountable personnel from liability for losses of public funds and related fiscal matters; and to the Department of Justice for use in litigation involving the Government. Additionally, such investigations are sometimes furnished to agencies of the Department of Justice and to State or local law enforcement and court authorities for use in connection with civilian criminal and civil court proceedings. The records of investigations are provided to agents and authorized representatives of persons involved in the incident, for use in legal or administrative matters. The records are provided to contractors for use in connection with settlements, adjudication, or defense of claims by or against the Government, and for use in design and evaluation of products, services, and systems. The records are also furnished to agencies of the Federal, State, or local law enforcement authorities, and regulatory authorities, for use in connection with civilian and military criminal, civil, administrative, and regulatory proceedings and actions.

4. MANDATORY/VOLUNTARY DISCLOSURE, CONSEQUENCES OF REFUSING TO DISCLOSE:

a. Where an individual is a subject of an investigation for purpose 2a or 2b, above: Disclosure is voluntary. You are advised that you are initially presumed to be entitled to have the [personnel determination] [disciplinary determinations] in paragraph 2, above, resolved in your favor, but the final determination will be based on all the evidence in the investigative record. If you do not provide the requested information, you will be entitled to a favorable determination if the record does not contain sufficient evidence to overcome the presumption in your favor. If the completed record does contain sufficient evidence to overcome the presumption in your favor, however, your election not to provide the requested information possible could prevent the investigation from obtaining evidence which may be needed to support a favorable determination.

b. Where an individual is a subject of an investigation for purpose 2c, above: Disclosure is voluntary, and if you do not provide the requested information, any determination as to whether you should be held pecuniarily liable for repayment of the Government's loss would be based on the other evidence in the investigative record, which possibly might not support a favorable determination.

c. Where the individual is a claimant or potential claimant in an investigation for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could prevent the investigation from obtaining sufficient information to substantiate any claim which you have made or may make against the Government as a result of the incident under investigation.

d. Where the individual was treated at Government expense for injuries caused by third parties in connection with a matter being investigated for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could result in a requirement for you to assign to the Government your medical care claims against third parties in connection with the incident, or authorize withholding of the records of your treatment in naval medical facilities.

e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

X (b)(6) 21 June 2012

SIGNATURE AND DATE

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
		Until (give dates)
TAD from/to		(b)(6)
No trips scheduled		Phone
Whereabouts for next 30 days		

I, (b)(6), hereby make the following statement to Lieutenant Commander (b)(6) U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

I swear (or affirm) that the information above and on the 1 attached page(s) is true to the best of my knowledge or belief.

(b)(6) 6/21/12 0945

(Witness' Signature) (Date) Time

(b)(6)

his date.

(b)(6) LCDR 21 Jun 2012 0945

(Date) Time

ENCLOSURE (32)

I (b)(6) on 11 June 2012 arrived at work at 0545 to prepare for aircraft pre flights. Started with fuel samples and density checks and began mechanical pre flights which involves in visual of aircraft components and all fluid checks. After completion we began set up for aircraft tow. I assisted on transporting GSE gear to aircraft launch site for preparation. Began towing aircraft around 1030 and had aircraft on spot about 1040. Assisted in hooking GSE gear to aircraft and performed FOD check of area. We were cleared for engine start at 1100 and proceeded to start engine. After start we disconnected all GSE gear and stowed equipment to the side and began with our mechanical walk around. We completed our walk around and prepped for aircraft taxi. After given the ok from the VTC in charge we removed down locks and chalks. Aircraft taxied onto runway and after nose hike, aircraft powered up and took off with no discrepancies noted. Upon return to hanger we were notified of a possible RTB so we began to prep tug and truck for an aircraft recovery. After roughly 15 minutes later we were notified that the aircraft had gone down .

(b)(6)

PRIVACY ACT STATEMENT

Name: (b)(6) Rank/Rate: CIV

Command: GHMS Department: _____

Telephone number: (b)(6)

Today, 18 June, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

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c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

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b. Where an individual is a subject of an investigation for purpose 2c, above: Disclosure is voluntary, and if you do not provide the requested information, any determination as to whether you should be held pecuniarily liable for repayment of the Government's loss would be based on the other evidence in the investigative record, which possibly might not support a favorable determination.

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(b)(6)

X _____ 6/18/12

SIGNATURE AND DATE

VOLUNTARY WITNESS STATEMENT

(b)(6)	Civ	(b)(6)
Name	Rank/Rate	Social Security Number
NORTHROP GRUMMAN		
Command		Division
21 July- 21 November		
TAD from/to		Until (give dates)
Forward Operating Location		(b)(6)
Whereabouts for next 30 days		Phone

I, (b)(6) , hereby make the following statement to Lieutenant Commander (b)(3), (b)(6) , U.S. Navy, who has identified himself as the Investigating Officer for Patrol and Reconnaissance Wing Two, Marine Corps Base Kaneohe Bay, Hawaii.

I swear (or affirm) that the information above and on the 1 attached page(s) is true to the best of my knowledge or belief.

(b)(6) _____ 21 JUNE 12 (Date) 0950 Time

(b)(6)

te.

(b)(6) USN _____ 21 June 12 (Date) 0950 Time

ENCLOSURE (33)

I arrived at about 0545 Monday morning and we had a flight set up for 1200. So we started to prep aircraft for flight (preflight, remove covers and fuel samples). After finding out it was going to be a runway 6 launch (b)(6) and I pre positioned the nc -10 (power cart) after returning to the hanger it was about time to tow aircraft so we towed the plane down to the old hi-power turn up area and set it up for launch. After aircraft was started up and we where given the sign that it was safe to approach I started my walk around on the left side of the aircraft and worked my way around and back to where I started while nathen started on the right side and worked his way around. So we have 2 people looking at everything. Then we waited till given the sign to remove down locks and remove chocks. After the aircraft launched we headed back to the hanger then we found out that it was going to RTB but It never did.

(b)(6)

(b)(6)

PRIVACY ACT STATEMENT

Name: (b)(6) Rank/Rate: CIV

Command: AJGC Department: MAINTENANCE

Telephone number: (b)(6)

Today, 18 JUNE, 2012, I acknowledge that I have received the following advisement under the guidelines of the Privacy Act.

This statement is provided in compliance with the provisions of the Privacy Act of 1974 (PublicLaw 93-579) which requires that Federal agencies must inform individuals who are requested to furnish personal information about themselves as to certain facts regarding the information requested below.

1. AUTHORITY: 5 U.S.C. 301; 10 U.S.C. 972, 1201-1221, 2733, 2734-2734b., 2737, 5013, 5031-5036, 5131-5150, 5947, 6148, 7205, 7622-7623; 28 U.S.C. 1346, 2671-2680; 31 U.S.C.240-243, 3521-3531, 3701-3702, 3717-3718; 37 U.S.C. 802; 38 U.S.C. 105; 42 U.S.C. 2651-2653; 44 U.S.C. 3101; 49 U.S.C. 1901.

2. PRINCIPAL PURPOSES. The information which will be solicited is intended principally and may be used for the following purposes:

a. Determinations on the status of personnel regarding entitlements to pay during disability, disability benefits, severance pay, retirement pay, increases of pay for longevity, survivor's benefits, involuntary extensions of enlistments, date of expiration of active obligated service, and accrual of annual leave.

b. Determinations on disciplinary or punitive action.

c. Determinations on liability of personnel for losses of, or damage to, public funds or property.

d. Evaluation of petitions, grievances, and complaints.

e. Adjudication, pursuit, or defense of claims for or against the Government or among private parties.

f. Other determinations, as required, in the course of naval administration.

g. Public information releases.

h. Evaluation of procedures, operations, material, and designs by the Navy and contractors, with a view to improving the efficiency and safety of the Department of the Navy.

3. ROUTINE USES: In addition to being used within the Department of the Navy and Defense for the purpose(s) indicated above, records of investigations are routinely furnished, as appropriate, to the Department of Veterans Affairs for use in determinations concerning entitlement to veterans' and survivors' benefits; to Servicemen's Group Life Insurance administrators for determinations concerning payment of life insurance proceeds; to the U.S. General Accounting Office for purposes of determinations concerning relief of accountable personnel from liability for losses of public funds and related fiscal matters; and to the Department of Justice for use in litigation involving the Government. Additionally, such investigations are sometimes furnished to agencies of the Department of Justice and to State or local law enforcement and court authorities for use in connection with civilian criminal and civil court proceedings. The records of investigations are provided to agents and authorized representatives of persons involved in the incident, for use in legal or administrative matters. The records are provided to contractors for use in connection with settlements, adjudication, or defense of claims by or against the Government, and for use in design and evaluation of products, services, and systems. The records are also furnished to agencies of the Federal, State, or local law enforcement authorities, and regulatory authorities, for use in connection with civilian and military criminal, civil, administrative, and regulatory proceedings and actions.

4. MANDATORY/VOLUNTARY DISCLOSURE, CONSEQUENCES OF REFUSING TO DISCLOSE:

a. Where an individual is a subject of an investigation for purpose 2a or 2b, above: Disclosure is voluntary. You are advised that you are initially presumed to be entitled to have the [personnel determination] [disciplinary determinations] in paragraph 2, above, resolved in your favor, but the final determination will be based on all the evidence in the investigative record. If you do not provide the requested information, you will be entitled to a favorable determination if the record does not contain sufficient evidence to overcome the presumption in your favor. If the completed record does contain sufficient evidence to overcome the presumption in your favor, however, your election not to provide the requested information possible could prevent the investigation from obtaining evidence which may be needed to support a favorable determination.

b. Where an individual is a subject of an investigation for purpose 2c, above: Disclosure is voluntary, and if you do not provide the requested information, any determination as to whether you should be held pecuniarily liable for repayment of the Government's loss would be based on the other evidence in the investigative record, which possibly might not support a favorable determination.

c. Where the individual is a claimant or potential claimant in an investigation for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could prevent the investigation from obtaining sufficient information to substantiate any claim which you have made or may make against the Government as a result of the incident under investigation.

d. Where the individual was treated at Government expense for injuries caused by third parties in connection with a matter being investigated for purpose 2e, above: Disclosure is voluntary, but refusal to disclose the requested information could result in a requirement for you to assign to the Government your medical care claims against third parties in connection with the incident, or authorize withholding of the records of your treatment in naval medical facilities.

e. In any other case: Disclosure is voluntary, and if you do not provide the requested information, and determinations or evaluations made as a result of the investigation will be made on the basis of the evidence that is contained in the investigative record.

(b)(6)

18 June 12

1.4 WARNINGS, CAUTIONS, AND NOTES

The following definitions apply to WARNINGs, CAUTIONs, and Notes found throughout this instruction.

WARNING

Explanatory information about an operating procedure practice, or condition, etc., that may result in injury or death if not carefully observed or followed.

CAUTION

Explanatory information about an operating procedure, practice, or condition, etc., that may result in damage to equipment if not carefully observed or followed.

Note

Explanatory information about an operating procedure, practice, or condition, etc., that must be emphasized.

1.5 WORDING

The concept of word usage and intended meaning that has been adhered to in preparing this instruction is as follows:

a. "Shall" has been used only when application of a procedure is mandatory.

b. "Should" has been used only when application of a procedure is recommended.

c. "May" and "need not" have been used only when application of a procedure is optional.

d. "Will" indicates futurity and never indicates any degree of requirement for application of a procedure.

e. "Land Immediately" is self-explanatory.

f. "Land as Soon as Possible" means land at the first site at which a safe landing can be made.

g. "Land as Soon as Practicable" means extended flight is not recommended, the landing site and duration of flight is at the discretion of the PIC.

ENCLOSURE (34)

d. Authority is delegated to COMNAVAIRSYSCOM, to approve flights in COMNAVAIRSYSCOM aircraft or in contractor custody.

3.1.4 Personnel Authorized To Taxi Naval Aircraft

3.1.4.1 Fixed Wing

No one shall be permitted to taxi an aircraft except persons authorized to fly the aircraft or those specifically designated by their commanding officer as taxi pilots after appropriate training or checkout.

3.1.4.2 Helicopter

No one shall be permitted to taxi a helicopter except those persons who are authorized to fly helicopters.

3.1.4.3 Tiltrotor

No one shall be permitted to taxi a tiltrotor except those persons who are authorized to fly tiltrotors.

3.1.5 Personnel Authorized To Perform Crew Duties in Naval Aircraft

Note

Requests for authorization required by the following subparagraphs shall be forwarded sufficiently in advance to allow for staffing through the chain of command prior to the proposed flight.

3.1.5.1 Military Personnel

Regular and Reserve military personnel under orders by competent authority to active duty or active duty for training who are qualified in accordance with current directives are authorized as flightcrew or flightcrew under training.

3.1.5.2 Civilian Personnel

a. DoD civilian employees, and contractors to DoD are authorized as flightcrew when required in conjunction with assigned duties or contractual responsibilities. Point-to-point transportation is not authorized under this paragraph.

b. Authority to approve flights for civilian personnel is delegated to the CMC, COMNAVAIRFOR, Commander, U.S. Pacific Fleet (COMPACFLT), Commander, Fleet Forces Command (COMUSFLTFORCOM), COMUSNAVEUR, COMUSNAVCENT, COMUSNAVSO, COMNAVAIRSYSCOM, and COMNAVRESFOR for aircraft under their respective control. This authority may be delegated to numbered fleet commanders and TYCOMs with operational/administrative control.

Note

Civilian personnel authorized in accordance with this paragraph shall comply with the aeromedical and survival training requirements set forth in paragraph 8.4 of this instruction. Contractor flightcrews governed by reference (j) shall meet the requirements of that instruction.

3.1.5.3 Foreign Military Personnel

Subject to security provisions in existing directives, physically and professionally qualified personnel of foreign nations may be authorized to perform crew duties in naval aircraft that is in the best interest of official DoD business. Embarkation may be authorized for the purpose of performing a crew duty such as operating installed equipment or observing aircraft or crew performance. Foreign military personnel must possess proper base or installation visitation authorization.

3.1.6 Personnel Authorized as Project Specialists

a. CMC, COMNAVAIRFOR, COMPACFLT, COMUSFLTFORCOM, COMUSNAVEUR, COMUSNAVCENT, COMUSNAVSO, COMNAVAIRSYSCOM, and COMNAVRESFOR may authorize military personnel, DoD civilian employees, and contractors to DoD embarkation as project specialists when required in conjunction with assigned duties or contractual responsibilities. Point-to-point transportation is not authorized under this paragraph. Project specialists are not responsible for normal aircrew duties.

b. Authority to waive NASTP requirements for project specialists is delegated to COMNAVAIRSYSCOM for aircraft under its control. Decisions to waive shall be based on the risks identified through a thorough ORM analysis. Under no circumstances shall NASTP ejection seat training requirements be waived.

3.2 POLICY CONCERNING USE OF SIMULATORS

a. Naval aviation simulators, simulation systems, and networks augment the Training and Readiness (T&R) Program. These training devices and networks shall provide the level of fidelity and capability required to execute T&R events designated to be flown in such devices.

b. These simulation systems and the network on which they operate will be certified T&R Program Manual capable for each aviation community by the appropriate certification body as designated in Navy and Marine Corps directives and orders.

3.3 ORIENTATION FLIGHTS

This section establishes policy, procedures, and approval authority for orientation flights and implements DoD guidance set forth in reference (k).

b. Flight time remaining in current configuration and operating conditions.

c. Mission considerations.

d. Status of systems including any UAS problems or discrepancies.

e. Communications (current and expected).

f. Supporting element information.

14.3.3 Non-Participating Personnel

All personnel regardless of rank or authority shall minimize interacting with and avoid distracting UASCs actively engaged in UAS flight operations. Every effort shall be made to avoid any UASC being directed to vacate the MCS during UAS operations without a proper relief.

14.3.4 Functional Checkflights (FCFs)

The requirements for FCFs are contained in NAVAIRFORINST 4790.2. Unit commanders shall ensure compliance with the following requirements for UAS FCFs.

14.3.4.1 FCF Crew Composition

FCF procedures may require that additional personnel monitor critical systems and evolutions. UACs/AVOs shall be qualified in accordance with the applicable UAS NATOPS T/M/S flight manual to conduct FCFs.

14.3.4.2 FCF Location and Weather Criteria

FCFs shall be conducted in flight conditions (weather, VMC/IMC, GPS availability, etc) appropriate with standard operation of the UA. All evolutions shall be conducted to maximize control links and onboard vehicle navigation capabilities (the intent is to avoid loss of link or losing critical navigation systems e.g., GPS). Those portions of the flights that are considered critical shall be conducted in the vicinity of the launch location or a suitable recovery area. Consideration should be given to performing the FCF in segregated airspace as defined by the appropriate controlling authority.

14.4 FLIGHT AUTHORIZATION AND PLANNING

14.4.1 Requirement for Flight Authorization

A Naval UAS shall not be operated by any person unless authorized by the reporting custodian, unit commander, or a delegated authority exercising control over the UAS concerned.

14.4.1.1 Authorization for UAS Flight Operations (Flight Schedule)

Authorization for a Naval UAS flight or a series of UAS flights shall be published by the unit commander on a flight schedule or other similar directive signed by the unit commander or their delegated authority.

a. UAS Groups 1 through 5. Information published for each scheduled event shall include the following elements:

(1) UAS T/M/S to be flown

(2) Designation of each UAC or AVO.

(3) Names of UASC(s).

(4) Planned operating areas/restricted operating areas as applicable.

(5) Intended date(s) and time(s) of ETDs, and ETEs or ETAs.

b. Groups 3 through 5. Information published for each scheduled event shall include the following additional elements:

(1) Total Mission Requirement Code (TMR).

(2) Place(s) of departure and intended landing.

(3) Designation of the UMC, UAC and/or AVO as appropriate.

(4) Applicable COA with title and end date if required.

14.4.2 UAS Flightcrew Requirements

14.4.2.1 UAS Flightcrew Qualifications

Prior to authorizing a UAS flight, commanders shall ensure that person(s) designated to perform UASC duties are, in all respects, qualified to control the specific UAS T/M/S and that flightcrew currency requirements have been met.

14.4.2.2 Unmanned Aircraft System Commander Requirement

A designated UAC shall be present at the MCS from takeoff to landing for all UAS flights. The qualified UAC shall also be present at the MCS anytime there is intent for flight as defined in the T/M/S operating manual. Whenever a non-designated UAC (e.g., during initial training) is in physical control of the UAS during flight, the designated UAC shall be prepared to assume physical control of the UAS if necessary.

14.4.2.3 UAS Crewmember Requirements

The UAS T/M/S NATOPS Model Manager shall specify the minimum crewmember requirements for each UAS flight. Commanders shall ensure that each UAS flight has UASCs assigned who are qualified for both UAS model and mission. General requirements for specific crew duties can be found in paragraph 14.12 of this document. Standard UAS crewmember position titles that span all UAS groups and models include the following.

a. UAS Commander (UAC). See definition in 14.3.1.1

b. Air Vehicle Operator (AVO). The person who has been trained, qualified and properly designated as an AVO, is physically located at a UAS MCS, and in positive control of the UA.

c. Mission Payload Operator (MPO). The person who has been trained, qualified, and properly designated to control the payload of a UAS. The payload may include a sensor package and/or a weapon system on the assigned UA(s).

APPENDIX D

Total Mission Requirement (TMR) Codes

D.1 PURPOSE

This appendix contains the Total Mission Requirement (TMR) Codes required for entry into the OPNAV 3710/4 Naval Aircraft Flight Records (NAVFLIR) subsystem and air crewmember's OPNAV 3760/31 Aviators Flight Log Book addressed in chapter 10.

D.2 NAVAL AIRCRAFT/SIMULATOR FLIGHT CLASSIFICATION SYSTEM

D.2.1 Primary Source

The TMR codes set forth in this appendix supersede the flight purpose codes (FPCs) of previous editions. TMR codes cover a full range of flight operations from training (including simulators) to combat. The TMR code is developed from a three-character code matrix with the first character representing the flight purpose, the second character representing the general purpose, and the third character representing the specific purpose. The definition of assigned TMR codes is outlined below. This instruction is the primary source of TMR codes and all personnel using these codes shall be made aware of the existence of this source. The OPNAV 3710/4 provides space to document as many as three missions and their associated times for one flight.

D.2.2 Deviation

No variations from the classifications specified herein are to be made without OPNAV (N88) approval.

D.3 APPLICABILITY OF THE TOTAL MISSION REQUIREMENT CODES

TMR codes apply to all flight personnel, aircraft, and approved simulators. They should reflect the primary purpose for the flight regardless of varying purposes particular individuals have for being aboard.

D.4 CLASSIFICATION OF TOTAL MISSION REQUIREMENT CODES

D.4.1 Purpose of Flight

The purpose of flight by naval aviators/naval aircraft or approved simulators shall be described by a three-character code in the following sequence:

a. The first position of the TMR is the FPC and denotes the type of operation.

(1) Training flights conducted for the purpose of training (both individual and as a crew) to maintain or improve the readiness of the activity to perform its assigned mission.

(2) Support Services. Flights conducted in support of an assigned mission including tests, logistics, SAR, troop transports, etc., either independently or as part of a squadron function.

(3) Operations. Navy flights conducted in support of operational tasking not specifically designated as contingency operations.

(4) FMF Operations. Marine flights conducted as part of an exercise while deployed with a battle group or task force.

(5) Contingency Flights. Flights conducted in support of contingency operations as delineated by the TYCOM.

(6) Combat Flights. Combat flights shall be used only for aircraft and by units specifically designated by competent authority as being in combat status. This rule shall be strictly followed even though a combatant incident did occur or was likely to occur on the flight (i.e., fired upon by unfriendly forces, search for or detection of unfriendly submarine, flight over or near areas where it is prudent to anticipate hostile action against the aircraft, etc.).

(7) Exercise Flights. Flights conducted as part of an authorized fleet exercise as designated by the battle group or TYCOM.

b. The second position of the TMR is the GPC and denotes the general purpose of the flight. GPCs N and O will be used to document aborts and/or cancellations and may be used with FPCs 1 through 7.

(1) FPC 1 only GPCs of A through I, P, or R can be used.

(2) FPC 2 must be used with GPCs of J through R.

(3) FPCs 3 through 7 must be used with GPCs S through Z.

c. The third position of the TMR is the specific purpose code (SPC) and denotes the specific purpose of the flight.

D.5 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS A THROUGH I (TRAINING FLIGHTS)

D.5.1 GPCs

GPCs for training flights (A through I) are used as follows:

a. Use code A if the flight is for training, exercises, or simulated operations conducted by a fleet/FMF/air reserve squadron or unit (nontraining command) to which the pilot is attached when such flight maintains or advances the ability of the squadron or unit to perform the mission for which organized. May be used for flights by training command personnel that do not properly fall under codes C through I.

b. Use code B if flight is for syllabus training of a designated naval aviator undergoing formal instructor training (IUT).

c. Use code C within air commands for pilots assigned thereto when locally imposed requirements for a particular kind of flying are necessary to prepare for satisfactory performance within the command.

Note

When a pilot flies with a squadron or other unit whose primary mission is carried out by the flight of aircraft, he/she may consider himself/herself an integral part of that unit. If he/she makes a flight that maintains or advances the ability or readiness of the unit to perform its assigned mission, the purpose of the flight is unit training (code A), and the effect on individual proficiency is irrelevant.

d. Use code D, E, F, or G for flights by Navy and Marine Corps aircrew attached to units of CNATRA (excluding reserves) and FRSs as required or provided by training command training syllabus.

(1) Use code D if flight is for syllabus training of a SNA undergoing formal training to become a designated naval aviator.

(2) Use code E if flight is for syllabus training of a designated naval aviator undergoing formal training.

(3) Use code F if flight is for syllabus training of a designated naval aviator when the purpose of the flight does not support a formal training syllabus (i.e., standardization evaluations, instrument checks, or attaining minimum annual flying requirements).

(4) Use code G if flight is for special training (including crew training) for completion of a nonpilot training syllabus (i.e., NFO, AI, midshipmen, student FS training).

e. Use code H or I for training of nonnaval personnel.

(1) Use code H if flight is for the purpose of training, familiarization, or proficiency of personnel of other services of the United States (i.e., Air Force, Army, Coast Guard).

(2) Use code I if flight is for the purpose of training, familiarization, or proficiency of personnel of foreign countries.

D.5.2 SPCs

SPCs to be used with GPCs A through I are listed below. Codes A through I must always be followed by one of the number codes listed below, selecting the code denoting the primary type of training (if syllabus flight, the most advanced requirement being met; if nonsyllabus flight, that on which most effort was spent). In any case, the character following codes A through I shall always refer to the following list:

1 – Fundamentals – Familiarization, aerobatics, formation, cross-country, navigation, etc.

2 – Instrument – General instrument or all-weather, when principal objective of flight.

3 – Field carrier landing practice.

4 – Carrier qualification.

5 – Transition Jet, VP, VR, helicopter, etc.

6 – Air combat intercept, fighter escort, air-to-air gunnery, etc.

7 – Attack – Surface targets; bomb, rocket, torpedo, etc.; non-USW.

8 – Antisubmarine – Patrol, search, escort, attack, minelaying, etc.

9 – Special equipment – AEW, ECM, AMCM, photo, etc.

10 – Unsatisfactory syllabus.

D.6 GENERAL/SPECIFIC PURPOSE OF FLIGHT CODE COMBINATIONS J THROUGH R (SERVICE FLIGHTS)

D.6.1 SPCs To Be Used With GPCs J and K for Service Flights

J1 – Those ferry flights funded from the fleet ferry fund managed by the respective TYCOM. Reporting custodians shall ascertain from the controlling custodian under what circumstances the flight categories apply.

J2 – Those ferry flights funded from other sources (i.e., unit operating budgets, allotments, etc.).

K1 – Those functional checkflights funded from the fleet ferry fund managed by the respective TYCOM. Reporting custodians shall ascertain from the controlling custodian under what circumstances the flight categories apply.

K2 – Those functional checkflights funded from other sources (i.e., unit operating budgets, allotments, etc.).

K3 – Functional checkflight observer.

K4 – Bogey in support of other aircraft.

K5 – Bogey in support of ground units.

K6 – Bogey in support of ship operations.

K7 – Flying qualities or performance evaluation of aircraft.

K8 - Accelerated service test or propulsion system evaluation.

K9 – Navigation, weapons, or electronic warfare evaluation.

K0 – Carrier suitability or dynamic interface evaluation.

Sort By: Default Report

Keyword Sort:

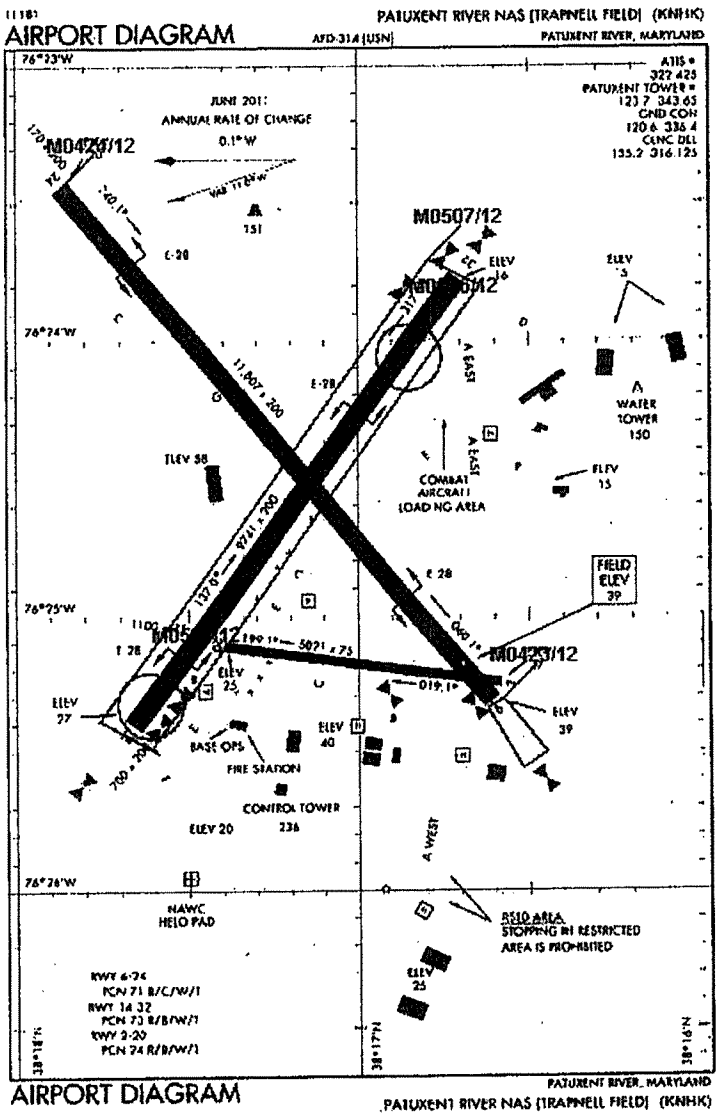
Locations:

- **KNHK, KWAL**

Data Current as of: Mon, 11 Jun 2012 12:31:00 GMT

KNHK PATUXENT RIVER NAS/TRAPNELL FIELD/

Data Current as of: Mon, 11 Jun 2012 12:31:00 GMT



Effective 31 MAY 2012 thru 27 JUN 2012

M0508/12 - GLOBAL HAWK UNMANNED AERIAL VEHICLE WILL BE CONDUCTING FLIGHT OPERATIONS FROM NAS PATUXENT RIVER 1600Z TO 2000Z. GHMD WILL CLIMB AND OPERATE WITHIN THE ADJACENT RESTRICTED AREAS (4006/7/8) TO FL510

ENCLOSURE (36)

AND ABOVE. UPON COMPLETION OF MISSION, GHMD WILL DESCEND WITHIN THE RESTRICTED AREAS TO LAND AT NAS PATUXENT RIVER. 11 JUN 16:00 2012 UNTIL 11 JUN 20:00 2012. CREATED: 08 JUN 20:28 2012

M0507/12 - RUNWAY CLOSED. RUNWAY 14 CLOSED FOR EQUIPMENT ON THE RUNWAY. 11 JUN 13:00 2012 UNTIL 11 JUN 20:00 2012. CREATED: 08 JUN 20:25 2012

M0506/12 - THRESHOLD DISPLACED. RWY 32 SHIP SUITABILITY FLIGHT TESTING SCHEDULED FROM 1300Z TO 2000Z. RELOCATED THRESHOLD IN EFFECT. 8100FT REMAINING, THE FIRST 1630FT CLOSED EXCEPT FOR MK-7 OPERATIONS. PRACICE APPROACHES WILL BE ON A WORKLOAD PERMITTING BASIS. 11 JUN 13:00 2012 UNTIL 11 JUN 20:00 2012. CREATED: 08 JUN 20:22 2012

M0504/12 - OPTICAL LANDING SYSTEM COMPLETELY WITHDRAWN. FRESNEL LENS ON RWY 14 OTS. 08 JUN 12:35 2012 UNTIL 11 JUN 16:00 2012. CREATED: 08 JUN 12:37 2012

M0424/12 - RUNWAY CENTERLINE LIGHTS OTS RWY 06. 11 MAY 12:15 2012 UNTIL 09 AUG 12:15 2012. CREATED: 11 MAY 12:12 2012

M0423/12 - SEQUENCED FLASHING LIGHTS OTS RUNWAY 6. 11 MAY 12:10 2012 UNTIL 09 AUG 12:10 2012. CREATED: 11 MAY 12:08 2012

FDC 2/1504 - PATUXENT RIVER NAS AUTOMATIC DEPENDENT SURVEILLANCE, ESSENTIAL SERVICE BROADCAST.
EFFECTIVE FEBRUARY 29, 2012. THE FEDERAL AVIATION ADMINISTRATION (FAA) HAS ADOPTED TWO ADS-B DATA LINKS: 1090 MHZ EXTENDED SQUITTER (1090ES) AND 978 MHZ UNIVERSAL ACCESS TRANSCEIVER (UAT). THE TWO LINKS OPERATE SIMILARLY AND SUPPORT TRAFFIC INFORMATION SERVICE-BROADCAST (TIS-B). ADDITIONALLY, THE UAT LINK SUPPORTS FLIGHT INFORMATION SERVICE- BROADCAST (FIS-B). TIS-B SERVICE WILL BE AVAILABLE THROUGHOUT THE NATIONAL AIRSPACE SYSTEM (NAS) WHERE THERE ARE BOTH ADEQUATE SURVEILLANCE COVERAGE (RADAR) AND ADEQUATE BROADCAST COVERAGE FROM ADS-B GROUND STATIONS. FIS-B SERVICE AVAILABILITY IS EXPECTED THROUGHOUT THE NAS IN 2013, AND IS CURRENTLY AVAILABLE WITHIN CERTAIN REGIONS. THIS NOTAM ANNOUNCES THE AVAILABILITY OF THE INITIAL TIS-B AND FIS-B CAPABILITY WITH THE PATUXTANT RIVER NAS NHK AIRSPACE. THE FAA IS DEVELOPING POLICY GUIDANCE MATERIAL ON AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST (ADS-B), ESSENTIAL SERVICES- TIS-B AND FIS-B THAT WILL BE PUBLISHED IN TRADITIONAL SOURCE REFERENCES SUCH AS THE AERONAUTICAL INFORMATION MANUAL (AIM). REPORTS OF TIS-B AND FIS-B MALFUNCTIONS SHOULD BE REPORTED BY RADIO OR TELEPHONE TO THE NEAREST FLIGHT SERVICE STATION (FSS) FACILITY. WIE UNTIL UFN. CREATED: 27 FEB 15:53 2012

L0196/12 - F-35 STOVL OPERATIONS SCHEDULED FROM 1300Z TO 1600Z. EXPECT DELAYS (UP TO 3 MINUTES) FOR RWY 06/24 AND RWY 14/32 DUE TO HOVER AND VERTICAL LANDINGS AT THE INTERSECTION HOVER PAD. 11 JUN 13:00 2012 UNTIL 11 JUN 16:00 2012. CREATED: 08 JUN 20:19 2012

The following ICAOs share facilities with KNHK:

KPXT PATUXENT

03/334 - NAV TACAN 155-237 UNUSBL BYD 11 BLW 2500. WIE UNTIL UFN. CREATED: 26 MAR 13:56 2012

02/177 - NAV VOR UNUSBL 024-174 BYD 11 BLW 2500. WIE UNTIL UFN. CREATED: 15 FEB 18:06 2012

11/104 - NAV VOR UNUSBL 240-347. WIE UNTIL UFN. CREATED: 08 NOV 22:25 2011

09/115 - NAV TACAN 150-155 UNUSBL BYD 25 BLW 2500. WIE UNTIL UFN. CREATED: 08 SEP 20:59 2008

09/114 - NAV VOR 348-022 UNUSBL BYD 11 BLW 2500. WIE UNTIL UFN. CREATED: 08 SEP 20:59 2008

09/112 - NAV VOR 175-239 UNUSBL BYD 10 BLW 5000. WIE UNTIL UFN. CREATED: 08 SEP 20:59 2008

09/110 - NAV VOR 023 UNUSBL BYD 10 BLW 2500. WIE UNTIL UFN. CREATED: 08 SEP 20:58 2008

KWAL WALLOPS FLIGHT FACILITY

01/004 - RWY 4/22 NORTH END ARST GEAR RTS. WIE UNTIL UFN. CREATED: 31 JAN 19:32 2012

01/003 - RWY 4/22 SOUTH END ARRESTING GEAR DCMSN. WIE UNTIL UFN. CREATED: 31 JAN 19:31 2012

10/003 - RWY 35 PAPI U/S. WIE UNTIL UFN. CREATED: 29 OCT 18:42 2010

Number of NOTAMs: 18 End of Report

FLIGHT WEATHER BRIEF

PART I - TAKEOFF DATA

1. DATE	2. ACFT Type/NO.	3. DEP PT/ETD	4. RWY TEMP	5. DEWPOINT	6. TEMP DEV	7. PRES ALT	8. DENSITY
120611	TRITN 39/RQ4/U	KNHK 1600	30C/86F	18C/64F		FT	FT

9. SFC WIND	10. CLIMB WINDS	11. LOCAL WEATHER WATCH/WARNING/ADVISORY	12. RSC/RCR
15009	SFC-020:16005	NONE	N/A

13. REMARKS/TAKEOFF ALTN FCST
020-220:18010-15 220-550:29015-40 550-600:08015

PART II - ENROUTE & MISSION DATA

14. FLT LEVEL/WINDS/TEMP [X] SEE ATTACHED

510 600

15. SPACE WEATHER

	NO IMPACT	MARGINAL	SEVERE
FREQ			
GPS			
RAD			

16. SOLAR/ LUNAR LOCATION

BMNT	Z		
SR	Z	MR	Z
SS	Z	MS	Z
EENT	Z	ILLUM	%

17. CLOUDS AT FLT LEVEL [ ] YES [X] NO [ ] IN AND OUT

18. OBSCURATIONS AT FLT LEVEL RESTRICTING VISIBILITY [ ] YES [X] NO TYPE N/A — 7 miles visibility

19. MINIMUM CEILING - LOCATION
090 FT AGL - SRN VA

20. MAXIMUM CLOUD TOPS - LOCATION
290 FT MSL - MD CSTL WTRS

21. MINIMUM FREEZING LVL - LOCATION
135 FT MSL - MD

22. THUNDERSTORMS

CHART

X	NONE		AREA		LINE
	ISOLATED 1 - 2%				
	FEW 3 - 15%				
	SCATTERED 16 - 45%				
	NUMEROUS - MORE THAN 45%				

HAIL, SEVERE TURBULENCE & ICING, HEAVY PRECIPITATION, LIGHTING & WIND SHEAR EXPECTED IN AND NEAR THUNDERSTORMS

LOCATION

23. TURBULENCE

CHART

X	NONE		
	LIGHT		
	MODERATE		
	SEVERE		
	EXTREME		

LEVELS

LOCATION

24. ICING

CHART FCST

	NONE	RIME	MIXED	CLEAR
TRACE		X	X	
LIGHT				
MODERATE				
SEVERE				

LEVELS 200-280

LOCATION MD VA

25. PRECIPITATION

CHART RADAR

	NONE	DRIZZLE	RAIN	SNOW	PELLET
LIGHT			X		
MODERATE			X		
HEAVY					
SHOWERS			X		
FREEZING					

LOCATION WRN-CNTRL VA & NRN W-72

PART III - AERODROME FORECASTS

26.	27. VALID TIME	28. SFC WIND	29. VSBY/WEA	30. CLOUD LAYERS	31. ALTIMETER	RWY TEMP	PRES ALT
DEST-W386	1620Z to 1820Z	17010 BECMG 18018G22 T	5 HZ	FEW045 BKN250	3002 INS	F	FT
DEST-KNHK	2140Z to 2340Z	16012G18 T	7	SCT045 SCT080 BKN250 TEMPO BKN050 BKN080 BKN250	3000 INS	C	FT
ALTN-KWAL	2240Z to 0040Z	15009 T	7	BKN050 BKN250	3001 INS	C	FT

PART IV - COMMENTS/REMARKS

32. BRIEFED RSC/RCR [ ] YES [X] NOT AVAILABLE **33. PMSV** 356.2 **34. ATTACHMENTS** [ ] YES [X] NO

35. REMARKS METAR KNHK 111352Z AUTO 00000KT 10SM BKN250 28/17 A3015 RMK AO2 SLP210 T02830172 888-PILOTWX

PART V - BRIEFING RECORD

36. WX BRIEFED TIME	37. FLIMSY BRIEFING NO.	38. FORECASTER'S NAME	39. NAME OF PERSON RECEIVING BRIEFING
11 / 1437 Z	KNHK 6 - 77	(b)(6)	(b)(6)
40. VOID TIME	**41. EXTENDED TO/INITIALS**	**42. WX REBRIEF TIME/INITIALS**	**43. WX DEBRIEF TIME/INITIALS**
11 / 1630 Z	Z	Z	

ENCLOSURE (37)

1/1

06-11-2012 09:04:35 a.m.

AUTHORITY:	10 USC 8012 and EO 9397.	PRIVACY ACT STATEMENT ROUTINE USES:	To provide data required to process flight plans with appropriate air traffic service authorities. A file is retained by the agency processing the flight plan.	DATE	AIRCRAFT CALL SIGN	AIRCRAFT DESG AND TD CODE
PRINCIPAL PURPOSE:	To aid in accurate identification of personnel participating in the filed flight.	DISCLOSURE:	Voluntary; however, failure to provide the SSN could result in denial of flight plan processing.	06/11/2012	TRITN 39	RQ4/U

BASE OPERATIONS USE

	TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE
	I	340	KNHK	1600	510B600	PXT R4006..R4008 PXT178033 PXT178076 PXT159085	W386	01+20
	I	340	W386	2000	510B600	D 4+00 PXT159085 PXT178076 PXT178033 R4008 PXT	KNHK	2+40

REMARKS
RQ4 IS GLOBAL HAWK UAS. PILOT PHONE 301-342-9735/9724

RANK AND HONOR CODE

FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION
20+00	KWAL	01+00	Y	Y		168739, PATWING2, KNHK
(b)(6)	/AL AUTHORITY	CREW/PASSENGER LIST			ACTUAL DEP TIME (Z)	BASE OPERATIONS USE
		ATTACHED		SEE PSGR		

DUTY	NAME AND INITIALS	RANK	SSN	ORGANIZATION AND LOCATION
PILOT IN COMMAND	(b)(6)	CIV		PATWING2, NAS Patuxent River, MD

DD Form 175, MAY 86 — *Previous editions are obsolete.* — MILITARY FLIGHT PLAN

Adobe Professional 7.0

3013427734

ENCLOSURE (38)

Operator log - 12163-1405

Time: 12 163 14:06:04 CGS: : Checksum for mission MSNE0632N5A is 0EA4CAF

Time: 12 163 14:46:16 CGS: : Mission MSNE0632N5A is kicked off

Time: 12 163 14:46:24 CMS:02-0010: Setting LCP Mode for LCP1 (KU SATCOM) by Co
s Plan

Time: 12 163 14:46:24 CMS:02-0010: Setting LCP Mode for LCP2 (CDL) by Comms Pl

Time: 12 163 14:46:58 FLT:02-0010: TCAS Display Range adjusted from 0.0 to 0.5

Time: 12 163 14:57:08 CMS: : Stale Data Sound Test

Time: 12 163 14:57:10 CMS: : Link Lost Sound Test

Time: 12 163 14:57:11 CMS: : Link Acquired Sound Test

Time: 12 163 14:57:12 CMS: : Moderate Threat Sound Test

Time: 12 163 14:57:13 CMS: : High Threat Sound Test

Time: 12 163 14:57:14 CMS: : Critical Threat Sound Test

Time: 12 163 14:57:15 CMS: : Emergency

Time: 12 163 14:57:17 CMS: : Flight Critical

Time: 12 163 14:57:19 CMS: : Mission Critical

Time: 12 163 14:57:21 CMS: : Scene Complete

Time: 12 163 15:17:20 CMS:02-0010: Link switch complete: UHF LOS

Time: 12 163 15:17:20 CMS:02-0010: Aborting all comms UAV commands (link switc

Time: 12 163 15:17:31 CMS:02-0010: UAV accepted command Downlink Message Contr

Time: 12 163 15:17:45 CMS:02-0010: Echo test in progress

Time: 12 163 15:17:47 CMS:02-0010: UAV accepted command Echo Message

Time: 12 163 15:17:47 CMS:02-0010: Echo test successful

Time: 12 163 15:20:42 FLT:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 15:21:16 FLT:02-0010: UAV accepted command Command IFF

Time: 12 163 15:22:22 CMS:02-0010: Comms loss: UHF SATCOM link

Time: 12 163 15:22:30 FLT:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 15:22:58 AVN:02-0010: UAV accepted command Flight Level

Time: 12 163 15:23:12 FLT:02-0010: UAV accepted command Command IFF

Time: 12 163 15:23:48 FLT:02-0010: UAV accepted command Altimeter Change

Time: 12 163 15:27:12 AVN:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 15:28:49 AVN:02-0010: UAV accepted command Strobes

Time: 12 163 15:28:53 AVN:02-0010: Mission Critical Advisory to subsystem: DGP

Time: 12 163 15:28:53 AVN:02-0010: DGPS:5: Rx Not Receiving Corrections

Time: 12 163 15:29:21 AVN:02-0010: Mission Critical Advisory to subsystem: DGP

Time: 12 163 15:29:21 AVN:02-0010: DGPS:5: Rx Not Receiving Corrections

Time: 12 163 15:29:37 CMS:02-0010: UAV accepted command Ku SATCOM/CDL/UHF Tran
itter Control

Time: 12 163 15:30:17 AVN:02-0010: UAV accepted command Arm Flight Terminate

Time: 12 163 15:30:17 AVN:02-0010: UAV accepted command Arm Flight Terminate

Time: 12 163 15:30:19 AVN:02-0010: UAV accepted command Arm Flight Terminate

Time: 12 163 15:30:19 FLT:02-0010: Mission Critical Advisory to subsystem: FTS

Time: 12 163 15:30:19 FLT:02-0010: FTS:2: FTS is Armed

Time: 12 163 15:30:31 AVN:02-0010: UAV accepted command Execute Flight Termina

Time: 12 163 15:30:31 FLT:02-0010: Emergency System Failure to subsystem: FTS

Time: 12 163 15:30:31 AVN:02-0010: UAV accepted command Execute Flight Termina

Time: 12 163 15:30:31 FLT:02-0010: FTS:3: UAV is in Terminate Mode

Time: 12 163 15:31:21 FLT:02-0010: UAV accepted command Engineering Test

Time: 12 163 15:31:30 FLT:02-0010: UAV accepted command Engineering Test

Time: 12 163 15:31:40 FLT:02-0010: UAV accepted command Engineering Test

Time: 12 163 15:31:42 FLT:02-0010: UAV accepted command Engineering Test

Time: 12 163 15:31:54 AVN:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 15:32:03 CMS:02-0010: Comms loss: CDL link

Time: 12 163 15:32:09 CMS:02-0010: UAV accepted command In Control

Time: 12 163 15:32:09 CMS:02-0010: In Control Message accomplished, Message ac
pted

Time: 12 163 15:32:33 MAP: : There are no action points associated with
ypoint # 1275

Time: 12 163 15:32:39 MAP: : There are no action points associated with
ypoint # 1689

Time: 12 163 15:32:43 MAP: : There are no action points associated with
ypoint # 1244

Time: 12 163 15:33:30 CMS:02-0010: UAV accepted command Enable/Disable Action

Time: 12 163 15:33:30 CMS:02-0010: Disable Request for action point 1491 accep
d

Time: 12 163 15:36:23 CMS:02-0010: Comms loss: CDL link

Time: 12 163 15:41:52 CMS:02-0010: Comms loss: CDL link

Time: 12 163 15:42:55 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:43:05 FLT:02-0010: Turn started, at waypoint 3, Fly through, n
-turning

Time: 12 163 15:43:15 FLT:02-0010: Attained waypoint 3

Time: 12 163 15:43:15 AVN:02-0010: Radar Altimeter Action Point Command Initia
d

Time: 12 163 15:43:15 AVN:02-0010: Strobes Action Point Command Initiated

Time: 12 163 15:43:15 CMS:02-0010: Action Point Command Initiated Loss Comms T
eout

Time: 12 163 15:43:25 FLT:02-0010: Turn finished

Time: 12 163 15:43:31 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:43:32 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:43:37 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:43:40 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:13 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:13 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:15 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:15 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:16 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:16 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:16 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:17 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:17 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:17 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:19 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:44:19 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:46:30 FLT:02-0010: UAV accepted command Taxi

Time: 12 163 15:46:40 FLT:02-0010: Turn started, at waypoint 5, Fly through, n
-turning

Time: 12 163 15:46:40 FLT:02-0010: Attained waypoint 4

Time: 12 163 15:46:41 FLT:02-0010: Turn finished

Time: 12 163 15:47:31 CMS:02-0010: Comms loss: CDL link

Time: 12 163 15:47:31 CMS:02-0010: Comms loss: UHF LOS link

Time: 12 163 15:47:31 FLT:02-0010: Turn started, at waypoint 5, Fly through, n
-turning

Time: 12 163 15:47:32 FLT:02-0010: Attained waypoint 5

Time: 12 163 15:47:33 FLT:02-0010: Turn finished

Time: 12 163 15:47:41 FLT:02-0010: Turn started, at waypoint 1686, Fly through
non-turning

Time: 12 163 15:47:52 FLT:02-0010: Attained waypoint 1686

Time: 12 163 15:47:54 FLT:02-0010: Turn finished

Time: 12 163 15:48:12 FLT:02-0010: Attained waypoint 1687

Time: 12 163 15:48:48 FLT:02-0010: UAV accepted command Command IFF

Time: 12 163 15:48:54 FLT:02-0010: UAV accepted command Command IFF

Time: 12 163 15:49:31 FLT:02-0010: Attained waypoint 14

Time: 12 163 15:49:31 SNS:02-0010: Sensor DC Power Action Point Command Initia
d

Time: 12 163 15:49:40 AVN:02-0010: Nose Gear Hike change to HIKED

Time: 12 163 15:49:58 FLT:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 15:50:03 AVN:02-0010: Mission Critical Advisory to subsystem: DGP

Time: 12 163 15:50:03 AVN:02-0010: DGPS:6: Rx Signal below minimum power level
n local ops area

Time: 12 163 15:50:42 CMS:02-0010: Comms loss: CDL link

Time: 12 163 15:50:52 FLT:02-0010: UAV accepted command Takeoff

Time: 12 163 15:51:21 CMS:02-0010: Comms loss: UHF LOS link

Time: 12 163 15:51:30 AVN:02-0010: Nose Gear Hike change to DEHIKED

Time: 12 163 15:51:40 FLT:02-0010: Attained waypoint 15

Time: 12 163 15:51:59 FLT:02-0010: TCAS Display Range adjusted from 0.0 to 0.5

Time: 12 163 15:52:05 FLT:02-0010: Attained waypoint 16

Time: 12 163 15:52:06 SNS:02-0010: Sensor DC Power Action Point Command Initia
d

Time: 12 163 15:52:06 FLT:02-0010: UAV accepted command Command IFF

Time: 12 163 15:52:29 FLT:02-0010: Turn started, at waypoint 1350, Turn early,
hort angle

Time: 12 163 15:52:32 AVN:02-0010: UAV accepted command Gear Position

Time: 12 163 15:52:44 AVN:02-0010: Nose gear changed state to UP

Time: 12 163 15:52:48 AVN:02-0010: Right gear changed state to UP

Time: 12 163 15:52:48 AVN:02-0010: Left gear changed state to UP

Time: 12 163 15:52:48 FLT:02-0010: Attained waypoint 1350

Time: 12 163 15:52:48 FLT:02-0010: Turn finished

Time: 12 163 15:53:15 FLT:02-0010: Contingency 2 timer started

Time: 12 163 15:53:15 FLT:02-0010: Flight Critical System Failure to subsystem Actuators

Time: 12 163 15:53:15 FLT:02-0010: Actuators:40: Right Inner RDV Difference fa
ure. Surface response not matching model.

Time: 12 163 15:53:17 AVN:02-0010: Flight Critical System Failure to subsystem GNC

Time: 12 163 15:53:17 AVN:02-0010: GNC:11: Control Control Surface Command

Time: 12 163 15:53:44 FLT:02-0010: Turn started, at waypoint 1351, Turn early,
hort angle

Time: 12 163 15:53:49 FLT:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 15:53:59 FLT:02-0010: Attained waypoint 1351

Time: 12 163 15:53:59 FLT:02-0010: Turn finished

Time: 12 163 15:54:03 CMS:02-0010: Comms loss: CDL link

Time: 12 163 15:54:22 FLT:02-0010: Attained waypoint 1688

Time: 12 163 15:55:12 FLT:02-0010: Attained waypoint 1689

Time: 12 163 15:55:45 FLT:02-0010: UAV accepted command Altitude Change Ontrac

Time: 12 163 15:55:46 CMS:02-0010: While flight control in manual mode, comms
ound plan suspended due to -----

Time: 12 163 15:56:46 FLT:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 15:57:15 FLT:02-0010: Attained waypoint 1275

Time: 12 163 15:57:48 FLT:02-0010: UAV accepted command Override Heading or Tr
k

Time: 12 163 15:58:03 FLT:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 15:58:36 FLT:02-0010: Radar Altimeter change to OFF

Time: 12 163 15:59:05 FLT:02-0010: UAV accepted command Go To Waypoint

Time: 12 163 15:59:06 CMS:02-0010: Flight control back on track, execution of
mms ground plan resuming

Time: 12 163 15:59:16 CMS:02-0010: While flight control in manual mode, comms
ound plan suspended due to -----

Time: 12 163 15:59:24 FLT:02-0010: UAV accepted command Request Detailed Statu

Time: 12 163 16:01:35 AVN:02-0010: Mission Critical Advisory to subsystem: GNC

Time: 12 163 16:01:35 AVN:02-0010: GNC:8: Turbulence Fault

Time: 12 163 16:02:17 FLT:02-0010: UAV accepted command Override Heading or Tr
k

Time: 12 163 16:02:19 FLT:02-0010: UAV accepted command Override Altitude and
te

Time: 12 163 16:02:52 FLT:02-0010: UAV accepted command Override Heading or Tr
k

Time: 12 163 16:05:14 AVN:02-0010: Mission Critical Advisory to subsystem: GNC

Time: 12 163 16:05:14 AVN:02-0010: GNC:8: Turbulence Fault

Time: 12 163 16:05:16 AVN:02-0010: Flight Critical System Failure to subsystem
GNC

Time: 12 163 16:05:16 AVN:02-0010: GNC:11: Control Control Surface Command

Time: 12 163 16:05:22 FLT:02-0010: Contingency 2 timer started

Time: 12 163 16:05:22 FLT:02-0010: Flight Critical System Failure to subsystem
Air Data

Time: 12 163 16:05:22 FLT:02-0010: Air Data:4: Air Data Bad Dynamic Pressure.
C Failure.

Time: 12 163 16:05:22 FLT:02-0010: Flight Critical System Failure to subsystem
Air Data

Time: 12 163 16:05:22 FLT:02-0010: Air Data:7: Air Data Both Dynamic Pressures
ad

Time: 12 163 16:05:24 AVN:02-0010: Flight Critical System Failure to subsystem
GNC

Time: 12 163 16:05:24 AVN:02-0010: GNC:14: Structural Load Factor

Time: 12 163 16:05:26 FLT:02-0010: Mission Critical Advisory to subsystem: Air
ata

Time: 12 163 16:05:26 FLT:02-0010: Air Data:15: Local Baro Altitude Differs Fr
Other Baro Altitude

Time: 12 163 16:05:26 FLT:02-0010: Mission Critical Advisory to subsystem: Eng
e

Time: 12 163 16:05:26 FLT:02-0010: Engine:2: Switch indicates low oil pressure

Time: 12 163 16:05:33 CMS:02-0010: Comms loss: CDL link

Time: 12 163 16:05:34 AVN:02-0010: Flight Critical System Failure to subsystem
GNC

Time: 12 163 16:05:34 AVN:02-0010: GNC:10: Control Bank Angle

Time: 12 163 16:05:34 AVN:02-0010: Mission Critical Advisory to subsystem: GNC

Time: 12 163 16:05:34 AVN:02-0010: GNC:13: Structural Airspeed

Actuators

Time: 12 163 16:05:34 FLT:02-0010: Actuators:42: Right Outer RDV Difference fa
ure. Surface response not matching model.

Time: 12 163 16:05:34 FLT:02-0010: Mission Critical Advisory to subsystem: Air
ata

Time: 12 163 16:05:34 FLT:02-0010: Air Data:15: Local Baro Altitude Differs Fr
Other Baro Altitude

Time: 12 163 16:05:35 CMS:02-0010: Comms loss: Ku SATCOM link

Time: 12 163 16:05:35 CMS:02-0010: Comms loss: INMARSAT link

Time: 12 163 16:05:36 FLT:02-0010: Flight Critical System Failure to subsystem
Actuators

Time: 12 163 16:05:36 FLT:02-0010: Actuators:44: Right Inner AIL Difference fa
ure. Surface response not matching model.

Time: 12 163 16:05:36 FLT:02-0010: Mission Critical Advisory to subsystem: Air
ata

Time: 12 163 16:05:36 FLT:02-0010: Air Data:5: Air Data Bad Static Pressure. C
or inertial comparison failure.

Time: 12 163 16:05:36 AVN:02-0010: Flight Critical System Failure to subsystem
GNC

Time: 12 163 16:05:36 AVN:02-0010: GNC:15: Control Load Factor

Time: 12 163 16:05:37 FLT:02-0010: Mission Critical Advisory to subsystem: FAD

Time: 12 163 16:05:37 FLT:02-0010: FADEC:10: FADEC General Yellow Faults

Time: 12 163 16:05:38 FLT:02-0010: Mission Critical Advisory to subsystem: Air
ata

Time: 12 163 16:05:38 FLT:02-0010: Air Data:14: Altitude deviation fault

Time: 12 163 16:05:38 FLT:02-0010: Flight Critical System Failure to subsystem
Actuators

Time: 12 163 16:05:38 FLT:02-0010: Actuators:43: Left Outer RDV Difference fai
re. Surface response not matching model.

Time: 12 163 16:05:38 FLT:02-0010: Mission Critical Advisory to subsystem: Fue

Time: 12 163 16:05:38 FLT:02-0010: Fuel:13: Fuel Pressure Switch (PS2) Indicat
Boost Pump 2 OFF (1.18.2)

Time: 12 163 16:05:47 CMS:02-0010: Comms loss: CDL link

Time: 12 163 16:05:53 AVN:02-0010: Please perform a link switch

Time: 12 163 16:05:53 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:05:54 FLT:02-0010: Mission Critical Advisory to subsystem: Fue

Time: 12 163 16:05:54 FLT:02-0010: Fuel:8: Fuel Pressure Switch (PS1) Indicate
Boost Pump 1 OFF (Fuel 1.18.2)

Time: 12 163 16:05:55 FLT:02-0010: Mission Critical Advisory to subsystem: Eng
e

Time: 12 163 16:05:55 FLT:02-0010: Engine:5: Switch indicates low oil level

Time: 12 163 16:05:55 FLT:02-0010: Mission Critical Advisory to subsystem: Fue

Time: 12 163 16:05:55 FLT:02-0010: Fuel:10: Fuel System Pressure (PT1) is less
han 6 psig (Fuel 1.18.2)

Time: 12 163 16:05:56 FLT:02-0010: Flight Critical System Failure to subsystem
Fuel

Time: 12 163 16:05:56 FLT:02-0010: Fuel:11: Fuel System Pressure (PT1) is less
han 4 psig (Fuel 1.18.2)

Time: 12 163 16:05:56 FLT:02-0010: Mission Critical Advisory to subsystem: Fue

Time: 12 163 16:05:56 FLT:02-0010: Fuel:42: Fuel Boost Pump Performance Proble
PT1 < 16 psig.

Time: 12 163 16:05:56 FLT:02-0010: Mission Critical Advisory to subsystem: IMM

Time: 12 163 16:05:56 FLT:02-0010: IMMC:82: PDC Status Bits Disagree With Outp
Bits (See associated green fault for details)

Time: 12 163 16:05:57 CMS:02-0010: Flight control back on track, execution of
mms ground plan resuming

Time: 12 163 16:05:57 AVN:02-0010: Flight Critical System Failure to subsystem
GNC

Time: 12 163 16:05:57 AVN:02-0010: GNC:11: Control Control Surface Command

Time: 12 163 16:05:57 FLT:02-0010: Mission Critical Advisory to subsystem: Fue

Time: 12 163 16:05:57 FLT:02-0010: Fuel:10: Fuel System Pressure (PT1) is less
han 6 psig (Fuel 1.18.2)

Time: 12 163 16:05:57 FLT:02-0010: Mission Critical Advisory to subsystem: Fue

Time: 12 163 16:05:57 FLT:02-0010: Fuel:13: Fuel Pressure Switch (PS2) Indicat
Boost Pump 2 OFF (1.18.2)

Time: 12 163 16:05:58 AVN:02-0010: Flight Critical System Failure to subsystem
GNC

Time: 12 163 16:05:58 AVN:02-0010: GNC:15: Control Load Factor

Time: 12 163 16:05:58 AVN:02-0010: Flight Critical System Failure to subsystem
GNC

Time: 12 163 16:05:58 AVN:02-0010: GNC:15: Control Load Factor

Time: 12 163 16:05:59 AVN:02-0010: Please perform a link switch

Time: 12 163 16:05:59 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:05:59 AVN:02-0010: Flight Critical System Failure to subsystem
GNC

Time: 12 163 16:05:59 AVN:02-0010: GNC:15: Control Load Factor

GNC

Time: 12 163 16:05:59 AVN:02-0010: GNC:15: Control Load Factor

Time: 12 163 16:05:59 FLT:02-0010: Mission Critical Advisory to subsystem: Eng
e

Time: 12 163 16:05:59 FLT:02-0010: Engine:5: Switch indicates low oil level

Time: 12 163 16:06:02 AVN:02-0010: Please perform a link switch

Time: 12 163 16:06:02 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:06:08 AVN:02-0010: Please perform a link switch

Time: 12 163 16:06:08 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:06:16 AVN:02-0010: Please perform a link switch

Time: 12 163 16:06:16 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:06:30 AVN:02-0010: Please perform a link switch

Time: 12 163 16:06:30 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:06:34 AVN:02-0010: Please perform a link switch

Time: 12 163 16:06:34 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:06:40 AVN:02-0010: Please perform a link switch

Time: 12 163 16:06:40 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:06:46 AVN:02-0010: Please perform a link switch

Time: 12 163 16:06:46 AVN:02-0010: IMMC B Control Switch

Time: 12 163 16:06:57 CMS:02-0010: Error in link switch, link in use (UHF LOS)

last transmission

UAV Tail #: 02-0010 Subsystem: Air Data

111605Z JUN 12 Significant Event
Flight Critical System Failure:4: Air Data Bad Dynamic Pressure. CSC Failure.
111605Z JUN 12 Significant Event
Flight Critical System Failure:7: Air Data Both Dynamic Pressures Bad
111605Z JUN 12 Significant Event
Mission Critical Advisory:15: Local Baro Altitude Differs From Other Baro Alti
de
111605Z JUN 12 Significant Event
Mission Critical Advisory:15: Local Baro Altitude Differs From Other Baro Alti
de
111605Z JUN 12 Significant Event
Mission Critical Advisory:5: Air Data Bad Static Pressure. CSC or inertial com
rison failure.
111605Z JUN 12 Significant Event
Mission Critical Advisory:14: Altitude deviation fault

UAV Tail #: 02-0010 Subsystem: FADEC

111605Z JUN 12 Significant Event
Mission Critical Advisory:10: FADEC General Yellow Faults

UAV Tail #: 02-0010 Subsystem: IMMC

111605Z JUN 12 Significant Event
Mission Critical Advisory:82: PDC Status Bits Disagree With Output Bits (See a
ociated green fault for details)

UAV Tail #: 02-0010 Subsystem: Actuators

111553Z JUN 12 Significant Event
Flight Critical System Failure:40: Right Inner RDV Difference failure. Surface response not matching model.
111553Z JUN 12 Detailed Status Requested.

111553Z JUN 12 Detailed Status Results
Failures = 0x0010
Right inner ruddervator : FAILURE
Right inner spoiler position = 25.524
Left inner spoiler position = 25.428
Right outer spoiler position = 25.529
Left outer spoiler position = 25.555
Right inner ruddervator position = -5.615 up
Left inner ruddervator position = -8.100 up
Right outer ruddervator position = -5.597 up
Left outer ruddervator position = -8.237 up
Right inner aileron position = 0.313
Left inner aileron position = -0.466
Right outer aileron position = 0.310
Left outer aileron position = -0.444

* Right Ruddervator Position
- Positive Position indicates ruddervator DOWN
- Negative Position indicates ruddervator UP

Left Ruddervator Position
- Position UP
- Negative Down

RIB = LIB + LOB - ROB
-10.74 = -8.1 - 8.237 + 5.597
-5.125° difference

111556Z JUN 12 Detailed Status Requested.

111556Z JUN 12 Detailed Status Results
Failures = 0x0010
Right inner ruddervator : FAILURE
Right inner spoiler position = -1.408
Left inner spoiler position = -1.217
Right outer spoiler position = -1.250
Left outer spoiler position = -1.179
Right inner ruddervator position = -2.847 up
Left inner ruddervator position = -3.891 up
Right outer ruddervator position = -2.892 up
Left outer ruddervator position = -4.157 up
Right inner aileron position = -0.011
Left inner aileron position = -0.114
Right outer aileron position = -0.024
Left outer aileron position = -0.086

(b)(6)

(b)(6)

(b)(6)

(b)(6)

RIB = LIB + LOB - ROB
-5.156 = -3.891 - 4.157 + 2.892
-2.309° difference

111558Z JUN 12 Detailed Status Requested.

111558Z JUN 12 Detailed Status Results
Failures = 0x0010
Right inner ruddervator : FAILURE
Right inner spoiler position = 13.331
Left inner spoiler position = 13.029
Right outer spoiler position = 13.345
Left outer spoiler position = 13.377
Right inner ruddervator position = -4.614 up
Left inner ruddervator position = -5.356 up
Right outer ruddervator position = -4.600 up
Left outer ruddervator position = -5.635 up
Right inner aileron position = -0.131
Left inner aileron position = 0.016
Right outer aileron position = -0.205
Left outer aileron position = 0.031

RIB = LIB + LOB - ROB
-6.391 = -5.356 - 5.635 + 4.6
-1.035° difference

111559Z JUN 12 Detailed Status Requested.

111559Z JUN 12 Detailed Status Results
Failures = 0x0010

ENCLOSURE (40)

Right inner spoiler position = -1.372
Left inner spoiler position = -1.244
Right outer spoiler position = -0.846
Left outer spoiler position = -1.130
Right inner ruddervator position = -0.375 up
Left inner ruddervator position = -5.150 up
Right outer ruddervator position = -0.362 up
Left outer ruddervator position = -5.453 up
Right inner aileron position = -1.606
Left inner aileron position = 1.458
Right outer aileron position = -1.756
Left outer aileron position = 1.589

RIB = LIB + LOB - ROB

-10,241 = -5,15 - 5,453 + 0,362

-9,861° difference

111605Z JUN 12 Significant Event
Flight Critical System Failure:42: Right Outer RDV Difference failure. Surface esponse not matching model.
111605Z JUN 12 Significant Event
Flight Critical System Failure:44: Right Inner AIL Difference failure. Surface esponse not matching model.
111605Z JUN 12 Significant Event
Flight Critical System Failure:43: Left Outer RDV Difference failure. Surface sponse not matching model.

UAV Tail #: 02-0010 Subsystem: INS

111549Z JUN 12 Detailed Status Requested.

111549Z JUN 12 Detailed Status Results
Status of this KN4072 is undefined
Status of this KN4072 is undefined

Status of KN4072A
Pitch rate signal failed CSC : FALSE
Roll rate signal failed CSC : FALSE
Yaw rate signal failed CSC : FALSE
Lateral Acceleration signal failed CSC : FALSE
Longitudinal Acceleration signal failed CSC : FALSE
Normal Acceleration signal failed CSC : FALSE
Lost Communication from this IMU : FALSE
Summary Failure state of this IMU : FALSE

Status of KN4072B
Pitch rate signal failed CSC : FALSE
Roll rate signal failed CSC : FALSE
Yaw rate signal failed CSC : FALSE
Lateral Acceleration signal failed CSC : FALSE
Longitudinal Acceleration signal failed CSC : FALSE
Normal Acceleration signal failed CSC : FALSE
Lost Communication from this IMU : FALSE
Summary Failure state of this IMU : FALSE

SAR GNA detail = 0x00000000

EO/IR GNA detail = 0x00000000

	FINAL NAV	KN4072A	KN4072B	SARLN-100	EOLN-100
QUALITY	18	18	18	18	17
HPRE (ft.)	N/A	6.20	6.08	13.66	17.15
Delta N (ft.)	-0.03	0.00	-5.27	-5.36	0.70
Delta E (ft.)	-0.01	0.00	-2.02	-6.20	4.28
Delta H (ft.)	N/A	0.00	3.91	8.66	-3.79
HDOT (ft./s)	-0.06	-0.06	-0.02	-0.01	-0.02
Lat (deg)	38.27947	38.27947	38.27946	38.27946	38.27947
Lon (deg)	-76.41786	-76.41786	-76.41786	-76.41788	-76.41784
Altitude (ft.)	-81.12	-81.12	-77.21	-72.46	-84.91
Pitch (deg)	3.07	3.07	3.02	3.04	3.02
Roll (deg)	0.10	0.10	0.08	0.04	0.04
HDG (deg)	48.98	48.98	48.99	49.00	48.96

Additional Status Information:
KN4072A System HPRE Indicates DGPS/INS Solution selected as Final Navigation S
ution
KN-4072A Using SCAT-1 Data Link Receiver
KN4072B System HPRE Indicates DGPS/INS Solution selected as Final Navigation S
ution
KN-4072B Using OMS Data Link Receiver
SAR LN-100 System HPRE Indicates P(Y) Code Aided GPS/INS Solution
EOLN-100 System HPRE Indicates P(Y) Code Aided GPS/INS Solution

Status of Red axis laser intensity (first KN-4072) = 2.50
Status of White axis laser intensity (first KN-4072) = 3.32
Status of Blue axis laser intensity (first KN-4072) = 2.89
Status of Red axis laser intensity (second KN-4072) = 3.97
Status of White axis laser intensity (second KN-4072) = 3.96
Status of Blue axis laser intensity (second KN-4072) = 3.75

UAV Tail #: 02-0010 Subsystem: GNC

111531Z JUN 12 Detailed Status Requested.

111531Z JUN 12 Detailed Status Results
Active Engineering Cmds

SV4 Close
Ceiling Altitude = 60000.0 ft
Flare Altitude Bias = -10.0 ft
Decrab Altitude Bias = -5.0 ft
Crosstrack Bias = 0.0 ft

111553Z JUN 12 Significant Event
Flight Critical System Failure:11: Control Control Surface Command
111601Z JUN 12 Significant Event
Mission Critical Advisory:8: Turbulence Fault
111605Z JUN 12 Significant Event
Mission Critical Advisory:8: Turbulence Fault
111605Z JUN 12 Significant Event
Flight Critical System Failure:11: Control Control Surface Command
111605Z JUN 12 Significant Event
Flight Critical System Failure:14: Structural Load Factor
111605Z JUN 12 Significant Event
Flight Critical System Failure:10: Control Bank Angle
111605Z JUN 12 Significant Event
Mission Critical Advisory:13: Structural Airspeed
111605Z JUN 12 Significant Event
Flight Critical System Failure:15: Control Load Factor
111605Z JUN 12 Significant Event
Flight Critical System Failure:11: Control Control Surface Command
111605Z JUN 12 Significant Event
Flight Critical System Failure:15: Control Load Factor
111605Z JUN 12 Significant Event
Flight Critical System Failure:15: Control Load Factor
111605Z JUN 12 Significant Event
Flight Critical System Failure:15: Control Load Factor
111605Z JUN 12 Significant Event
Flight Critical System Failure:15: Control Load Factor

UAV Tail #: 02-0010 Subsystem: FTS

111530Z JUN 12 Significant Event
Mission Critical Advisory:2: FTS is Armed
111530Z JUN 12 Significant Event
Emergency System Failure:3: UAV is in Terminate Mode

UAV Tail #: 02-0010 Subsystem: DGPS

111528Z JUN 12 Significant Event
Mission Critical Advisory:5: Rx Not Receiving Corrections
111529Z JUN 12 Significant Event
Mission Critical Advisory:5: Rx Not Receiving Corrections
111550Z JUN 12 Significant Event
Mission Critical Advisory:6: Rx Signal below minimum power level in local ops
ea

UAV Tail #: 02-0010 Subsystem: ECS

111527Z JUN 12 Detailed Status Requested.

111527Z JUN 12 Detailed Status Results

Air vehicle mode	= 1	
Bleed air heater is on	= NO	
Ku SC waveguide pressure	= YES	
Pump A power status	= YES	
Pump B power status	= YES	
Need to turn on payload to generate heat	= NO	
Spray flag from SV1 control	= NO	
Ram air needed	= YES	
Mach number	= 0.000	
Pressure altitude	= -180 (ft)	
Total Air Temperature (TAT) (deg F)	= 103	
Throttle lever angle	= 20	
Fuel balance override mode	= 5	
Fuel balance mode	= 0	
Ny option number	= 1	
Ny command	= 0.000	
Fuel quantity remaining estimate	= 11281.992	
Filtered aileron deflection	= 0.000	
Bias set by the CCO or calculated by gid	= 0.000	
Fuel Balance System Status	= System Off	
FQR (Fuel Quantity Remaining) (lbs)	= 11280	
TT1 (Air Temp,Fwd Compartment) (deg F)	= 91	
TT2 (Air Temp,Aft Compartment) (deg F)	= 96	
TT3 (Fuel Temp,Fwd Coldplate) (deg F)	= 90	
TT4 (Fuel Temp,Root Tank) (deg F)	= 89	
TT5 (Air Temp,Fwd Compartment) (deg F)	= 93	
TT6 (Air Temp,Aft Compartment) (deg F)	= 97	
TT7 (IMMC-A Temp) (deg F)	= 99	
TT8 (IMMC-B Temp) (deg F)	= 102	
TT10 (Fwd PDC Temp) (deg F)	= 98	
TT11 (Aft PDC Temp) (deg F)	= 101	
TT12 (See & Detect Air Temp) (deg F)	= 107	
PT1 (Engine Fuel Pressure) (psig)	= 32.90	
PT2 (Fuel Tank Pressure) (psig)	= -0.00	
Bypass Valve 1 Feedback Position (degrees)	= 65	
Bypass Valve 2 Feedback Position (degrees)	= 65	
Solenoid valve commands :		
CSV1 (cabin safety valve)	= 1	Open
SV1 (return to main tank)	= 0	Closed
SV2 (aft tank jet pump)	= 0	Closed
SV3 (engine fuel flow)	= 1	Open
SV4 (fuel to root tank)	= 0	Closed
SV5 (fuel to wing tips)	= 1	Open
SV6 (aft tank jet pump)	= 0	Closed
SV7 (satcom waveguide)	= 0	Closed
SV8 (bleed air,heating fuel)	= 0	Closed
SV9 (ERU pressurization)	= 0	Closed
SV10 (fuel tank vent)	= 1	Open
SV11 (fuel tank pressurization)	= 0	Closed
SV12 (fuel balance,right wing)	= 0	Wing Tip
SV13 (fuel balance,left wing)	= 0	Wing Tip
Ram Air Door 1	= 0	Closed
Ram Air Door 2	= 0	Closed
Pressure switch readings :		
PS1 (fuel pressure, boost pump #1)	= 1	High
PS2 (fuel pressure, boost pump #2)	= 1	High
PS3 (satcom waveguide pressure)	= 1	High
PS4 (fwd comp pressure)	= 0	Low

PS6 (fuel pressure,aft jet pump) = 0 Low
PS7 (SAR waveguide pressure) = 0 Low
ECS Faults

UAV Tail #: 02-0010 Subsystem: Fuel

111520Z JUN 12 Detailed Status Requested.

111520Z JUN 12 Detailed Status Results
Fuel Quantity Remaining = 11323
Engine Fuel Flow = 397.500
Fuel Pressure (PT1) = 29.50
Fuel Ullage Tank Pressure (PT2) = -0.00
Fuel Float Switches FS1 Status = DRY
Fuel Float Switches FS2 Status = WET
Fuel Float Switches FS3 Status = WET
Fuel Float Switches FS4 Status = WET
Fuel Float Switches FS5 Status = DRY
Fuel Float Switches FS6 Status = WET
Fuel Float Switches FS7 Status = DRY
Fuel Temperature (TT3) = 88
Fuel Temperature (TT4) = 87
Fuel Pressure Switches PS2 Status = OPEN
Fuel Pressure Switches PS6 Status = CLOSED
Solenoid valve commands :
SV11 = CLOSED
SV12 = CLOSED
SV13 = CLOSED
Solenoid valve position :
Fuel Valve Position SV1 = CLOSED
Fuel Valve Position SV2 = CLOSED
Fuel Valve Position SV3 = OPEN
Fuel Valve Position SV4 = OPEN
Fuel Valve Position SV5 = OPEN
Fuel Valve Position SV6 = CLOSED
Fuel Vent Shut Off Valve Position SV10 = OPEN
Fuel Pressure Shut Off Valve Position SV11 = CLOSED
SV12 = CLOSED
SV13 = CLOSED
Any Triggered Fuel Faults = 0x0000080000000000
Filtered Aileron Deflection = 0.000
Bias set by the CCO or calculated by gid = 0.000
Fuel Balance System Status : System Off

111605Z JUN 12 Significant Event
Mission Critical Advisory:13: Fuel Pressure Switch (PS2) Indicates Boost Pump OFF (1.18.2)
111605Z JUN 12 Significant Event
Mission Critical Advisory:8: Fuel Pressure Switch (PS1) Indicates Boost Pump 1 FF (Fuel 1.18.2)
111605Z JUN 12 Significant Event
Mission Critical Advisory:10: Fuel System Pressure (PT1) is less than 6 psig (el 1.18.2)
111605Z JUN 12 Significant Event
Flight Critical System Failure:11: Fuel System Pressure (PT1) is less than 4 p g (Fuel 1.18.2)
111605Z JUN 12 Significant Event
Mission Critical Advisory:42: Fuel Boost Pump Performance Problem. PT1 < 16 ps

111605Z JUN 12 Significant Event
Mission Critical Advisory:10: Fuel System Pressure (PT1) is less than 6 psig (el 1.18.2)
111605Z JUN 12 Significant Event
Mission Critical Advisory:13: Fuel Pressure Switch (PS2) Indicates Boost Pump OFF (1.18.2)

UAV Tail #: 02-0010 Subsystem: Msn Load

111522Z JUN 12 Detailed Status Requested.

111522Z JUN 12 Detailed Status Results
Mission Plan loaded and checksum : OK
Total override mode for GID : FAILED
Internal MPM Operation Mode = Autonomous
Suspend Mode = Not holding, sequencing through plan file
Mission Data Upload Mode = Idle
Est fuel needed to complete mission (lbs) = 0
Effective loss-of-comm timeout value (sec) = 30
Right turn w/ hdg override : FALSE
Left turn w/ hdg override : FALSE
C2 override heading command (deg) is not available
C2 override/on track velocity (kts) is not available
C2 override/on track altitude (ft) is not available
C2 override altitude rate is not available
C2 override/on track spoiler pos (deg) is not available
Aggregate checksum of IMMC ,data transmitted to other IMMC = 795716806
Aggregate checksum of IMMC ,data received from other IMMC's local = 795716806
UAV tail number = 02-0010
Aircraft mission number = E0632N5A
Initial fuel load = 9600
Fuel density = 680
UAV empty weight = 11500
Time-out default = 30
Mission start waypoint number = 1
Initial true heading = 65172
Mission revision number = 60
Index of next waypoint = 1

Waypoint #	1	2	3	4	5	6	7
Link to next hashed waypoint	65535	65535	65535	65535	65535	65535	65535
Waypoint type	1	2	2	2	2	2	2
Waypoint number	1	3	4	5	1686	1687	1
Next Waypoint number	3	4	5	1686	1687	14	16
Raw values (in Hex)	Raw Latitude				0.668	0.668	0.66
	0.668	0.668	0.668	0.668			
Raw Longitude	-1.334	-1.334	-1.334	-1.334	-1.334	-1.3	
	-1.334	-1.333					
Raw Altitude (feet)	-90	-90	-90	-90	-90	-90	
	-90	4500					
Raw Velocity (knots)	6	6	6	6	6	6	6
0							
Fuel required for leg (lbs)	0	0	0	0	0	0	25
2							
Turn type	0	0	0	0	0	0	0
Contingency Route WP's	1	3	4	5	1686	1687	1
15							
	1	3	4	5	1686	1687	1
15							
	1	3	4	5	1686	1687	1
15							
	1	3	4	5	1686	1687	1
15							

0xAFDB = 0xafdb
FTR timeout period (sec) = 300
Required takeoff velocity (kts) = 40

Elevator test pulse amplitude (deg) = 0.0
Aileron test pulse amplitude (deg) = 0.0
Rudder test pulse amplitude (deg) = 0.0
Taxi ruddervator position (deg) = 3.0
Payload configuration bits = 0xf91f
PS3 installed : YES
GNA SAR installed : YES
GNA EOIR installed : YES
SAR installed : YES
EOIR installed : YES
SVS heatload installed : NO
Wideband heatload installed : NO
SVS TDS installed : NO
SVS TWR installed : YES
SVS ALE-50 installed : NO
IFF mode 4 installed : NO
OmniStar installed : YES
UAV6 Fuel Balance installed : YES
ECS Minus68 Degree Fuel installed : YES
ECS Bleed Air installed : YES
INMARSAT installed : YES
Payload installation bits = 0x0025
IFF Mode S installed : YES
TCAS installed : NO
See & Detect installed : YES
First IMMC: Phase IIB, X0 revision IMMC installed : YES
Second IMMC: Phase IIB, X0 revision IMMC installed : YES
VCP Internet Address (IP) = 205.187.42.217
UAV dry weight = 11530
Version of KN IMU software supposed to be loaded = 0x01010108
Version of KN NAV software supposed to be loaded = 0x00000202
IFF Mode S Address = 0x00000001
IFF Mode S AIS string = 0xA88068E0100C0C0C
Checksum of the AFDB data = 0xFA63
MAC Ethernet Address of the IMMC = 00:80:29:57:05:14
MAC Ethernet Address of Payload = 54:32:50:49:53:53
Taxi speed limited = TRUE
Override Command = Override Heading

LogTime	Description	Heading	GS	BarAlt	AltRate	Pitch	Roll	Override	SplrPos	RadAlt	RngToWP	CalAS	Latitude	Longitude	WndSpd	WndDir
163:16:39:01	1_Hz_Status_Data	352.211	0	22	-10	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:03	1_Hz_Status_Data	352.211	0	22	-10	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:03	1_Hz_Status_Data	352.211	0	22	-10	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:05	1_Hz_Status_Data	352.211	0	22	-7	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:05	1_Hz_Status_Data	352.211	0	22	-7	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:07	1_Hz_Status_Data	352.211	0	22	-1	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:07	1_Hz_Status_Data	352.211	0	22	-1	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:08	1_Hz_Status_Data	352.211	0	22	1	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:09	1_Hz_Status_Data	352.211	0	22	1	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:11	1_Hz_Status_Data	352.211	0	22	-1	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:11	1_Hz_Status_Data	352.211	0	22	-1	1	0.4	autonomo	0	0	117	0	38.27645	-76.41681	0	352
163:16:39:12	1_Hz_Status_Data	352.211	0	22	-1	1	0.4	autonomo	0	0	117	0	38.27645	-76.41681	0	352
163:16:39:12	1_Hz_Status_Data	352.211	0	22	-1	1	0.4	autonomo	0	0	117	0	38.27645	-76.41681	0	352
163:16:39:14	1_Hz_Status_Data	352.211	0	22	-3	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:15	1_Hz_Status_Data	352.211	0	22	-3	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:16	1_Hz_Status_Data	352.211	0	22	0	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:16	1_Hz_Status_Data	352.211	0	22	0	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:18	1_Hz_Status_Data	352.211	0	22	0	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:18	1_Hz_Status_Data	352.211	0	22	0	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:20	1_Hz_Status_Data	352.211	0	22	2	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:20	1_Hz_Status_Data	352.211	0	22	2	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:22	1_Hz_Status_Data	352.211	0	22	3	1	0.4	autonomo	0	0	117	1	38.27644	-76.41681	0	352
163:16:39:22	1_Hz_Status_Data	352.211	0	22	3	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:24	1_Hz_Status_Data	352.216	0	22	0	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:24	1_Hz_Status_Data	352.216	0	22	0	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:26	1_Hz_Status_Data	352.211	0	22	2	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:26	1_Hz_Status_Data	352.211	0	22	1	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:28	1_Hz_Status_Data	352.211	0	22	3	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:30	1_Hz_Status_Data	352.211	0	22	3	1	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:30	1_Hz_Status_Data	352.216	0	22	8	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:32	1_Hz_Status_Data	352.211	0	22	11	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:33	1_Hz_Status_Data	352.216	0	22	11	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:34	1_Hz_Status_Data	352.211	0	22	9	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:36	1_Hz_Status_Data	352.216	0	22	9	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:36	1_Hz_Status_Data	352.211	0	22	8	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:37	1_Hz_Status_Data	352.211	0	22	8	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:37	1_Hz_Status_Data	352.216	0	22	6	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:39	1_Hz_Status_Data	352.216	0	22	6	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:40	1_Hz_Status_Data	352.211	0	22	7	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:41	1_Hz_Status_Data	352.216	0	22	7	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:41	1_Hz_Status_Data	352.211	0	22	0	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:43	1_Hz_Status_Data	352.211	0	22	0	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:43	1_Hz_Status_Data	352.216	0	22	0	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:45	1_Hz_Status_Data	352.211	0	22	0	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:45	1_Hz_Status_Data	352.211	0	22	0	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:47	1_Hz_Status_Data	352.205	0	22	0	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:47	1_Hz_Status_Data	352.205	0	22	-4	1	0.4	autonomo	0	0	118	0	38.27644	-76.41681	0	352
163:16:39:49	1_Hz_Status_Data	352.205	0	24	-5	0.9	0.4	autonomo	0	0	117	0	38.27644	-76.41681	0	352
163:16:39:51	1_Hz_Status_Data	352.178	1	24	0	0.9	0.4	autonomo	0	0	114	3	38.27645	-76.41682	0	172
163:16:39:51	1_Hz_Status_Data	352.09	2	24	-3	0.9	0.4	autonomo	0	0	104	0	38.27648	-76.41682	0	181
163:16:39:55	1_Hz_Status_Data	352.963	3	24	0	0.7	0.4	autonomo	0	0	96	0	38.2765	-76.41682	0	178
163:16:39:55	1_Hz_Status_Data	354.155	4	22	-7	0.6	0.3	autonomo	0	0	88	2	38.27652	-76.41682	0	178
163:16:39:57	1_Hz_Status_Data	355.375	4	22	1	0.8	0.3	autonomo	0	0	80	0	38.27655	-76.41682	0	178
163:16:39:57	1_Hz_Status_Data	356.342	5	22	4	1.1	0.3	autonomo	0	0	70	6	38.27657	-76.41683	0	177
163:16:39:57	1_Hz_Status_Data	355.935	5	24	16	1.1	0.5	autonomo	0	0	61	4	38.2766	-76.41683	0	176
163:16:40:01	1_Hz_Status_Data	354.705	5	26	0	1	0.4	autonomo	0	0	52	5	38.27662	-76.41684	0	175
163:16:40:01	1_Hz_Status_Data	352.606	5	26	-8	0.8	0.4	autonomo	0	0	43	3	38.27665	-76.41685	0	173
163:16:40:01	1_Hz_Status_Data	349.503	5	24	8	0.8	0.4	autonomo	0	0	35	0	38.27667	-76.41686	0	170
163:16:40:03	1_Hz_Status_Data	345.399	5	24	12	0.7	0.2	autonomo	0	0	29	0	38.2767	-76.41687	0	167
163:16:40:03	1_Hz_Status_Data	340.318	5	26	1	0.9	0.6	autonomo	0	0	26	0	38.27672	-76.41689	0	163
163:16:40:03	1_Hz_Status_Data	334.226	5	24	2	0.9	0.2	autonomo	0	0	28	0	38.27674	-76.41691	1	159
163:16:40:05	1_Hz_Status_Data	327.145	5	26	2	0.8	0.3	autonomo	0	0	459	0	38.27679	-76.41724	2	117
163:16:40:15	1_Hz_Status_Data	263.024	6	24	-7	0.7	0.7	autonomo	0	0	449	0	38.27679	-76.41727	2	114
163:16:40:16	1_Hz_Status_Data	261.645	6	24	7	0.7	0.6	autonomo	0	0	438	0	38.27678	-76.41731	2	111
163:16:40:17	1_Hz_Status_Data	261.129	6	24	8	0.7	0.7	autonomo	0	0	428	0	38.27678	-76.41734	2	109
163:16:40:17	1_Hz_Status_Data	260.909	6	24	0	0.7	0.7	autonomo	0	0	408	1	38.27677	-76.41741	2	105
163:16:40:19	1_Hz_Status_Data	261.134	6	26	5	0.8	0.7	autonomo	0	0	398	0	38.27677	-76.41745	2	103
163:16:40:20	1_Hz_Status_Data	261.475	6	24	5	0.7	0.7	autonomo	0	0	387	0	38.27676	-76.41748	2	102
163:16:40:21	1_Hz_Status_Data	262.04	6	24	3	0.9	0.5	autonomo	0	0	377	0	38.27676	-76.41752	2	100
163:16:40:22	1_Hz_Status_Data	262.771	6	26	-6	0.8	0.4	autonomo	0	0	368	0	38.27676	-76.41755	2	99
163:16:40:22	1_Hz_Status_Data	263.309	4	24	-16	0.6	0.1	autonomo	0	0	365	0	38.27676	-76.41756	2	99
163:16:40:26	1_Hz_Status_Data	263.123	0	24	6	0.6	0.3	autonomo	0	0	365	0	38.27676	-76.41756	2	99
163:16:40:27	1_Hz_Status_Data	263.172	0	26	11	0.8	0.4	autonomo	0	0	365	0	38.27676	-76.41756	2	99
163:16:40:28	1_Hz_Status_Data	263.112	0	24	-10	0.8	0.4	autonomo	0	0	365	0	38.27676	-76.41756	2	99
163:16:40:28	1_Hz_Status_Data	263.145	0	24	-8	0.8	0.4	autonomo	0	0	365	0	38.27676	-76.41756	2	99
163:16:40:28	1_Hz_Status_Data	263.062	0	24	-4	0.8	0.4	autonomo	0	0	365	0	38.27676	-76.41756	2	99
163:16:40:29	1_Hz_Status_Data	263.123	0	24	-5	0.8	0.4	autonomo	0	0	365	0	38.27676	-76.41756	2	99
163:16:40:30	1_Hz_Status_Data	263.123	0	24	-4	0.8	0.4	autonomo	0	0	365	0	38.27676	-76.41756	2	99

ENCLOSURE (41)

LogTime	Description	Heading	GS	BarAlt	AltRate	Pitch	Roll	Override	SpirPos	RadAlt	RngToWP	CalAS	Latitude	Longitude	WndSpd	WndDir
163:16:49:26	1_Hz_Status_Data	60.463	160	3450	3393	12.9	19.5	autonomo	0	2500	4030	149	38.31836	-76.36076	6	163
163:16:49:26	1_Hz_Status_Data	62.869	160	3502	3427	13.3	19.7	autonomo	0	2500	3765	149	38.31875	-76.35995	6	162
163:16:49:28	1_Hz_Status_Data	65.215	159	3558	3437	13.1	19.9	autonomo	0	2500	3503	149	38.31911	-76.35913	6	162
163:16:49:28	1_Hz_Status_Data	67.72	159	3614	3405	13.1	20.1	autonomo	0	2500	3247	148	38.31944	-76.35829	6	161
163:16:49:30	1_Hz_Status_Data	70.109	159	3668	3365	12.9	19.9	autonomo	0	2500	2998	148	38.31975	-76.35744	6	161
163:16:49:30	1_Hz_Status_Data	72.548	158	3722	3334	12.8	19.7	autonomo	0	2500	2758	148	38.32003	-76.35658	6	160
163:16:49:32	1_Hz_Status_Data	75.048	158	3776	3308	12.7	19.8	autonomo	0	2500	2530	148	38.32027	-76.3557	7	160
163:16:49:32	1_Hz_Status_Data	77.569	158	3830	3283	12.7	20.1	autonomo	0	2500	2317	148	38.32049	-76.35481	7	160
163:16:49:34	1_Hz_Status_Data	80.101	158	3880	3326	13	20.2	autonomo	0	2500	2125	148	38.32068	-76.35391	7	160
163:16:49:34	1_Hz_Status_Data	82.348	157	3936	3293	12.6	19.9	autonomo	0	2500	1961	148	38.32084	-76.353	7	159
163:16:49:36	1_Hz_Status_Data	84.76	157	3988	3239	12.4	19.7	autonomo	0	2500	1831	148	38.32096	-76.35209	7	159
163:16:49:36	1_Hz_Status_Data	87.479	157	4038	3243	12.8	19.9	autonomo	3	2500	1742	148	38.32106	-76.35117	7	159
163:16:49:38	1_Hz_Status_Data	89.539	156	4090	3019	11.4	20.1	autonomo	8	2500	1702	147	38.32113	-76.35025	7	159
163:16:49:38	1_Hz_Status_Data	91.439	154	4134	2467	9.8	19.8	autonomo	13	2500	17571	145	38.32117	-76.34934	7	159
163:16:49:40	1_Hz_Status_Data	93.153	153	4170	1846	7.8	19.5	autonomo	18	2500	17387	143	38.32119	-76.34844	8	160
163:16:49:40	1_Hz_Status_Data	95.175	153	4194	1253	6.3	19.3	autonomo	23	2500	17199	143	38.32119	-76.34754	8	160
163:16:49:41	1_Hz_Status_Data	97.74	153	4210	928	6.2	19.8	autonomo	25	2500	17008	143	38.32117	-76.34663	8	161
163:16:49:41	1_Hz_Status_Data	100.366	153	4224	905	6.7	20.1	autonomo	25	2500	16811	143	38.32112	-76.34573	8	162
163:16:49:43	1_Hz_Status_Data	102.975	152	4238	1011	7.3	20	autonomo	25	2500	16610	143	38.32103	-76.34484	8	162
163:16:49:43	1_Hz_Status_Data	105.716	151	4256	1169	8	19.8	autonomo	25	2500	16403	143	38.32091	-76.34396	8	163
163:16:49:45	1_Hz_Status_Data	108.49	150	4274	1334	8.6	19.9	autonomo	25	2500	16191	143	38.32076	-76.34309	8	164
163:16:49:45	1_Hz_Status_Data	111.138	150	4296	1445	8.9	20.1	autonomo	25	2500	15975	142	38.32058	-76.34224	9	165
163:16:49:47	1_Hz_Status_Data	113.681	149	4318	1478	8.9	20	autonomo	25	2500	15755	142	38.32037	-76.3414	9	165
163:16:49:47	1_Hz_Status_Data	116.296	149	4342	1497	8.9	19.8	autonomo	25	2500	15532	142	38.32012	-76.34058	9	166
163:16:49:49	1_Hz_Status_Data	118.949	148	4366	1534	9.1	19.9	autonomo	25	2500	15305	142	38.31985	-76.33977	9	167
163:16:49:51	1_Hz_Status_Data	121.459	148	4390	1533	8.9	20	autonomo	25	2500	15075	142	38.31956	-76.33899	9	167
163:16:49:51	1_Hz_Status_Data	123.843	147	4416	1450	8.4	20	autonomo	25	2500	14841	142	38.31923	-76.33822	9	168
163:16:49:53	1_Hz_Status_Data	126.211	148	4440	1317	7.8	19.8	autonomo	25	2500	14604	142	38.31888	-76.33747	9	169
163:16:49:53	1_Hz_Status_Data	128.518	148	4460	1149	7.1	19.9	autonomo	25	2500	14364	142	38.3185	-76.33674	9	169
163:16:49:55	1_Hz_Status_Data	130.792	148	4478	943	6.2	20	autonomo	25	2500	14121	143	38.3181	-76.33603	10	170
163:16:49:55	1_Hz_Status_Data	133.061	149	4492	736	5.4	20.1	autonomo	25	2500	13875	143	38.31768	-76.33534	10	171
163:16:49:57	1_Hz_Status_Data	135.302	149	4504	538	4.7	20	autonomo	25	2500	13626	144	38.31723	-76.33467	10	171
163:16:49:57	1_Hz_Status_Data	137.598	150	4510	360	4	20	autonomo	25	2500	13375	145	38.31675	-76.33402	10	172
163:16:49:59	1_Hz_Status_Data	139.944	151	4516	201	3.5	20.2	autonomo	25	2500	13121	146	38.31626	-76.3334	10	173
163:16:49:59	1_Hz_Status_Data	142.366	151	4518	102	3.2	20.3	autonomo	25	2500	12866	147	38.31574	-76.3328	10	174
163:16:50:01	1_Hz_Status_Data	144.75	152	4520	30	3	20.3	autonomo	25	2500	12610	147	38.3152	-76.33223	10	174
163:16:50:01	1_Hz_Status_Data	147.134	152	4520	-16	2.9	20.1	autonomo	25	2500	12353	147	38.31463	-76.33169	10	175
163:16:50:02	1_Hz_Status_Data	149.414	152	4518	-33	2.9	19.7	autonomo	25	2500	12097	148	38.31405	-76.33118	10	175
163:16:50:03	1_Hz_Status_Data	151.111	152	4518	4	3.4	17.1	autonomo	25	2500	11841	148	38.31345	-76.3307	10	176
163:16:50:05	1_Hz_Status_Data	151.837	152	4520	-102	1.7	12.4	autonomo	25	2500	11588	150	38.31284	-76.33026	10	176
163:16:50:05	1_Hz_Status_Data	153.792	153	4524	-1103	-2.9	7.7	autonomo	25	2500	11334	149	38.31222	-76.32983	10	176
163:16:50:06	1_Hz_Status_Data	156.984	154	4506	-1368	-2.2	4.7	autonomo	25	2500	11081	151	38.31159	-76.3294	10	177
163:16:50:07	1_Hz_Status_Data	159.131	154	4496	-1317	-1.4	1.6	autonomo	25	2500	10827	153	38.31095	-76.32899	10	178
163:16:50:08	1_Hz_Status_Data	161.027	154	4474	-557	2.5	-6.3	autonomo	25	2500	10321	154	38.30966	-76.32818	11	183
163:16:50:10	1_Hz_Status_Data	161.043	154	4474	-166	4.2	-9.8	autonomo	25	2500	10070	153	38.30902	-76.32778	11	185
163:16:50:12	1_Hz_Status_Data	160.291	153	4476	104	5.4	-13.1	autonomo	25	2500	9819	152	38.30838	-76.32787	11	187
163:16:50:12	1_Hz_Status_Data	158.577	152	4474	338	6.3	-15	autonomo	25	2500	9569	151	38.30776	-76.32695	12	188
163:16:50:12	1_Hz_Status_Data	155.748	151	4466	577	7.2	-16.3	autonomo	25	2500	9320	149	38.30715	-76.32651	12	190
163:16:50:14	1_Hz_Status_Data	152.655	150	4464	825	7.6	-16.7	autonomo	25	2500	9065	148	38.30653	-76.32604	12	190
163:16:50:16	1_Hz_Status_Data	149.974	150	4470	911	7.1	-16.2	autonomo	25	2500	8816	147	38.30595	-76.32556	12	190
163:16:50:16	1_Hz_Status_Data	147.876	150	4482	832	6.1	-15.1	autonomo	25	2500	8565	147	38.30538	-76.32505	12	190
163:16:50:18	1_Hz_Status_Data	144.591	150	4490	1104	9	-13.8	autonomo	25	2500	8313	146	38.30482	-76.32453	12	190
163:16:50:18	1_Hz_Status_Data	141.85	149	4508	1264	6.8	-12.7	autonomo	25	2500	8061	146	38.30427	-76.32398	12	190
163:16:50:20	1_Hz_Status_Data	138.444	150	4544	571	3.8	-8.3	autonomo	25	2500	7555	146	38.30322	-76.32283	12	188
163:16:50:22	1_Hz_Status_Data	137.719	151	4552	185	2.6	-6.2	autonomo	25	2500	7299	147	38.3027	-76.32222	11	187
163:16:50:22	1_Hz_Status_Data	137.203	152	4554	-124	1.7	-4.9	autonomo	25	2500	7042	147	38.30219	-76.32161	11	186
163:16:50:24	1_Hz_Status_Data	136.802	153	4550	-353	1.1	-3.7	autonomo	25	2500	6783	148	38.30167	-76.32098	11	185
163:16:50:24	1_Hz_Status_Data	136.45	154	4544	-501	0.8	-2.4	autonomo	25	2500	6523	149	38.30116	-76.32035	11	185
163:16:50:26	1_Hz_Status_Data	136.159	155	4536	-548	0.8	-1.5	autonomo	25	2500	6262	150	38.30066	-76.31971	11	184
163:16:50:26	1_Hz_Status_Data	135.956	155	4526	-515	1.1	-0.7	autonomo	25	2500	6000	150	38.30015	-76.31906	11	184
163:16:50:27	1_Hz_Status_Data	135.901	156	4518	-440	1.4	0	autonomo	25	2500	5736	150	38.29964	-76.3184	11	183
163:16:50:28	1_Hz_Status_Data	135.945	156	4510	-349	1.7	0.7	autonomo	25	2500	5472	150	38.29913	-76.31775	10	183
163:16:50:30	1_Hz_Status_Data	136.049	156	4506	-251	2	1.1	autonomo	25	2500	5208	151	38.29863	-76.31709	10	182
163:16:50:30	1_Hz_Status_Data	136.214	156	4500	-183	2.2	1.4	autonomo	25	2500	4945	150	38.29812	-76.31643	10	182
163:16:50:31	1_Hz_Status_Data	136.423	156	4498	-115	2.4	1.6	autonomo	25	2500	4681	150	38.29761	-76.31578	10	181
163:16:50:31	1_Hz_Status_Data	136.664	156	4496	-69	2.6	1.7	autonomo	25	2500	4417	150	38.2971	-76.31513	10	181
163:16:50:33	1_Hz_Status_Data	136.868	156	4494	-26	2.7	1.9	autonomo	25	2500	4153	150	38.29659	-76.31448	10	181
163:16:50:34	1_Hz_Status_Data	137.049	155	4494	0	2.8	1.7	autonomo	25	2500	3890	150	38.29608	-76.31383	10	181
163:16:50:35	1_Hz_Status_Data	137.433	155	4494	13	2.8	1.9	autonomo	25	2500	3627	150	38.29557	-76.31318	10	180
163:16:50:36	1_Hz_Status_Data	138.735	155	4494	41	2.9	6.4	autonomo	25	2500	3365	150	38.29505	-76.31254	10	180
163:16:50:37	1_Hz_Status_Data	140.641	155	4494	53	2.7	13.8	autonomo	25	2500	3103	150	38.29453	-76.31191	10	181
163:16:50:39	1_Hz_Status_Data	144.481	154	4496	-7	2.7	18.9	autonomo	25	2500	2580	150	38.29344	-76.31072	10	182
163:16:50:41	1_Hz_Status_Data	146.497	154	4494	-22	2.8	19.5	autonomo	25	2500	2321	150	38.29287	-76.31016	10	182
163:16:50:41	1_Hz_Status_Data	148.672	154	4494	-17	2.9	19.5	autonomo	25	2500	2066	150	38.29229	-76.30965	10	182
163:16:50:43	1_Hz_Status_Data	151.013	154	4494	-9	3	19.6	autonomo	25	2500	1814	149	38.29169	-76.30916	10	182
163:16:50:43	1_Hz_Status_Data	153.495	153	4494	12	3.1	20	autonomo	25	2500	1571	150	38.29107	-76.30871	10	183
163:16:50:45	1_Hz_Status_Data	155.934	153	4494	40	3.1	20.1	autonomo	25	2500	1338	149	38.29043	-76.30829	10	183
163:16:50:45	1_Hz_Status_Data	158.373	153	4494	63	3.3	20	autonomo	25	2500	1125	149	38.28979	-76.30791	10	183

LogTime	Description	Heading	GS	BarAlt	AltRate	Pitch	Roll	Override	SplrPos	RadAlt	RngToWP	CalAS	Latitude	Longitude	WndSpd	WndDir
163:16:53:23	1_Hz_Status_Data	193.068	171	12744	3426	11.3	0.3	onTrackHe	0	2500	13139	149	38.17653	-76.33199	12	183
163:16:53:23	1_Hz_Status_Data	193.233	171	12800	3435	11.2	0.3	onTrackHe	0	2500	12849	149	38.17575	-76.33219	12	184
163:16:53:25	1_Hz_Status_Data	193.228	171	12854	3413	11.2	0.1	onTrackHe	0	2500	12559	149	38.17498	-76.33239	12	185
163:16:53:25	1_Hz_Status_Data	193.118	171	12908	3363	11.1	-0.2	onTrackHe	0	2500	12270	147	38.1742	-76.33259	12	186
163:16:53:26	1_Hz_Status_Data	192.997	171	12962	3262	10.8	-0.4	onTrackHe	0	2500	11980	147	38.17342	-76.3328	12	187
163:16:53:27	1_Hz_Status_Data	192.936	172	13014	3136	10.5	-0.3	onTrackHe	0	2500	11689	146	38.17263	-76.333	12	188
163:16:53:28	1_Hz_Status_Data	192.947	172	13064	3024	10.2	-0.2	onTrackHe	0	2500	11398	146	38.17185	-76.3332	12	189
163:16:53:29	1_Hz_Status_Data	193.019	173	13110	2881	9.7	-0.1	onTrackHe	0	2500	11106	146	38.17106	-76.3334	12	190
163:16:53:30	1_Hz_Status_Data	193.101	173	13156	2773	9.4	0	onTrackHe	0	2500	10813	146	38.17028	-76.3336	12	191
163:16:53:32	1_Hz_Status_Data	193.118	174	13200	2650	9.1	0.1	onTrackHe	0	2500	10519	145	38.16948	-76.33381	11	191
163:16:53:32	1_Hz_Status_Data	193.046	175	13242	2605	9	-0.1	onTrackHe	0	2500	10224	145	38.16869	-76.33401	11	192
163:16:53:34	1_Hz_Status_Data	192.914	176	13284	2526	8.8	-0.7	onTrackHe	0	2500	9927	145	38.16789	-76.33422	11	193
163:16:53:34	1_Hz_Status_Data	192.739	176	13322	2511	8.9	-0.2	onTrackHe	0	2500	9623	145	38.16707	-76.33443	11	194
163:16:53:36	1_Hz_Status_Data	192.426	178	13402	2507	8.8	-0.4	onTrackHe	0	2500	9023	146	38.16546	-76.33484	11	195
163:16:53:38	1_Hz_Status_Data	192.404	179	13442	2536	8.9	-0.5	onTrackHe	0	2500	8722	146	38.16465	-76.33505	10	195
163:16:53:38	1_Hz_Status_Data	192.426	179	13482	2581	9.1	-0.3	onTrackHe	0	2500	8419	147	38.16383	-76.33526	10	196
163:16:53:40	1_Hz_Status_Data	192.502	180	13522	2655	9.1	-0.2	onTrackHe	0	2500	8115	147	38.16301	-76.33547	10	196
163:16:53:40	1_Hz_Status_Data	192.64	180	13564	2703	9.3	0	onTrackHe	0	2500	7810	148	38.16219	-76.33567	10	197
163:16:53:42	1_Hz_Status_Data	192.717	181	13608	2801	9.7	0.2	onTrackHe	0	2500	7504	148	38.16137	-76.33588	10	197
163:16:53:42	1_Hz_Status_Data	192.739	181	13654	2882	9.7	0	onTrackHe	0	2500	7198	148	38.16055	-76.33609	10	198
163:16:53:44	1_Hz_Status_Data	192.761	181	13698	2942	9.9	-0.1	onTrackHe	0	2500	6892	149	38.15972	-76.3363	10	199
163:16:53:44	1_Hz_Status_Data	192.788	181	13746	3033	10.2	-0.2	onTrackHe	0	2500	6585	149	38.1589	-76.33651	10	199
163:16:53:46	1_Hz_Status_Data	192.838	181	13794	3080	10.2	0	onTrackHe	0	2500	6278	148	38.15807	-76.33672	9	200
163:16:53:46	1_Hz_Status_Data	192.859	182	13844	3098	10.3	0.1	onTrackHe	0	2500	5972	148	38.15724	-76.33693	9	201
163:16:53:48	1_Hz_Status_Data	192.838	182	13892	3122	10.3	0.1	onTrackHe	0	2500	5664	148	38.15642	-76.33714	9	202
163:16:53:48	1_Hz_Status_Data	192.827	182	13942	3102	10.2	0	onTrackHe	0	2500	5357	148	38.15559	-76.33735	9	202
163:16:53:50	1_Hz_Status_Data	192.876	182	13990	3096	10.2	-0.2	onTrackHe	0	2500	5049	149	38.15476	-76.33757	9	203
163:16:53:50	1_Hz_Status_Data	193.002	182	14040	3101	10.1	-0.3	onTrackHe	0	2500	4741	149	38.15393	-76.33778	9	204
163:16:53:51	1_Hz_Status_Data	193.173	182	14090	3072	10	-0.1	onTrackHe	0	2500	4433	149	38.1531	-76.33799	9	204
163:16:53:52	1_Hz_Status_Data	193.293	182	14132	3095	10.2	0.2	onTrackHe	0	2500	4124	149	38.15227	-76.3382	9	205
163:16:53:53	1_Hz_Status_Data	193.25	182	14182	3092	10.1	0.2	onTrackHe	0	2500	3816	148	38.15144	-76.33841	9	206
163:16:53:54	1_Hz_Status_Data	193.09	183	14232	3056	10.1	-0.2	onTrackHe	0	2500	3507	148	38.15061	-76.33863	9	207
163:16:53:55	1_Hz_Status_Data	192.892	183	14278	3090	10.3	-0.3	onTrackHe	0	2500	3198	148	38.14978	-76.33884	9	208
163:16:53:57	1_Hz_Status_Data	192.766	183	14334	3049	9.9	-0.2	onTrackHe	0	2500	2889	148	38.14895	-76.33905	9	208
163:16:53:57	1_Hz_Status_Data	192.722	183	14376	3024	10.1	-0.1	onTrackHe	0	2500	2579	148	38.14811	-76.33927	9	209
163:16:53:59	1_Hz_Status_Data	192.678	183	14424	3045	10	-0.1	onTrackHe	0	2500	2269	148	38.14728	-76.33948	9	209
163:16:53:59	1_Hz_Status_Data	192.651	183	14474	2986	9.8	0	onTrackHe	0	2500	1959	148	38.14644	-76.33969	9	209
163:16:54:01	1_Hz_Status_Data	192.601	184	14520	3007	10	0	onTrackHe	0	2500	1649	149	38.14561	-76.3399	9	210
163:16:54:01	1_Hz_Status_Data	192.612	184	14568	3017	9.9	-0.1	onTrackHe	0	2500	1338	149	38.14477	-76.34012	9	210
163:16:54:03	1_Hz_Status_Data	192.662	184	14616	3018	10	-0.1	onTrackHe	0	2500	1028	149	38.14394	-76.34033	9	210
163:16:54:03	1_Hz_Status_Data	192.755	184	14664	3071	10.1	0.1	onTrackHe	0	2500	717	149	38.1431	-76.34054	9	211
163:16:54:05	1_Hz_Status_Data	192.766	184	14712	3077	10	0.2	onTrackHe	0	2500	405	149	38.14226	-76.34075	8	211
163:16:54:05	1_Hz_Status_Data	192.678	184	14762	3091	10.1	0	onTrackHe	0	2500	94	148	38.14142	-76.34097	8	212
163:16:54:07	1_Hz_Status_Data	192.574	184	14810	3068	10	-0.2	onTrackHe	0	2500	30368	147	38.14058	-76.34118	8	212
163:16:54:07	1_Hz_Status_Data	192.448	184	14860	3004	9.9	-0.4	onTrackHe	0	2500	30057	146	38.13975	-76.3414	8	212
163:16:54:09	1_Hz_Status_Data	192.266	185	14908	2901	9.5	-1.2	onTrackHe	0	2500	29745	146	38.13891	-76.34161	8	213
163:16:54:09	1_Hz_Status_Data	192.079	185	14952	2789	9.1	-2	onTrackHe	0	2500	29432	146	38.13806	-76.34182	8	213
163:16:54:11	1_Hz_Status_Data	191.904	186	14996	2672	8.8	-2.1	onTrackHe	0	2500	29118	146	38.13722	-76.34203	8	213
163:16:54:11	1_Hz_Status_Data	191.761	186	15038	2583	8.5	-1.8	onTrackHe	0	2500	28804	146	38.13637	-76.34224	8	214
163:16:54:13	1_Hz_Status_Data	191.635	187	15078	2519	8.4	-1.3	onTrackHe	0	2500	28488	147	38.13552	-76.34244	8	214
163:16:54:13	1_Hz_Status_Data	191.459	188	15118	2533	8.6	-1	onTrackHe	0	2500	28170	147	38.13466	-76.34264	7	214
163:16:54:15	1_Hz_Status_Data	191.277	188	15158	2573	8.6	-0.9	onTrackHe	0	2500	27852	147	38.1338	-76.34285	7	215
163:16:54:15	1_Hz_Status_Data	191.135	189	15200	2604	8.7	-0.9	onTrackHe	0	2500	27534	147	38.13294	-76.34305	7	215
163:16:54:16	1_Hz_Status_Data	191.063	189	15240	2648	8.8	-0.8	onTrackHe	0	2500	27214	148	38.13208	-76.34324	7	216
163:16:54:17	1_Hz_Status_Data	191.08	190	15282	2706	8.9	-0.6	onTrackHe	0	2500	26894	148	38.13121	-76.34344	7	216
163:16:54:18	1_Hz_Status_Data	191.179	190	15326	2767	9.1	-0.2	onTrackHe	0	2500	26573	149	38.13034	-76.34364	7	216
163:16:54:19	1_Hz_Status_Data	191.261	190	15368	2890	9.5	0.2	onTrackHe	0	2500	26252	149	38.12947	-76.34383	7	217
163:16:54:20	1_Hz_Status_Data	191.261	190	15414	2988	9.6	0.3	onTrackHe	0	2500	25930	149	38.12861	-76.34403	7	217
163:16:54:22	1_Hz_Status_Data	191.223	190	15462	3051	9.8	0.1	onTrackHe	0	2500	25609	149	38.12774	-76.34423	7	217
163:16:54:22	1_Hz_Status_Data	191.184	190	15510	3133	10.1	0	onTrackHe	0	2500	25288	149	38.12687	-76.34443	7	218
163:16:54:24	1_Hz_Status_Data	191.201	190	15560	3156	10	0	onTrackHe	0	2500	24966	149	38.126	-76.34462	7	218
163:16:54:24	1_Hz_Status_Data	191.245	190	15612	3172	10.1	0.1	onTrackHe	0	2500	24645	149	38.12513	-76.34482	7	218
163:16:54:26	1_Hz_Status_Data	191.316	190	15662	3198	10.1	0.3	onTrackHe	0	2500	24318	150	38.12425	-76.34502	6	218
163:16:54:26	1_Hz_Status_Data	191.349	190	15712	3216	10.1	0.4	onTrackHe	0	2500	23997	150	38.12338	-76.34522	6	218
163:16:54:28	1_Hz_Status_Data	191.354	190	15764	3194	9.9	0.3	onTrackHe	0	2500	23677	150	38.12252	-76.34542	7	218
163:16:54:28	1_Hz_Status_Data	191.354	190	15814	3156	9.9	0.1	onTrackHe	0	2500	23356	149	38.12165	-76.34562	7	218
163:16:54:30	1_Hz_Status_Data	191.332	190	15862	3164	10	0	onTrackHe	0	2500	23035	149	38.12078	-76.34582	6	218
163:16:54:30	1_Hz_Status_Data	191.365	190	15914	3105	9.7	-0.1	onTrackHe	0	2500	22715	148	38.11992	-76.34603	6	218
163:16:54:32	1_Hz_Status_Data	191.464	190	15958	3059	9.7	0	onTrackHe	0	2500	22394	148	38.11905	-76.34623	6	219
163:16:54:32	1_Hz_Status_Data	191.602	190	16006	3045	9.7	0.2	onTrackHe	0	2500	22073	148	38.11818	-76.34643	6	219
163:16:54:34	1_Hz_Status_Data	191.739	190	16054	3016	9.5	0.3	onTrackHe	0	2500	21752	148	38.11732	-76.34663	6	219
163:16:54:34	1_Hz_Status_Data	191.871	190	16102	2953	9.3	0.3	onTrackHe	0	2500	21430	148	38.11645	-76.34683	6	220
163:16:54:36	1_Hz_Status_Data	192.008	190	16150	2913	9.2	0.1	onTrackHe	0	2500	21109	148	38.11558	-76.34703	6	220
163:16:54:36	1_Hz_Status_Data	192.134	191	16196	2891	9.2	0	onTrackHe	0	2500	20787	148	38.11471	-76.34724	6	221
163:16:54:38	1_Hz_Status_Data	192.233	191	16242	2893	9.2	0	onTrackHe	0	2500	20465	149	38.11384	-76.34744	6	221
163:16:54:38	1_Hz_Status_Data	192.305	191	16286	2915	9.4	0	track	0	2500	20142	149	38.11297	-76.34764	7	222
163:16:54:40	1_Hz_Status_Data	192.316	191	16334	2925	9.1	-0.1	track	0	2500	20142	149	38.1121	-76.34785	7	222
163:16:54:40	1_Hz_Status_Data	191.838	191	16378	2615	7.8	-3.2	track	8	2500	20142	148	38.11123	-76.34805	7	222

LogTime	Description	Heading	GS	BarAlt	AltRate	Pitch	Roll	Override	SpirPos	RadAlt	RngToWP	CalAS	Latitude	Longitude	WndSpd	WndDir
163:16:57:21	1_Hz_Status_Data	67.714	219	21802	2554	7.7	-0.2	onTrackHe	0	N/A	N/A	148	38.11449	-76.18713	6	223
163:16:57:23	1_Hz_Status_Data	67.643	219	21842	2533	7.5	-0.1	onTrackHe	0	N/A	N/A	148	38.11488	-76.18594	6	223
163:16:57:23	1_Hz_Status_Data	67.577	220	21882	2506	7.5	0	onTrackHe	0	N/A	N/A	148	38.11527	-76.18475	6	224
163:16:57:25	1_Hz_Status_Data	67.495	220	21922	2548	7.8	0	onTrackHe	0	N/A	N/A	148	38.11566	-76.18356	5	224
163:16:57:25	1_Hz_Status_Data	67.39	220	21964	2571	7.6	0	onTrackHe	0	N/A	N/A	148	38.11605	-76.18237	5	225
163:16:57:27	1_Hz_Status_Data	67.214	220	22002	2566	7.7	0	onTrackHe	0	N/A	N/A	148	38.11644	-76.18118	5	225
163:16:57:27	1_Hz_Status_Data	67.05	220	22044	2580	7.8	-0.2	onTrackHe	0	N/A	N/A	148	38.11684	-76.17999	5	226
163:16:57:29	1_Hz_Status_Data	66.973	220	22084	2591	7.7	-0.4	onTrackHe	0	N/A	N/A	148	38.11723	-76.17879	5	227
163:16:57:29	1_Hz_Status_Data	66.978	220	22126	2562	7.6	-0.2	onTrackHe	0	N/A	N/A	148	38.11762	-76.1776	5	228
163:16:57:31	1_Hz_Status_Data	66.94	220	22166	2572	7.7	0	onTrackHe	0	N/A	N/A	148	38.11802	-76.17641	5	229
163:16:57:31	1_Hz_Status_Data	66.83	220	22208	2624	7.9	0.2	onTrackHe	0	N/A	N/A	148	38.11841	-76.17521	5	230
163:16:57:33	1_Hz_Status_Data	66.693	220	22248	2659	7.9	0	onTrackHe	0	N/A	N/A	148	38.1188	-76.17402	5	231
163:16:57:33	1_Hz_Status_Data	66.605	220	22290	2665	7.7	-0.2	onTrackHe	0	N/A	N/A	148	38.11919	-76.17283	5	233
163:16:57:35	1_Hz_Status_Data	66.616	220	22332	2645	7.7	-0.3	onTrackHe	0	N/A	N/A	148	38.11959	-76.17163	5	234
163:16:57:35	1_Hz_Status_Data	66.671	220	22374	2675	7.9	-0.1	onTrackHe	0	N/A	N/A	148	38.11998	-76.17044	5	235
163:16:57:37	1_Hz_Status_Data	66.764	220	22416	2674	7.7	0.1	onTrackHe	0	N/A	N/A	148	38.12038	-76.16925	5	236
163:16:57:37	1_Hz_Status_Data	66.868	220	22458	2645	7.7	0.3	onTrackHe	0	N/A	N/A	148	38.12077	-76.16805	5	237
163:16:57:38	1_Hz_Status_Data	66.962	220	22498	2668	7.9	0.2	onTrackHe	0	N/A	N/A	148	38.12116	-76.16686	5	238
163:16:57:39	1_Hz_Status_Data	66.984	220	22542	2643	7.7	0.1	onTrackHe	0	N/A	N/A	147	38.12156	-76.16566	5	239
163:16:57:40	1_Hz_Status_Data	66.934	220	22584	2593	7.7	0	onTrackHe	0	N/A	N/A	147	38.12195	-76.16447	5	240
163:16:57:42	1_Hz_Status_Data	66.802	221	22624	2549	7.6	-0.1	onTrackHe	0	N/A	N/A	147	38.12234	-76.16327	5	241
163:16:57:42	1_Hz_Status_Data	66.671	221	22664	2501	7.5	-0.2	onTrackHe	0	N/A	N/A	147	38.12273	-76.16208	5	242
163:16:57:44	1_Hz_Status_Data	66.594	221	22704	2490	7.4	-0.1	onTrackHe	0	N/A	N/A	148	38.12313	-76.16088	5	243
163:16:57:44	1_Hz_Status_Data	66.632	221	22742	2503	7.3	-0.2	onTrackHe	0	N/A	N/A	148	38.12352	-76.15968	4	244
163:16:57:46	1_Hz_Status_Data	66.841	221	22782	2510	7.4	-0.1	onTrackHe	0	N/A	N/A	148	38.12393	-76.15846	4	245
163:16:57:46	1_Hz_Status_Data	67.088	221	22822	2612	7.8	0.2	onTrackHe	0	N/A	N/A	148	38.12432	-76.15726	4	246
163:16:57:48	1_Hz_Status_Data	67.242	221	22864	2660	7.7	0.4	onTrackHe	0	N/A	N/A	148	38.12472	-76.15606	4	246
163:16:57:48	1_Hz_Status_Data	67.302	221	22904	2699	7.9	0.3	onTrackHe	0	N/A	N/A	148	38.12511	-76.15486	4	246
163:16:57:50	1_Hz_Status_Data	67.324	221	22948	2767	8	0	onTrackHe	0	N/A	N/A	148	38.1255	-76.15367	4	246
163:16:57:50	1_Hz_Status_Data	67.368	221	22992	2749	7.9	-0.1	onTrackHe	0	N/A	N/A	148	38.1259	-76.15247	4	246
163:16:57:52	1_Hz_Status_Data	67.412	221	23078	2736	7.9	0	onTrackHe	0	N/A	N/A	148	38.12668	-76.15008	4	246
163:16:57:54	1_Hz_Status_Data	67.407	220	23122	2738	7.9	0.1	onTrackHe	0	N/A	N/A	148	38.12708	-76.14888	4	246
163:16:57:54	1_Hz_Status_Data	67.423	220	23164	2736	7.9	0.1	onTrackHe	0	N/A	N/A	148	38.12747	-76.14769	4	247
163:16:57:56	1_Hz_Status_Data	67.462	220	23208	2714	7.8	0	onTrackHe	0	N/A	N/A	148	38.12786	-76.14649	4	247
163:16:57:56	1_Hz_Status_Data	67.527	220	23250	2685	7.7	-0.1	onTrackHe	0	N/A	N/A	148	38.12825	-76.1453	4	246
163:16:57:58	1_Hz_Status_Data	67.571	220	23288	2677	7.7	-0.2	onTrackHe	0	N/A	65201	148	38.12865	-76.1441	3	246
163:16:57:58	1_Hz_Status_Data	67.571	220	23332	2672	7.8	-0.2	onTrackHe	0	N/A	64829	148	38.12904	-76.1429	3	246
163:16:58:00	1_Hz_Status_Data	67.516	220	23372	2688	7.8	-0.1	onTrackHe	0	N/A	64457	148	38.12943	-76.14171	3	246
163:16:58:00	1_Hz_Status_Data	67.473	220	23416	2673	7.7	0	onTrackHe	0	N/A	64085	147	38.12982	-76.14052	3	246
163:16:58:02	1_Hz_Status_Data	67.429	220	23458	2631	7.6	0	onTrackHe	0	N/A	63713	147	38.13022	-76.13932	3	246
163:16:58:02	1_Hz_Status_Data	67.39	220	23500	2597	7.7	0	onTrackHe	0	N/A	63341	147	38.13061	-76.13813	3	246
163:16:58:03	1_Hz_Status_Data	67.335	220	23540	2606	7.7	0	onTrackHe	0	N/A	62969	147	38.131	-76.13693	3	246
163:16:58:04	1_Hz_Status_Data	67.324	220	23582	2546	7.3	0	onTrackHe	0	N/A	62597	147	38.13139	-76.13574	3	246
163:16:58:05	1_Hz_Status_Data	67.346	220	23622	2494	7.4	-0.1	onTrackHe	0	N/A	62225	147	38.13178	-76.13455	3	246
163:16:58:07	1_Hz_Status_Data	67.385	220	23662	2478	7.2	-0.2	onTrackHe	0	N/A	61853	147	38.13218	-76.13335	3	246
163:16:58:07	1_Hz_Status_Data	67.423	221	23700	2442	7.1	-0.1	onTrackHe	0	N/A	61480	147	38.13257	-76.13215	3	246
163:16:58:09	1_Hz_Status_Data	67.451	221	23740	2414	7.1	0	onTrackHe	0	N/A	61107	147	38.13296	-76.13096	3	246
163:16:58:09	1_Hz_Status_Data	67.418	221	23776	2419	7.1	0	onTrackHe	0	N/A	60733	147	38.13336	-76.12976	2	246
163:16:58:11	1_Hz_Status_Data	67.335	221	23814	2420	7.1	0	onTrackHe	0	N/A	60360	147	38.13375	-76.12856	2	246
163:16:58:11	1_Hz_Status_Data	67.275	221	23854	2430	7.1	0	onTrackHe	0	N/A	59986	147	38.13415	-76.12736	2	247
163:16:58:13	1_Hz_Status_Data	67.253	221	23892	2439	7.2	-0.1	onTrackHe	0	N/A	59612	147	38.13454	-76.12616	2	247
163:16:58:13	1_Hz_Status_Data	67.297	221	23930	2502	7.4	-0.2	onTrackHe	0	N/A	59238	147	38.13493	-76.12496	2	247
163:16:58:15	1_Hz_Status_Data	67.412	222	23970	2519	7.3	0	onTrackHe	0	N/A	58864	147	38.13533	-76.12376	2	247
163:16:58:15	1_Hz_Status_Data	67.533	222	24010	2541	7.5	0.2	onTrackHe	0	N/A	58490	147	38.13573	-76.12256	2	247
163:16:58:17	1_Hz_Status_Data	67.582	222	24050	2535	7.2	0.3	onTrackHe	0	N/A	58115	147	38.13612	-76.12136	2	247
163:16:58:17	1_Hz_Status_Data	67.703	222	24092	2367	6.5	0.1	onTrackHe	0	N/A	57741	147	38.13651	-76.12015	2	246
163:16:58:19	1_Hz_Status_Data	67.939	222	24128	2259	6.7	0	onTrackHe	0	N/A	57366	147	38.13691	-76.11895	2	245
163:16:58:19	1_Hz_Status_Data	68.176	222	24162	2278	6.7	0	onTrackHe	0	N/A	56991	147	38.1373	-76.11774	2	244
163:16:58:21	1_Hz_Status_Data	68.692	223	24206	2064	5.5	0	onTrackHe	0	N/A	56615	147	38.1377	-76.11653	2	241
163:16:58:21	1_Hz_Status_Data	69.164	223	24236	2015	6.4	0	onTrackHe	0	N/A	56238	147	38.13809	-76.11532	2	237
163:16:58:23	1_Hz_Status_Data	69.516	224	24270	2133	6.6	-0.1	onTrackHe	0	N/A	55860	147	38.13848	-76.11411	2	233
163:16:58:23	1_Hz_Status_Data	69.62	224	24304	2194	6.7	-0.6	onTrackHe	0	N/A	55482	147	38.13887	-76.11289	2	228
163:16:58:25	1_Hz_Status_Data	69.236	224	24334	2456	8.9	-1.3	onTrackHe	0	N/A	55104	146	38.13926	-76.11167	2	225
163:16:58:25	1_Hz_Status_Data	68.005	223	24370	3139	9.7	-1.9	onTrackHe	0	N/A	54727	146	38.13965	-76.11045	2	223
163:16:58:26	1_Hz_Status_Data	66.786	222	24424	3082	8.6	-2.4	onTrackHe	0	N/A	54351	145	38.14004	-76.10925	2	225
163:16:58:27	1_Hz_Status_Data	66	222	24472	2963	8.3	-1.9	onTrackHe	0	N/A	53976	145	38.14043	-76.10804	2	230
163:16:58:28	1_Hz_Status_Data	65.748	222	24520	2671	7.1	-1.1	onTrackHe	0	N/A	53601	144	38.14083	-76.10684	2	235
163:16:58:29	1_Hz_Status_Data	65.803	222	24560	2293	6.2	-0.4	onTrackHe	5	N/A	53226	144	38.14123	-76.10564	2	239
163:16:58:30	1_Hz_Status_Data	65.934	223	24594	1837	5.2	0	onTrackHe	5	N/A	52850	143	38.14163	-76.10443	2	243
163:16:58:32	1_Hz_Status_Data	66.022	223	24620	1631	5.5	0.1	onTrackHe	5	N/A	52474	143	38.14203	-76.10323	2	246
163:16:58:32	1_Hz_Status_Data	66.066	222	24646	1470	4.8	0.4	onTrackHe	5	N/A	52099	142	38.14244	-76.10203	2	249
163:16:58:34	1_Hz_Status_Data	66.072	223	24668	1323	4.8	0.5	onTrackHe	5	N/A	51723	142	38.14284	-76.10082	2	251
163:16:58:34	1_Hz_Status_Data	66.055	223	24688	1315	4.9	0.4	onTrackHe	5	N/A	51347	142	38.14324	-76.09962	2	253
163:16:58:36	1_Hz_Status_Data	66.088	223	24708	1357	5.2	0.4	onTrackHe	5	N/A	50962	142	38.14365	-76.09839	3	255
163:16:58:36	1_Hz_Status_Data	66.154	223	24728	1446	5.4	0.6	onTrackHe	5	N/A	50586	142	38.14406	-76.09718	3	257
163:16:58:38	1_Hz_Status_Data	66.187	223	24752	1495	5.3	0.8	onTrackHe	5	N/A	50208	143	38.14446	-76.09597	3	258
163:16:58:38	1_Hz_Status_Data	66.116	223	24776	1561	5.7	0.9	onTrackHe	5	N/A	49831	143	38.14486	-76.09476	3	260
163:16:58:40	1_Hz_Status_Data	66	223	24798	1633	5.7	0.6	onTrackHe	5	N/A	49454	143	38.14526	-76.09355	3	261

LogTime	Description	Heading	GS	BarAlt	AltRate	Pitch	Roll	Override	SplrPos	RadAlt	RngToWP	CalAS	Latitude	Longitude	WndSpd	WndDir
163:16:58:40	1_Hz_Status_Data	65.929	223	24824	1621	5.5	0.3	onTrackHe	5	N/A	49077	143	38.14566	-76.09234	3	263
163:16:58:42	1_Hz_Status_Data	65.907	223	24850	1594	5.5	0.3	onTrackHe	5	N/A	48699	142	38.14606	-76.09113	3	265
163:16:58:42	1_Hz_Status_Data	65.94	223	24878	1546	5.3	0.5	onTrackHe	5	N/A	48322	142	38.14646	-76.08992	3	266
163:16:58:44	1_Hz_Status_Data	65.967	224	24900	1476	5.1	0.7	onTrackHe	5	N/A	47944	142	38.14686	-76.08871	4	268
163:16:58:44	1_Hz_Status_Data	66.006	224	24924	1322	4.4	0.6	onTrackHe	5	N/A	47566	142	38.14726	-76.0875	4	269
163:16:58:46	1_Hz_Status_Data	66.022	225	24946	1148	4.1	0.4	onTrackHe	5	N/A	47187	142	38.14766	-76.08628	4	270
163:16:58:46	1_Hz_Status_Data	66.055	226	24964	959	3.4	0.1	onTrackHe	5	N/A	46807	142	38.14806	-76.08506	4	270
163:16:58:48	1_Hz_Status_Data	66.105	227	24990	508	2.4	0.1	onTrackHe	5	N/A	46041	142	38.14887	-76.0826	4	271
163:16:58:50	1_Hz_Status_Data	66.094	228	24998	353	2.1	0.3	onTrackHe	5	N/A	45656	143	38.14927	-76.08136	5	271
163:16:58:50	1_Hz_Status_Data	66.083	229	25002	268	2	0.3	onTrackHe	5	N/A	45269	143	38.14968	-76.08012	5	271
163:16:58:52	1_Hz_Status_Data	66.138	231	25008	149	1.7	0.1	onTrackHe	5	N/A	44492	144	38.1505	-76.07762	5	272
163:16:58:53	1_Hz_Status_Data	66.204	231	25012	80	1.4	0	onTrackHe	5	N/A	44102	145	38.15091	-76.07637	5	272
163:16:58:55	1_Hz_Status_Data	66.275	232	25012	7	1.2	0	onTrackHe	5	N/A	43710	145	38.15132	-76.07511	6	272
163:16:58:55	1_Hz_Status_Data	66.313	232	25012	-42	1.1	0	onTrackHe	5	N/A	43318	145	38.15173	-76.07385	6	272
163:16:58:57	1_Hz_Status_Data	66.286	233	25012	-41	1.2	0	onTrackHe	5	N/A	42926	146	38.15214	-76.07259	6	272
163:16:58:57	1_Hz_Status_Data	66.231	233	25010	-23	1.1	0	onTrackHe	5	N/A	42533	146	38.15255	-76.07133	6	272
163:16:58:59	1_Hz_Status_Data	66.16	233	25010	-75	0.8	-0.1	onTrackHe	5	N/A	42139	146	38.15296	-76.07006	6	272
163:16:58:59	1_Hz_Status_Data	66.088	233	25006	-96	0.8	-0.3	onTrackHe	5	N/A	41746	146	38.15338	-76.0688	6	273
163:16:59:01	1_Hz_Status_Data	66.055	233	25004	-103	0.8	-0.4	onTrackHe	5	N/A	41352	146	38.15379	-76.06753	7	273
163:16:59:01	1_Hz_Status_Data	66.061	233	25002	-87	0.9	-0.3	onTrackHe	5	N/A	40958	146	38.1542	-76.06627	7	273
163:16:59:03	1_Hz_Status_Data	66.094	233	25002	-86	0.9	-0.1	onTrackHe	5	N/A	40563	146	38.15462	-76.065	7	273
163:16:59:03	1_Hz_Status_Data	66.127	234	25000	-79	1	0.1	onTrackHe	5	N/A	40169	146	38.15509	-76.06373	7	273
163:16:59:05	1_Hz_Status_Data	66.132	234	24998	-36	1.2	0.1	onTrackHe	5	N/A	39774	146	38.15545	-76.06246	7	273
163:16:59:05	1_Hz_Status_Data	66.143	234	24998	4	1.4	0	onTrackHe	5	N/A	39380	146	38.15586	-76.0612	7	273
163:16:59:07	1_Hz_Status_Data	66.176	234	24998	45	1.3	-0.1	onTrackHe	5	N/A	38985	146	38.15628	-76.05993	7	273
163:16:59:07	1_Hz_Status_Data	66.253	234	25000	44	1.3	-0.2	onTrackHe	5	N/A	38590	146	38.15669	-76.05866	8	273
163:16:59:09	1_Hz_Status_Data	66.357	234	25000	59	1.3	-0.1	track	5	N/A	38353	147	38.15711	-76.05739	8	273
163:16:59:09	1_Hz_Status_Data	66.165	234	25000	107	1.6	-0.7	track	5	N/A	38353	146	38.15752	-76.05612	8	273
163:16:59:11	1_Hz_Status_Data	65.182	234	25002	156	1.3	-5.6	track	5	N/A	38353	147	38.15794	-76.05486	8	273
163:16:59:11	1_Hz_Status_Data	64.083	233	25008	-139	-0.6	-12.9	track	5	N/A	38353	147	38.15837	-76.05359	8	273
163:16:59:13	1_Hz_Status_Data	63.166	234	25004	-778	-2.3	-16.5	track	16	N/A	38353	147	38.1588	-76.05234	8	273
163:16:59:13	1_Hz_Status_Data	62.529	233	24976	-1722	-3.8	-17.6	track	23	N/A	38353	147	38.15926	-76.0511	8	273
163:16:59:15	1_Hz_Status_Data	61.441	233	24936	-2350	-3.8	-17.7	track	28	N/A	38353	148	38.15973	-76.04986	8	273
163:16:59:15	1_Hz_Status_Data	59.969	234	24894	-2649	-3.4	-17.6	track	33	N/A	38353	149	38.16022	-76.04864	8	273
163:16:59:16	1_Hz_Status_Data	58.079	234	24848	-2696	-2.8	-18.1	track	38	N/A	38353	150	38.16073	-76.04743	8	273
163:16:59:17	1_Hz_Status_Data	56.234	234	24804	-2606	-2.2	-18.7	track	40	N/A	38353	150	38.16127	-76.04624	8	273
163:16:59:18	1_Hz_Status_Data	54.448	233	24764	-2404	-1.3	-18.6	track	40	N/A	38353	150	38.16183	-76.04507	8	273
163:16:59:20	1_Hz_Status_Data	52.696	233	24728	-2078	-0.4	-18.3	track	40	N/A	38353	150	38.16243	-76.04393	8	273
163:16:59:21	1_Hz_Status_Data	51.015	233	24696	-1766	0.3	-18.4	track	40	N/A	38353	149	38.16305	-76.04281	8	273
163:16:59:22	1_Hz_Status_Data	49.466	232	24668	-1555	0.4	-18.2	track	40	N/A	38353	149	38.1637	-76.04172	8	273
163:16:59:22	1_Hz_Status_Data	48.027	231	24642	-1490	0.3	-18.7	track	40	N/A	38353	149	38.16437	-76.04066	8	273
163:16:59:24	1_Hz_Status_Data	46.483	230	24618	-1468	0.7	-18.3	track	40	N/A	38353	148	38.16506	-76.03963	8	273
163:16:59:24	1_Hz_Status_Data	44.973	229	24596	-1445	0.3	-18.3	track	40	N/A	38353	148	38.16577	-76.03863	8	273
163:16:59:26	1_Hz_Status_Data	43.248	228	24574	-1491	0.5	-18.7	track	40	N/A	38353	148	38.1665	-76.03765	8	273
163:16:59:26	1_Hz_Status_Data	41.633	227	24548	-1517	0.2	-18.6	track	40	N/A	38353	147	38.16725	-76.03671	8	273
163:16:59:30	1_Hz_Status_Data	36.799	225	24478	-1486	0.3	-19	track	40	N/A	38353	147	38.16961	-76.03405	8	273
163:16:59:30	1_Hz_Status_Data	35.392	224	24456	-1530	0.2	-18.8	track	40	N/A	38353	147	38.17043	-76.03323	8	273
163:16:59:32	1_Hz_Status_Data	33.799	224	24432	-1507	0.5	-18.6	track	40	N/A	38353	147	38.17126	-76.03244	8	273
163:16:59:32	1_Hz_Status_Data	32.201	224	24408	-1520	0.3	-18.8	track	40	N/A	38353	146	38.17211	-76.03169	8	273
163:16:59:34	1_Hz_Status_Data	30.586	223	24384	-1554	0.2	-19.1	track	40	N/A	38353	146	38.17298	-76.03096	8	273
163:16:59:34	1_Hz_Status_Data	29.026	223	24358	-1602	0.3	-19.2	track	40	N/A	38353	146	38.17386	-76.03027	8	273
163:16:59:36	1_Hz_Status_Data	27.394	223	24334	-1559	0.5	-19	track	40	N/A	38353	146	38.17475	-76.02962	8	273
163:16:59:36	1_Hz_Status_Data	25.692	222	24310	-1516	0.5	-19.1	track	40	N/A	38353	146	38.17566	-76.02899	8	273
163:16:59:38	1_Hz_Status_Data	24.005	222	24284	-1522	0.4	-19.4	track	40	N/A	38353	146	38.17658	-76.02841	8	273
163:16:59:38	1_Hz_Status_Data	22.225	222	24262	-1524	0.6	-19.2	track	40	N/A	38353	146	38.17751	-76.02786	8	273
163:16:59:40	1_Hz_Status_Data	20.742	222	24236	-1549	0.1	-19.2	track	40	N/A	38353	146	38.17846	-76.02734	8	273
163:16:59:40	1_Hz_Status_Data	19.001	222	24212	-1592	0.5	-19.5	track	40	N/A	38353	146	38.17942	-76.02686	8	273
163:16:59:41	1_Hz_Status_Data	17.441	222	24186	-1571	0.4	-19.5	track	40	N/A	38353	146	38.18038	-76.02641	8	273
163:16:59:42	1_Hz_Status_Data	15.677	221	24160	-1551	0.6	-19.4	track	40	N/A	38353	146	38.18136	-76.026	8	273
163:16:59:43	1_Hz_Status_Data	14.101	221	24136	-1535	0.5	-19.2	track	40	N/A	38353	146	38.18234	-76.02563	8	273
163:16:59:44	1_Hz_Status_Data	13.431	221	24112	-1560	0.5	-15.2	track	40	N/A	38353	146	38.18334	-76.0253	8	273
163:16:59:45	1_Hz_Status_Data	13.574	221	24088	-1551	0.7	-7.1	track	40	N/A	38353	146	38.18433	-76.02499	8	273
163:16:59:47	1_Hz_Status_Data	14.315	221	24064	-1483	0.7	2.2	track	40	N/A	38353	146	38.18533	-76.02469	8	273
163:16:59:47	1_Hz_Status_Data	15.507	221	24040	-1439	0.4	11.4	track	40	N/A	38353	146	38.18633	-76.02439	8	273
163:16:59:49	1_Hz_Status_Data	16.787	221	24020	-1438	0.4	17	track	40	N/A	38353	146	38.18732	-76.02407	8	273
163:16:59:49	1_Hz_Status_Data	18.089	221	23996	-1489	0.2	18.6	track	40	N/A	38353	146	38.1883	-76.02371	8	273
163:16:59:51	1_Hz_Status_Data	19.413	221	23970	-1544	0.3	18.4	track	40	N/A	38353	146	38.18928	-76.02332	8	273
163:16:59:51	1_Hz_Status_Data	20.627	221	23946	-1566	0.4	16.7	track	40	N/A	38353	146	38.19025	-76.02289	8	273
163:16:59:53	1_Hz_Status_Data	21.769	221	23922	-1529	0.6	14.3	track	40	N/A	38353	146	38.19121	-76.02243	8	273
163:16:59:53	1_Hz_Status_Data	22.78	221	23896	-1473	0.7	11.9	track	40	N/A	38353	146	38.19216	-76.02195	8	273
163:16:59:55	1_Hz_Status_Data	23.615	221	23874	-1429	0.7	9.8	track	40	N/A	38353	146	38.1931	-76.02144	8	273
163:16:59:55	1_Hz_Status_Data	24.214	221	23850	-1450	0.5	8	track	40	N/A	38353	146	38.19404	-76.02092	8	273
163:16:59:57	1_Hz_Status_Data	24.747	221	23828	-1472	0.4	6.2	track	40	N/A	38353	146	38.19497	-76.02038	8	273
163:16:59:57	1_Hz_Status_Data	25.23	221	23804	-1485	0.4	5	track	40	N/A	38353	146	38.1959	-76.01983	8	273
163:16:59:59	1_Hz_Status_Data	25.549	221	23782	-1503	0.3	4.1	track	40	N/A	38353	146	38.19682	-76.01927	8	273
163:16:59:59	1_Hz_Status_Data	25.752	221	23760	-1507	0.4	3	track	40	N/A	38353	146	38.19775	-76.0187	8	273
163:17:00:01	1_Hz_Status_Data	25.955	221	23734	-1492	0.4	2.2	track	40	N/A	38353	146	38.19867	-76.01813	8	273
163:17:00:01	1_Hz_Status_Data	26.147	221	23712	-1475	0.5	1.8	track	40	N/A	38353	146	38.19959	-76.01755	8	273

LogTime	Description	Heading	GS	BarAlt	AltRate	Pitch	Roll	Override	SplrPos	RadAlt	RngToWP	CalAS	Latitude	Longitude	WndSpd	WndDir
163:17:00:03	1_Hz_Status_Data	26.307	221	23690	-1461	0.5	1.5	track	40	N/A	38353	146	38.20051	-76.01697	8	273
163:17:00:03	1_Hz_Status_Data	26.378	221	23666	-1475	0.4	1.1	track	40	N/A	38353	146	38.20143	-76.01639	8	273
163:17:00:05	1_Hz_Status_Data	26.389	221	23642	-1497	0.4	0.7	track	40	N/A	38353	146	38.20235	-76.01581	8	273
163:17:00:06	1_Hz_Status_Data	26.373	221	23618	-1482	0.6	0.4	track	40	N/A	38353	146	38.20326	-76.01522	8	273
163:17:00:07	1_Hz_Status_Data	26.323	221	23594	-1471	0.6	0.3	track	40	N/A	38353	146	38.20418	-76.01463	8	273
163:17:00:07	1_Hz_Status_Data	26.246	221	23570	-1460	0.6	0.3	track	40	N/A	38353	146	38.20509	-76.01404	8	273
163:17:00:09	1_Hz_Status_Data	26.334	221	23526	-1455	0.4	-0.1	track	40	N/A	38353	146	38.20692	-76.01288	8	273
163:17:00:10	1_Hz_Status_Data	26.34	221	23502	-1464	0.4	0.1	track	40	N/A	38353	146	38.20784	-76.01229	8	273
163:17:00:12	1_Hz_Status_Data	26.34	221	23478	-1460	0.3	0	track	40	N/A	38353	147	38.20875	-76.0117	8	273
163:17:00:12	1_Hz_Status_Data	26.296	221	23456	-1478	0.3	0	track	40	N/A	38353	147	38.20966	-76.01111	8	273
163:17:00:14	1_Hz_Status_Data	26.191	221	23432	-1440	0.4	0	track	40	N/A	38353	147	38.21057	-76.01052	8	273
163:17:00:14	1_Hz_Status_Data	26.142	220	23410	-1468	0.2	-0.1	track	40	N/A	38353	147	38.21148	-76.00993	8	273
163:17:00:16	1_Hz_Status_Data	26.01	220	23388	-1464	0.3	-0.1	track	40	N/A	38353	147	38.21239	-76.00931	8	273
163:17:00:16	1_Hz_Status_Data	26.021	220	23364	-1457	0.3	0	track	40	N/A	38353	147	38.21332	-76.00871	8	273
163:17:00:18	1_Hz_Status_Data	26.01	220	23340	-1456	0.3	-0.1	track	40	N/A	38353	147	38.21423	-76.00812	8	273
163:17:00:18	1_Hz_Status_Data	26.06	220	23318	-1474	0.3	-0.2	track	40	N/A	38353	147	38.21514	-76.00754	8	273
163:17:00:20	1_Hz_Status_Data	26.115	219	23294	-1487	0.2	0	track	40	N/A	38353	147	38.21604	-76.00695	8	273
163:17:00:20	1_Hz_Status_Data	26.153	219	23270	-1493	0.3	0	track	40	N/A	38353	147	38.21695	-76.00636	8	273
163:17:00:22	1_Hz_Status_Data	26.175	219	23248	-1504	0.3	0	track	40	N/A	38353	147	38.21786	-76.00578	8	273
163:17:00:22	1_Hz_Status_Data	26.147	219	23224	-1492	0.4	0	track	40	N/A	38353	146	38.21876	-76.00519	8	273
163:17:00:24	1_Hz_Status_Data	26.093	219	23200	-1479	0.4	-0.1	track	40	N/A	38353	146	38.21967	-76.0046	8	273
163:17:00:24	1_Hz_Status_Data	26.032	219	23176	-1499	0.3	-0.1	track	40	N/A	38353	146	38.22057	-76.00402	8	273
163:17:00:26	1_Hz_Status_Data	26.005	219	23152	-1509	0.3	-0.1	track	40	N/A	38353	146	38.22147	-76.00343	8	273
163:17:00:26	1_Hz_Status_Data	25.939	219	23130	-1470	0.7	0	track	40	N/A	38353	146	38.22238	-76.00285	8	273
163:17:00:28	1_Hz_Status_Data	25.873	219	23106	-1443	0.4	0	track	40	N/A	38353	146	38.22328	-76.00226	8	273
163:17:00:28	1_Hz_Status_Data	25.939	218	23082	-1508	0.3	-0.1	track	40	N/A	38353	146	38.22418	-76.00168	8	273
163:17:00:30	1_Hz_Status_Data	26.032	218	23058	-1511	0.4	0	track	40	N/A	38353	146	38.22508	-76.0011	8	273
163:17:00:30	1_Hz_Status_Data	26.087	218	23036	-1507	0.4	0.1	track	40	N/A	38353	146	38.22599	-76.00051	8	273
163:17:00:31	1_Hz_Status_Data	26.021	218	23014	-1479	0.5	0	track	40	N/A	38353	146	38.22689	-75.99993	8	273
163:17:00:32	1_Hz_Status_Data	25.9	218	22990	-1492	0.3	-0.1	track	40	N/A	38353	146	38.22779	-75.99934	8	273
163:17:00:33	1_Hz_Status_Data	25.763	218	22964	-1496	0.4	-0.1	track	40	N/A	38353	146	38.22869	-75.99876	8	273
163:17:00:34	1_Hz_Status_Data	25.642	218	22940	-1501	0.2	-0.1	track	40	N/A	38353	146	38.22959	-75.99817	8	273
163:17:00:35	1_Hz_Status_Data	25.582	219	22916	-1503	0.3	-0.2	track	40	N/A	38353	146	38.2305	-75.99759	8	273
163:17:00:37	1_Hz_Status_Data	25.576	219	22892	-1480	0.3	-0.1	track	40	N/A	38353	146	38.2314	-75.997	8	273
163:17:00:37	1_Hz_Status_Data	25.516	219	22870	-1467	0.3	0	track	40	N/A	38353	146	38.2323	-75.99642	8	273
163:17:00:39	1_Hz_Status_Data	25.406	219	22848	-1471	0.3	0	track	40	N/A	38353	146	38.23321	-75.99583	8	273
163:17:00:39	1_Hz_Status_Data	25.307	219	22826	-1482	0.2	-0.2	track	40	N/A	38353	146	38.23411	-75.99525	8	273
163:17:00:41	1_Hz_Status_Data	25.219	219	22802	-1493	0.2	-0.1	track	40	N/A	38353	146	38.23501	-75.99466	8	273
163:17:00:41	1_Hz_Status_Data	25.098	219	22778	-1484	0.3	0	track	40	N/A	38353	146	38.23592	-75.99407	8	273
163:17:00:45	1_Hz_Status_Data	25.148	219	22708	-1455	0.5	0	track	40	N/A	38353	146	38.23863	-75.99232	8	273
163:17:00:45	1_Hz_Status_Data	25.236	219	22684	-1432	0.5	0	track	40	N/A	38353	146	38.23954	-75.99173	8	273
163:17:00:47	1_Hz_Status_Data	25.384	219	22662	-1453	0.4	0	track	40	N/A	38353	146	38.24045	-75.99115	8	273
163:17:00:47	1_Hz_Status_Data	25.494	219	22640	-1468	0.4	0.2	track	40	N/A	38353	146	38.24135	-75.99056	8	273
163:17:00:49	1_Hz_Status_Data	25.318	219	22592	-1487	0.4	-0.1	track	40	N/A	38353	146	38.24316	-75.98939	8	273
163:17:00:51	1_Hz_Status_Data	25.208	219	22568	-1467	0.4	-0.2	track	40	N/A	38353	146	38.24407	-75.9888	8	273
163:17:00:51	1_Hz_Status_Data	25.197	219	22546	-1474	0.4	-0.1	track	40	N/A	38353	146	38.24498	-75.98821	8	273
163:17:00:53	1_Hz_Status_Data	25.192	219	22522	-1452	0.5	0	track	40	N/A	38353	146	38.24588	-75.98763	8	273
163:17:00:53	1_Hz_Status_Data	25.186	219	22498	-1440	0.4	0	track	40	N/A	38353	146	38.24679	-75.98704	8	273
163:17:00:55	1_Hz_Status_Data	25.17	219	22476	-1443	0.4	0	track	40	N/A	38353	146	38.2477	-75.98646	8	273
163:17:00:55	1_Hz_Status_Data	25.142	219	22454	-1443	0.4	0	track	40	N/A	38353	146	38.2486	-75.98587	8	273
163:17:00:56	1_Hz_Status_Data	25.104	219	22430	-1474	0.2	0	track	40	N/A	38353	146	38.24951	-75.98529	8	273
163:17:00:57	1_Hz_Status_Data	25.12	219	22408	-1488	0.3	0	track	40	N/A	38353	147	38.25042	-75.9847	8	273
163:17:00:58	1_Hz_Status_Data	25.164	219	22382	-1483	0.2	0	track	40	N/A	38353	147	38.25132	-75.98411	8	273
163:17:00:59	1_Hz_Status_Data	25.175	219	22360	-1475	0.3	0	track	40	N/A	38353	147	38.25223	-75.98353	8	273
163:17:01:00	1_Hz_Status_Data	25.153	219	22336	-1474	0.2	0.1	track	40	N/A	38353	147	38.25314	-75.98294	8	273
163:17:01:02	1_Hz_Status_Data	25.071	219	22314	-1470	0.2	0	track	40	N/A	38353	147	38.25405	-75.98236	8	273
163:17:01:02	1_Hz_Status_Data	25.032	219	22288	-1481	0.2	-0.1	track	40	N/A	38353	147	38.25495	-75.98177	8	273
163:17:01:04	1_Hz_Status_Data	25.065	219	22240	-1485	0.2	0	track	40	N/A	38353	147	38.25677	-75.9806	8	273
163:17:01:06	1_Hz_Status_Data	25.109	219	22218	-1492	0.3	0	track	40	N/A	38353	147	38.25767	-75.98001	8	273
163:17:01:06	1_Hz_Status_Data	25.142	219	22194	-1489	0.3	0	track	40	N/A	38353	147	38.25858	-75.97943	8	273
163:17:01:08	1_Hz_Status_Data	25.159	219	22170	-1498	0.3	0	track	40	N/A	38353	147	38.25948	-75.97884	8	273
163:17:01:08	1_Hz_Status_Data	25.12	219	22148	-1491	0.4	0	track	40	N/A	38353	147	38.2604	-75.97825	8	273
163:17:01:10	1_Hz_Status_Data	25.06	219	22124	-1491	0.4	-0.1	track	40	N/A	38353	147	38.26131	-75.97766	8	273
163:17:01:10	1_Hz_Status_Data	25.043	218	22100	-1472	0.4	-0.2	track	40	N/A	38353	147	38.26221	-75.97708	8	273
163:17:01:12	1_Hz_Status_Data	25.071	218	22076	-1475	0.4	0	track	40	N/A	38353	147	38.26311	-75.9765	8	273
163:17:01:12	1_Hz_Status_Data	25.137	218	22054	-1472	0.4	0	track	40	N/A	38353	147	38.26401	-75.97591	8	273
163:17:01:14	1_Hz_Status_Data	25.28	218	22032	-1542	-0.5	0	track	40	N/A	38353	147	38.26491	-75.97533	8	273
163:17:01:14	1_Hz_Status_Data	25.922	218	22004	-1830	0.3	0.2	track	40	N/A	38353	146	38.26581	-75.97475	8	273
163:17:01:16	1_Hz_Status_Data	25.928	218	21978	-1543	0.5	0.5	track	40	N/A	38353	147	38.26672	-75.97417	8	273
163:17:01:16	1_Hz_Status_Data	25.527	218	21954	-1383	1.1	-0.2	track	40	N/A	38353	147	38.26762	-75.97358	8	273
163:17:01:18	1_Hz_Status_Data	25.302	218	21930	-1307	0.9	-0.6	track	40	N/A	38353	147	38.26851	-75.973	8	273
163:17:01:18	1_Hz_Status_Data	25.258	217	21910	-1319	0.8	-0.5	track	40	N/A	38353	147	38.26941	-75.97241	8	273
163:17:01:20	1_Hz_Status_Data	25.318	217	21890	-1349	0.7	-0.1	track	40	N/A	38353	147	38.27031	-75.97183	8	273
163:17:01:20	1_Hz_Status_Data	25.4	217	21868	-1411	0.5	0	track	40	N/A	38353	146	38.27121	-75.97125	8	273
163:17:01:22	1_Hz_Status_Data	25.571	217	21822	-1513	0.3	0	track	40	N/A	38353	147	38.27301	-75.97009	8	273
163:17:01:23	1_Hz_Status_Data	25.615	217	21798	-1487	0.5	0	track	40	N/A	38353	147	38.2739	-75.96951	8	273
163:17:01:24	1_Hz_Status_Data	25.67	217	21774	-1470	0.4	0	track	40	N/A	38353	147	38.2748	-75.96894	8	273
163:17:01:25	1_Hz_Status_Data	25.697	217	21752	-1471	0.4	0.1	track	40	N/A	38353	147	38.2757	-75.96836	8	273

LogTime	Description	Heading	GS	BarAlt	AltRate	Pitch	Roll	Override	SplrPos	RadAlt	RngToWP	CalAS	Latitude	Longitude	WndSpd	WndDir
163:17:01:27	1_Hz_Status_Data	25.659	217	21728	-1471	0.4	0.1	track	40	N/A	38353	147	38.27659	-75.96778	8	273
163:17:01:27	1_Hz_Status_Data	25.67	216	21704	-1474	0.4	0	track	40	N/A	38353	147	38.27749	-75.9672	8	273
163:17:01:29	1_Hz_Status_Data	25.697	216	21680	-1469	0.4	0	track	40	N/A	38353	147	38.27838	-75.96662	8	273
163:17:01:29	1_Hz_Status_Data	25.774	216	21658	-1476	0.4	0	track	40	N/A	38353	147	38.27928	-75.96605	8	273
163:17:01:31	1_Hz_Status_Data	25.856	216	21634	-1458	0.4	0.1	track	40	N/A	38353	147	38.28017	-75.96547	8	273
163:17:01:31	1_Hz_Status_Data	25.862	216	21612	-1461	0.3	0.1	track	40	N/A	38353	147	38.28106	-75.96489	8	273
163:17:01:33	1_Hz_Status_Data	25.867	216	21588	-1483	0.3	0	track	40	N/A	38353	147	38.28196	-75.96432	8	273
163:17:01:33	1_Hz_Status_Data	25.834	216	21564	-1473	0.3	0	track	40	N/A	38353	147	38.28285	-75.96374	8	273
163:17:01:35	1_Hz_Status_Data	25.768	216	21540	-1464	0.3	0	track	40	N/A	38353	147	38.28374	-75.96316	8	273
163:17:01:35	1_Hz_Status_Data	25.763	216	21518	-1476	0.2	0	track	40	N/A	38353	147	38.28463	-75.96259	8	273
163:17:01:37	1_Hz_Status_Data	25.812	216	21494	-1484	0.2	0	track	40	N/A	38353	147	38.28552	-75.96201	8	273
163:17:01:37	1_Hz_Status_Data	25.862	216	21472	-1489	0.3	0.1	track	40	N/A	38353	146	38.28641	-75.96143	8	273
163:17:01:39	1_Hz_Status_Data	25.763	216	21448	-1412	0.8	0.1	track	40	N/A	38353	147	38.28731	-75.96086	8	273
163:17:01:39	1_Hz_Status_Data	25.67	216	21424	-1452	0.2	-0.1	track	40	N/A	38353	146	38.2882	-75.96028	8	273
163:17:01:41	1_Hz_Status_Data	25.774	216	21404	-1499	0.3	-0.1	track	40	N/A	38353	147	38.28909	-75.95971	8	273
163:17:01:41	1_Hz_Status_Data	25.933	216	21378	-1530	0.2	0.1	track	40	N/A	38353	147	38.28998	-75.95913	8	273
163:17:01:43	1_Hz_Status_Data	25.988	216	21354	-1521	0.3	0.2	track	40	N/A	38353	147	38.29087	-75.95855	8	273
163:17:01:43	1_Hz_Status_Data	25.928	215	21330	-1503	0.3	0.1	track	40	N/A	38353	147	38.29176	-75.95798	8	273
163:17:01:45	1_Hz_Status_Data	25.834	215	21306	-1502	0.3	-0.1	track	40	N/A	38353	147	38.29265	-75.9574	8	273
163:17:01:45	1_Hz_Status_Data	25.79	215	21284	-1491	0.4	-0.2	track	40	N/A	38353	147	38.29354	-75.95682	8	273
163:17:01:46	1_Hz_Status_Data	25.785	215	21260	-1466	0.4	0	track	40	N/A	38353	147	38.29443	-75.95625	8	273
163:17:01:47	1_Hz_Status_Data	25.779	215	21236	-1446	0.4	0	track	40	N/A	38353	147	38.29532	-75.95567	8	273
163:17:01:48	1_Hz_Status_Data	25.785	215	21214	-1450	0.3	0	track	40	N/A	38353	147	38.29621	-75.9551	8	273
163:17:01:49	1_Hz_Status_Data	25.785	215	21190	-1455	0.4	0	track	40	N/A	38353	147	38.2971	-75.95452	8	273
163:17:01:50	1_Hz_Status_Data	25.774	215	21166	-1454	0.4	0	track	40	N/A	38353	147	38.29798	-75.95395	8	273
163:17:01:52	1_Hz_Status_Data	25.741	215	21144	-1452	0.3	0	track	40	N/A	38353	147	38.29887	-75.95337	8	273
163:17:01:52	1_Hz_Status_Data	25.675	215	21120	-1459	0.2	0	track	40	N/A	38353	147	38.29976	-75.9528	8	273
163:17:01:54	1_Hz_Status_Data	25.604	214	21098	-1473	0.2	-0.1	track	40	N/A	38353	147	38.30065	-75.95222	8	273
163:17:01:54	1_Hz_Status_Data	25.598	214	21074	-1505	0	-0.1	track	40	N/A	38353	147	38.30153	-75.95165	8	273
163:17:01:56	1_Hz_Status_Data	25.648	214	21052	-1500	0.2	0	track	40	N/A	38353	147	38.30242	-75.95108	8	273
163:17:01:56	1_Hz_Status_Data	25.631	214	21028	-1500	0	0.1	track	40	N/A	38353	146	38.3033	-75.9505	8	273
163:17:01:58	1_Hz_Status_Data	25.587	214	21006	-1490	0.2	0	track	40	N/A	38353	146	38.30419	-75.94993	8	273
163:17:01:58	1_Hz_Status_Data	25.532	214	20982	-1491	0	-0.1	track	40	N/A	38353	146	38.30509	-75.94935	8	273
163:17:02:00	1_Hz_Status_Data	25.834	214	20954	-1701	-1	0	track	40	N/A	38353	146	38.30598	-75.94877	8	273
163:17:02:00	1_Hz_Status_Data	26.01	215	20932	-1583	0.1	0.3	track	40	N/A	38353	147	38.30686	-75.9482	8	273
163:17:02:02	1_Hz_Status_Data	25.972	215	20904	-1562	0	0.1	track	40	N/A	38353	148	38.30775	-75.94763	8	273
163:17:02:02	1_Hz_Status_Data	25.889	215	20882	-1441	0.1	-0.2	track	40	N/A	38353	148	38.30864	-75.94705	8	273
163:17:02:04	1_Hz_Status_Data	26.521	214	20856	-1876	-3.1	-0.2	track	40	N/A	38353	148	38.30952	-75.94648	8	273
163:17:02:04	1_Hz_Status_Data	28.389	214	20832	-2584	-4	0.3	track	40	N/A	38353	149	38.31041	-75.9459	8	273
163:17:02:06	1_Hz_Status_Data	30.366	214	20802	-2876	-4.2	1.1	track	40	N/A	38353	150	38.31129	-75.94532	8	273
163:17:02:06	1_Hz_Status_Data	31.871	214	20766	-2992	-4.1	1	track	40	N/A	38353	151	38.31216	-75.94473	8	273
163:17:02:08	1_Hz_Status_Data	33.563	215	20732	-2904	-3.5	0.3	track	40	N/A	38353	152	38.31304	-75.94414	8	273
163:17:02:08	1_Hz_Status_Data	36.085	215	20722	-2751	-2.9	0	track	40	N/A	38353	154	38.31391	-75.94353	8	273
163:17:02:10	1_Hz_Status_Data	39.452	215	20724	-2624	-2.7	-0.2	track	40	N/A	38353	156	38.31478	-75.9429	8	273
163:17:02:12	1_Hz_Status_Data	43.44	215	20752	-2703	-3.7	-0.7	track	40	N/A	38353	158	38.31564	-75.94226	8	273
163:17:02:12	1_Hz_Status_Data	48.406	213	20684	-3760	-10.1	-3.2	track	40	N/A	38353	157	38.31649	-75.94161	8	273
163:17:02:12	1_Hz_Status_Data	57.914	205	20722	-6000	-25.3	-11.8	track	40	N/A	38353	157	38.31731	-75.94094	8	273
163:17:02:14	1_Hz_Status_Data	71.274	185	20848	-6000	-35.5	-21.1	track	40	N/A	38353	158	38.31804	-75.94029	8	273
163:17:02:14	1_Hz_Status_Data	84.007	164	20796	-6000	-50	-17.1	track	40	N/A	38353	156	38.31868	-75.93968	8	273
163:17:02:16	1_Hz_Status_Data	93.752	141	20626	-6000	-74.8	-11.1	track	40	N/A	38353	160	38.31924	-75.93915	8	273
163:17:02:17	1_Hz_Status_Data	4.708	96	19582	-6000	-84.5	74.4	track	40	N/A	38353	167	38.32021	-75.93857	8	273
163:17:02:19	1_Hz_Status_Data	28.147	76	19100	-6000	-83.2	27.5	track	40	N/A	38353	112	38.32057	-75.93849	8	273
163:17:02:19	1_Hz_Status_Data	172.848	44	18362	-6000	-72.2	-151.4	track	41	N/A	38353	78	38.32085	-75.93854	8	273
163:17:02:21	1_Hz_Status_Data	141.614	14	19110	-6000	-48.7	-144.1	track	36	N/A	38353	116	38.32094	-75.93863	8	273
163:17:02:21	1_Hz_Status_Data	96.839	11	18736	-6000	-42.6	-149.2	track	31	N/A	38353	29	38.32091	-75.93866	8	273
163:17:02:23	1_Hz_Status_Data	51.334	27	17902	-6000	-71.6	-167.9	track	26	N/A	38353	44	38.32084	-75.93858	8	273
163:17:02:23	1_Hz_Status_Data	288.49	29	17924	-6000	-84	-53.5	track	21	N/A	38353	0	38.32077	-75.93841	8	273
163:17:02:25	1_Hz_Status_Data	63.029	40	17056	-6000	-57.7	-155.4	track	16	N/A	38353	0	38.32072	-75.93823	8	273
163:17:02:25	1_Hz_Status_Data	104.59	62	16082	-6000	-14.9	-165.8	track	11	N/A	38353	0	38.32065	-75.9379	8	273
163:17:02:27	1_Hz_Status_Data	124.327	71	16664	-6000	-33.3	98	track	6	N/A	38353	0	38.32057	-75.93751	8	273
163:17:02:27	1_Hz_Status_Data	146.08	86	15626	-6000	-36.9	161.6	track	11	N/A	38353	0	38.32048	-75.93711	8	273
163:17:02:39	1_Hz_Status_Data	71.186	71	14672	-6000	-18.8	73.9	track	0	0	38353	70	38.3193	-75.93386	8	273
163:17:02:39	1_Hz_Status_Data	26.796	63	14798	-6000	31	87.4	track	0	0	38353	12	38.31926	-75.93349	8	273
163:17:02:41	1_Hz_Status_Data	357.83	21	13788	-6000	1.1	-16.2	track	0	0	38353	95	38.31919	-75.93266	8	273
163:17:02:43	1_Hz_Status_Data	205.966	32	13542	-6000	-21.6	134.3	autonomo	0	0	38353	88	38.31905	-75.93263	8	273
163:17:02:45	1_Hz_Status_Data	182.241	37	12270	-6000	-73.7	-57.9	autonomo	0	0	N/A	84	38.3188	-75.93216	6	329
163:17:02:47	1_Hz_Status_Data	167.388	37	11968	-6000	-14.8	-155.1	autonomo	0	0	N/A	128	38.31877	-75.93194	3	285
163:17:02:47	1_Hz_Status_Data	143.487	40	11720	-6000	-4	-158.3	autonomo	0	0	N/A	87	38.31864	-75.9318	3	237
163:17:02:49	1_Hz_Status_Data	122.316	44	11472	-6000	-29.9	173.6	autonomo	0	2500	N/A	101	38.31853	-75.93157	3	190
163:17:02:51	1_Hz_Status_Data	87.77	59	10996	-6000	-43.4	123	autonomo	0	2500	N/A	111	38.31826	-75.93105	5	148
163:17:02:52	1_Hz_Status_Data	16.133	47	10748	-6000	-37.6	141.5	autonomo	0	2500	N/A	119	38.31824	-75.93073	3	119
163:17:02:53	1_Hz_Status_Data	330.749	39	10506	-6000	-48.5	164.2	autonomo	0	2500	N/A	93	38.3183	-75.93049	2	32
163:17:02:55	1_Hz_Status_Data	282.574	30	10264	-6000	-58.6	-180	autonomo	0	2500	N/A	93	38.3184	-75.93034	3	323
163:17:02:56	1_Hz_Status_Data	251.9	25	10020	-6000	-38.6	-163.2	autonomo	0	2500	N/A	97	38.31852	-75.93032	5	283
163:17:02:58	1_Hz_Status_Data	212.811	28	9578	-6000	-39.4	171.3	autonomo	0	2500	N/A	100	38.3186	-75.93055	11	245
163:17:03:00	1_Hz_Status_Data	169.113	24	9094	-6000	-47.7	133	autonomo	4	2500	N/A	83	38.31858	-75.93085	14	225
163:17:03:00	1_Hz_Status_Data	117.878	19	8852	-6000	-37.3	150.8	autonomo	4	2500	N/A	59	38.31848	-75.93088	14	215
163:17:03:06	1_Hz_Status_Data	351.568	41	7904	-6000	-54.6	174.1	autonomo	4	2500	N/A	84	38.31846	-75.93033	4	211

LogTime	Description	Heading	GS	BarAlt	AltRate	Pitch	Roll	Override	SplrPos	RadAlt	RngToWP	CalAS	Latitude	Longitude	WndSpd	WndDir
163:17:03:20	1_Hz_Status_Data	102.849	17	6196	-6000	-51	173.2	autonomo	4	2500	N/A	98	38.31909	-75.93073	14	202
163:17:03:20	1_Hz_Status_Data	204.34	34	4514	-6000	-54.3	174.8	autonomo	4	2500	N/A	96	38.31968	-75.93047	13	227
163:17:03:22	1_Hz_Status_Data	128.54	22	4032	-6000	-52.5	178.9	autonomo	4	2500	N/A	78	38.31964	-75.93077	14	202
163:17:03:24	1_Hz_Status_Data	92.571	20	3794	-6000	-55	178	autonomo	8	2500	N/A	101	38.31955	-75.93079	13	189
163:17:03:24	1_Hz_Status_Data	56.503	24	3554	-6000	-54.6	178.5	autonomo	7	2500	N/A	104	38.31947	-75.93071	11	178
163:17:03:25	1_Hz_Status_Data	20.638	32	3416	-6000	-51.7	179.2	autonomo	4	2500	N/A	88	38.31934	-75.93061	8	170
163:17:03:26	1_Hz_Status_Data	346.981	36	3074	-6000	-50.4	175	autonomo	4	2500	N/A	95	38.31954	-75.93038	5	173
163:17:03:26	1_Hz_Status_Data	314.225	40	2838	-6000	-52.3	169.1	autonomo	4	2500	N/A	102	38.3197	-75.93027	4	207
163:17:03:28	1_Hz_Status_Data	278.641	39	2606	-6000	-54	167.6	autonomo	4	0	N/A	105	38.31988	-75.93026	5	234
163:17:03:30	1_Hz_Status_Data	200.045	31	2134	-6000	-52.9	174.7	autonomo	4	0	N/A	120	38.32012	-75.93053	11	225
163:17:03:30	1_Hz_Status_Data	162.768	29	2022	-6000	-54	175.8	autonomo	4	2500	N/A	97	38.32004	-75.93077	13	211
163:17:03:35	1_Hz_Status_Data	58.678	29	1200	-6000	-53.8	174.3	autonomo	4	2500	N/A	114	38.31983	-75.93069	10	172
163:17:03:35	1_Hz_Status_Data	24.258	34	966	-6000	-54.6	172.9	autonomo	4	2500	N/A	103	38.3198	-75.93051	8	162
163:17:03:36	1_Hz_Status_Data	347.591	36	734	-6000	-54.6	175.4	autonomo	4	2500	N/A	102	38.31986	-75.93032	4	161

LogTime	Description	AS	navAlt	AltSet	NxtWP	Altitude	Elevator	Rudder	Aileron	RngToWP	InCtrl	MaxAS	MinAS
163:16:39:05	1/5_Hz_Status_Data	0	-86	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:10	1/5_Hz_Status_Data	0	-84	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:14	1/5_Hz_Status_Data	0	-84	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:20	1/5_Hz_Status_Data	0	-84	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:24	1/5_Hz_Status_Data	0	-84	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:30	1/5_Hz_Status_Data	0	-82	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:35	1/5_Hz_Status_Data	0	-80	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:39	1/5_Hz_Status_Data	0	-80	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:45	1/5_Hz_Status_Data	0	-82	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:49	1/5_Hz_Status_Data	0	-82	30.14	3	-90	3	0	-1.25	100	no	70	70
163:16:39:55	1/5_Hz_Status_Data	0	-82	30.14	3	-90	3.25	0	-0.75	0	no	70	70
163:16:40:01	1/5_Hz_Status_Data	0	-82	30.14	3	-90	3	0	-1.75	0	no	70	70
163:16:40:05	1/5_Hz_Status_Data	0	-82	30.14	4	-90	3.5	0	2.5	500	no	70	70
163:16:40:15	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	-1.75	400	no	70	70
163:16:40:20	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	-2	400	no	70	70
163:16:40:27	1/5_Hz_Status_Data	0	-82	30.14	4	-90	2.5	0	-1.25	300	no	70	70
163:16:40:30	1/5_Hz_Status_Data	0	-82	30.14	4	-90	3	0	-1	300	no	70	70
163:16:40:34	1/5_Hz_Status_Data	0	-82	30.14	4	-90	3	0	-0.75	300	no	70	70
163:16:40:40	1/5_Hz_Status_Data	0	-82	30.14	4	-90	3	0	-0.25	300	no	70	70
163:16:40:45	1/5_Hz_Status_Data	0	-82	30.14	4	-90	3	0	0	200	no	70	70
163:16:40:50	1/5_Hz_Status_Data	0	-82	30.14	4	-90	2.75	0	-1	200	no	70	70
163:16:40:56	1/5_Hz_Status_Data	0	-82	30.14	4	-90	2.75	0	0.5	100	no	70	70
163:16:40:59	1/5_Hz_Status_Data	0	-80	30.14	4	-90	2.75	0	0	100	no	70	70
163:16:41:11	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0.25	0	no	70	70
163:16:41:15	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:20	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:24	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:30	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:34	1/5_Hz_Status_Data	0	-78	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:40	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:45	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:49	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:55	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:41:59	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:05	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:10	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:14	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:20	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:24	1/5_Hz_Status_Data	0	-82	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:30	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:35	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:39	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:49	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:42:55	1/5_Hz_Status_Data	0	-80	30.14	4	-90	3	0	0	0	no	70	70
163:16:43:00	1/5_Hz_Status_Data	0	-78	30.14	4	-90	3	0	0	0	no	70	70
163:16:43:04	1/5_Hz_Status_Data	0	-76	30.14	4	-90	3	0	0	0	no	70	70
163:16:43:10	1/5_Hz_Status_Data	0	-78	30.14	4	-90	3	0	0	0	no	70	70
163:16:43:14	1/5_Hz_Status_Data	0	-76	30.14	4	-90	3	0	0	0	no	70	70
163:16:43:20	1/5_Hz_Status_Data	0	-76	30.14	4	-90	2.75	0	0	0	no	70	70
163:16:43:25	1/5_Hz_Status_Data	0	-76	30.14	4	-90	3	0	0.25	0	no	70	70
163:16:43:30	1/5_Hz_Status_Data	0	-76	30.14	4	-90	3	0	1.25	0	no	70	70
163:16:43:37	1/5_Hz_Status_Data	0	-76	30.14	5	-90	3	0	-2	300	no	70	70
163:16:43:47	1/5_Hz_Status_Data	0	-76	30.14	5	-90	3.25	0	0	200	no	70	70
163:16:44:17	1/5_Hz_Status_Data	0	-76	30.14	1686	-90	3	0	-0.75	300	no	70	70
163:16:44:21	1/5_Hz_Status_Data	0	-78	30.14	1686	-90	3	0	0.5	200	no	70	70
163:16:44:30	1/5_Hz_Status_Data	0	-76	30.14	1686	-90	3.25	0	-0.5	100	no	70	70
163:16:44:34	1/5_Hz_Status_Data	0	-76	30.14	1686	-90	2.75	0	-0.25	0	no	70	70
163:16:44:40	1/5_Hz_Status_Data	0	-76	30.14	1686	-90	2.75	0	-1.75	0	no	70	70
163:16:44:44	1/5_Hz_Status_Data	0	-76	30.14	1687	-90	2.75	0	0	100	no	70	70
163:16:44:56	1/5_Hz_Status_Data	0	-76	30.14	1687	-90	3	0	0	0	no	70	70
163:16:45:00	1/5_Hz_Status_Data	0	-78	30.14	1687	-90	2.75	0	-1.5	0	no	70	70
163:16:45:09	1/5_Hz_Status_Data	0	-76	30.14	14	-90	2.75	0	-0.25	800	no	70	70
163:16:45:15	1/5_Hz_Status_Data	0	-76	30.14	14	-90	3	0	-1.25	700	no	70	70
163:16:45:21	1/5_Hz_Status_Data	0	-78	30.14	14	-90	3	0	-0.5	700	no	70	70
163:16:45:25	1/5_Hz_Status_Data	0	-78	30.14	14	-90	3	0	0.75	600	no	70	70
163:16:45:30	1/5_Hz_Status_Data	0	-76	30.14	14	-90	2.75	0	0	500	no	70	70
163:16:45:34	1/5_Hz_Status_Data	0	-76	30.14	14	-90	3	0	0	500	no	70	70
163:16:45:40	1/5_Hz_Status_Data	0	-76	30.14	14	-90	3.25	0	0.25	400	no	70	70
163:16:45:44	1/5_Hz_Status_Data	0	-76	30.14	14	-90	2.75	0	0	400	no	70	70
163:16:45:50	1/5_Hz_Status_Data	0	-76	30.14	14	-90	3	0	-0.75	300	no	70	70
163:16:45:55	1/5_Hz_Status_Data	0	-78	30.14	14	-90	3	0	0	300	no	70	70
163:16:45:59	1/5_Hz_Status_Data	0	-78	30.14	14	-90	3	0	-0.25	200	no	70	70

ENCLOSURE (42)

LogTime	Description	AS	navAlt	AltSet	NxtWP	Altitude	Elevator	Rudder	Aileron	RngToWP	InCtrl	MaxAS	MinAS
163:16:46:05	1/5_Hz_Status_Data	0	-78	30.14	14	-90	2.75	0	0	100	no	70	70
163:16:46:09	1/5_Hz_Status_Data	0	-78	30.14	14	-90	3	0	-1.75	100	no	70	70
163:16:46:15	1/5_Hz_Status_Data	0	-80	30.14	14	-90	3	0	-0.75	0	no	70	70
163:16:46:20	1/5_Hz_Status_Data	0	-80	30.14	14	-90	3	0	-0.25	0	no	70	70
163:16:46:24	1/5_Hz_Status_Data	0	-80	30.14	15	4500	2.75	0	0	6900	no	70	70
163:16:46:30	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:46:36	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:46:40	1/5_Hz_Status_Data	0	-78	30.14	15	4500	3	0	0	6900	no	70	70
163:16:46:49	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:46:55	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:01	1/5_Hz_Status_Data	0	-78	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:05	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:14	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:20	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:26	1/5_Hz_Status_Data	0	-82	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:30	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:35	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:39	1/5_Hz_Status_Data	0	-80	30.14	15	4500	3	0	0	6900	no	70	70
163:16:47:45	1/5_Hz_Status_Data	0	-78	30.14	15	4500	-10.25	0	0	6900	no	150	133
163:16:47:51	1/5_Hz_Status_Data	0	-78	30.14	15	4500	-10.5	-0.25	0.75	6800	no	150	133
163:16:47:55	1/5_Hz_Status_Data	0	-80	30.14	15	4500	-11	-1.25	1.25	6600	no	150	133
163:16:48:11	1/5_Hz_Status_Data	13.2	-86	30.14	15	4500	-10.5	0.25	1.5	4700	no	150	133
163:16:48:17	1/5_Hz_Status_Data	36	-70	30.14	15	4500	-5.75	-0.75	0.25	3700	no	150	133
163:16:48:20	1/5_Hz_Status_Data	49.2	34	30.14	15	4500	-5.5	-0.25	-1.25	2500	no	150	133
163:16:48:24	1/5_Hz_Status_Data	51.6	272	30.14	15	4500	-4.25	-0.25	-2	1200	no	150	133
163:16:48:30	1/5_Hz_Status_Data	50.4	552	30.14	15	4500	-4.5	-0.5	0	0	no	150	133
163:16:48:42	1/5_Hz_Status_Data	50.4	1054	30.14	16	4500	-4.5	-0.25	-1.25	3900	no	150	133
163:16:48:46	1/5_Hz_Status_Data	51.6	1298	30.14	16	4500	-4.5	-0.5	0	2600	no	150	133
163:16:48:50	1/5_Hz_Status_Data	54	1554	30.14	16	4500	-4.25	-0.25	-1.25	1300	no	150	133
163:16:48:55	1/5_Hz_Status_Data	54	1824	30.14	16	4500	-4.25	-0.5	-0.75	0	no	150	133
163:16:48:59	1/5_Hz_Status_Data	54	2090	30.14	1350	4500	-4.25	-0.5	-0.25	10900	no	150	133
163:16:49:05	1/5_Hz_Status_Data	55.2	2352	30.14	1350	4500	-4.25	-0.5	-0.5	9500	no	150	133
163:16:49:10	1/5_Hz_Status_Data	57.6	2622	30.14	1350	4500	-4.25	-0.5	-0.25	8100	no	150	133
163:16:49:15	1/5_Hz_Status_Data	60	2908	30.14	1350	4500	-4	-0.5	0.25	6800	no	150	133
163:16:49:20	1/5_Hz_Status_Data	58.8	3206	30.14	1350	4500	-4	-3.5	8.5	5400	no	150	133
163:16:49:24	1/5_Hz_Status_Data	60	3502	30.14	1350	4500	-4.5	-1	-1.75	4000	no	150	133
163:16:49:30	1/5_Hz_Status_Data	60	3786	30.14	1350	4500	-4.25	-0.75	-1.25	2800	no	150	133
163:16:49:36	1/5_Hz_Status_Data	60	4062	30.14	1350	4500	-4.5	-0.75	-0.75	1800	no	150	133
163:16:49:40	1/5_Hz_Status_Data	55.2	4286	30.14	1351	4500	-6	-1	-0.5	17200	yes	150	133
163:16:49:45	1/5_Hz_Status_Data	55.2	4372	30.14	1351	4500	-7.5	-0.75	-1	16200	yes	150	133
163:16:49:49	1/5_Hz_Status_Data	54	4496	30.14	1351	4500	-7.5	-0.75	-1.75	15100	yes	150	133
163:16:49:55	1/5_Hz_Status_Data	55.2	4600	30.14	1351	4500	-7	-0.75	-1.5	13900	yes	150	133
163:16:50:05	1/5_Hz_Status_Data	62.4	4624	30.14	1351	4500	-7.5	0.25	-6.25	11300	yes	150	133
163:16:50:10	1/5_Hz_Status_Data	66	4538	30.14	1351	4500	-9	0.25	-15.5	10100	yes	150	133
163:16:50:14	1/5_Hz_Status_Data	60	4570	30.14	1351	4500	-8	-1.75	-1	8800	yes	150	132
163:16:50:20	1/5_Hz_Status_Data	58.8	4654	30.14	1351	4500	-6	-1.75	5	7600	yes	150	132
163:16:50:26	1/5_Hz_Status_Data	62.4	4646	30.14	1351	4500	-6.25	-0.5	1.5	6300	yes	150	132
163:16:50:30	1/5_Hz_Status_Data	63.6	4614	30.14	1351	4500	-6.5	-0.25	0.25	4900	yes	150	132
163:16:50:35	1/5_Hz_Status_Data	62.4	4606	30.14	1351	4500	-6.75	-2.5	5	3600	yes	150	132
163:16:50:39	1/5_Hz_Status_Data	62.4	4608	30.14	1351	4500	-6.75	-1	-0.75	2300	yes	150	132
163:16:50:45	1/5_Hz_Status_Data	62.4	4608	30.14	1351	4500	-6.75	-0.5	-1.5	1100	yes	150	132
163:16:50:51	1/5_Hz_Status_Data	62.4	4614	30.14	1688	60000	-6.75	-0.5	-2.25	5300	yes	150	132
163:16:50:55	1/5_Hz_Status_Data	72	4770	30.14	1688	60000	-5	1.75	-8.5	3900	yes	150	132
163:16:51:00	1/5_Hz_Status_Data	64.8	5228	30.14	1688	60000	-3.25	-0.25	-0.5	2700	yes	150	132
163:16:51:04	1/5_Hz_Status_Data	62.4	5594	30.14	1688	60000	-3.75	-0.75	-2	1500	yes	150	132
163:16:51:10	1/5_Hz_Status_Data	64.8	5888	30.14	1688	60000	-4	-0.75	-0.75	200	yes	150	132
163:16:51:16	1/5_Hz_Status_Data	66	6206	30.14	1689	60000	-3.75	-0.75	-0.25	11800	yes	150	132
163:16:51:20	1/5_Hz_Status_Data	67.2	6530	30.14	1689	60000	-3.75	-0.75	0.25	10500	yes	150	132
163:16:51:25	1/5_Hz_Status_Data	64.8	6864	30.14	1689	60000	-3.5	-0.5	1	9300	yes	150	132
163:16:51:29	1/5_Hz_Status_Data	63.6	7164	30.14	1689	60000	-3.75	-0.25	-0.75	8000	yes	150	132
163:16:51:35	1/5_Hz_Status_Data	67.2	7422	30.14	1689	60000	-3.75	-0.25	-1.25	6800	yes	150	132
163:16:51:41	1/5_Hz_Status_Data	69.6	7700	30.14	1689	60000	-3.75	-0.5	0	5500	yes	150	132
163:16:51:45	1/5_Hz_Status_Data	72	8004	30.14	1689	60000	-3.5	-0.5	0.5	4200	yes	150	132
163:16:51:50	1/5_Hz_Status_Data	70.8	8328	30.14	1689	60000	-3.5	-0.5	0	2900	yes	150	132
163:16:51:54	1/5_Hz_Status_Data	69.6	8642	30.14	1689	60000	-3.5	0	-1	1600	yes	150	132
163:16:52:00	1/5_Hz_Status_Data	68.4	8922	30.14	1689	60000	-3.75	-0.25	-0.5	300	yes	150	132
163:16:52:06	1/5_Hz_Status_Data	73.2	9178	30.14	1275	60000	-3.25	-1.25	-0.75	34800	yes	150	132
163:16:52:10	1/5_Hz_Status_Data	73.2	9442	30.14	1275	60000	-3.75	-0.5	-2	33500	yes	150	132
163:16:52:15	1/5_Hz_Status_Data	70.8	9738	30.14	1275	60000	-3.25	-0.75	0.75	32100	yes	150	132
163:16:52:19	1/5_Hz_Status_Data	72	9996	30.14	1275	60000	-3.5	-0.25	-0.5	30800	yes	150	132
163:16:52:25	1/5_Hz_Status_Data	75.6	10238	30.14	1275	60000	-3.75	-0.25	-1	29400	yes	150	132
163:16:52:31	1/5_Hz_Status_Data	75.6	10524	30.14	1275	60000	-3.25	-0.25	-1	28000	yes	150	132
163:16:52:35	1/5_Hz_Status_Data	75.6	10800	30.14	1275	60000	-3.5	-0.5	0	26600	yes	150	132

LogTime	Description	AS	navAlt	AltSet	NxtWP	Altitude	Elevator	Rudder	Aileron	RngToWP	InCtrl	MaxAS	MinAS
163:16:52:40	1/5_Hz_Status_Data	78	11060	30.14	1275	25000	-3.5	-0.25	-0.5	25200	yes	150	132
163:16:52:44	1/5_Hz_Status_Data	79.2	11336	30.14	1275	25000	-3.5	-0.5	0.25	23800	yes	150	132
163:16:52:50	1/5_Hz_Status_Data	79.2	11620	30.14	1275	25000	-3.25	-0.5	0	22400	yes	150	140
163:16:52:56	1/5_Hz_Status_Data	80.4	11892	30.14	1275	25000	-3.25	-0.25	-0.75	20900	yes	150	140
163:16:53:00	1/5_Hz_Status_Data	81.6	12166	30.14	1275	25000	-3.25	-0.25	-1.25	19500	yes	150	140
163:16:53:05	1/5_Hz_Status_Data	81.6	12450	30.14	1275	25000	-3.25	-0.5	0	18100	yes	150	140
163:16:53:09	1/5_Hz_Status_Data	82.8	12726	30.14	1275	25000	-3.25	-0.25	-0.75	16600	yes	150	140
163:16:53:15	1/5_Hz_Status_Data	84	13004	30.14	1275	25000	-3.25	-0.25	-1	15200	yes	150	140
163:16:53:21	1/5_Hz_Status_Data	85.2	13284	30.14	1275	25000	-3.25	-0.5	0.25	13700	yes	150	140
163:16:53:25	1/5_Hz_Status_Data	84	13570	30.14	1275	25000	-3	-0.25	-0.75	12300	yes	150	140
163:16:53:30	1/5_Hz_Status_Data	82.8	13828	30.14	1275	25000	-3	-0.25	-0.5	10800	yes	150	140
163:16:53:34	1/5_Hz_Status_Data	82.8	14046	30.14	1275	25000	-3.25	-0.5	-1	9300	yes	150	140
163:16:53:40	1/5_Hz_Status_Data	86.4	14258	30.14	1275	25000	-3.25	-0.5	-0.25	7800	yes	150	140
163:16:53:46	1/5_Hz_Status_Data	87.6	14498	30.14	1275	25000	-3.25	-0.5	0	6300	yes	150	140
163:16:53:50	1/5_Hz_Status_Data	88.8	14756	30.14	1275	25000	-3	-0.5	0	4800	yes	150	140
163:16:53:55	1/5_Hz_Status_Data	88.8	15014	30.14	1275	25000	-3	-0.5	0	3200	yes	150	140
163:16:53:59	1/5_Hz_Status_Data	91.2	15266	30.14	1275	25000	-3	-0.5	-0.5	1700	yes	150	140
163:16:54:05	1/5_Hz_Status_Data	91.2	15518	30.14	1275	25000	-3	-0.25	-1	100	yes	150	140
163:16:54:11	1/5_Hz_Status_Data	88.8	15764	30.14	1244	25000	-3	-0.5	0.25	29100	yes	150	140
163:16:54:15	1/5_Hz_Status_Data	91.2	15980	30.14	1244	25000	-3	-0.5	-0.5	27500	yes	150	140
163:16:54:20	1/5_Hz_Status_Data	94.8	16206	30.14	1244	25000	-3	-0.25	-1	25900	yes	150	140
163:16:54:24	1/5_Hz_Status_Data	96	16466	30.14	1244	25000	-3	-0.5	-0.25	24300	yes	150	140
163:16:54:30	1/5_Hz_Status_Data	94.8	16730	30.14	1244	25000	-2.75	-0.5	0	22700	yes	150	140
163:16:54:36	1/5_Hz_Status_Data	96	16982	30.14	1244	25000	-2.75	-0.25	-0.75	21100	yes	150	140
163:16:54:40	1/5_Hz_Status_Data	97.2	17224	30.14	1244	25000	-2.25	3.25	-10.25	20100	yes	150	140
163:16:54:45	1/5_Hz_Status_Data	92.4	17362	30.14	1244	25000	-4.75	0	0	20100	yes	150	140
163:16:54:49	1/5_Hz_Status_Data	92.4	17468	30.14	1244	25000	-5	-0.25	-0.25	20100	yes	150	140
163:16:54:55	1/5_Hz_Status_Data	92.4	17596	30.14	1244	25000	-5	0	-0.25	20100	yes	150	140
163:16:55:01	1/5_Hz_Status_Data	92.4	17724	30.14	1244	25000	-5	-0.25	0.5	20100	yes	150	140
163:16:55:05	1/5_Hz_Status_Data	93.6	17854	30.14	1244	25000	-5	-0.25	0.5	20100	yes	150	140
163:16:55:10	1/5_Hz_Status_Data	93.6	17984	30.14	1244	25000	-5	-0.25	0	20100	yes	150	140
163:16:55:14	1/5_Hz_Status_Data	94.8	18114	30.14	1244	25000	-5	-0.25	0	20100	yes	150	140
163:16:55:20	1/5_Hz_Status_Data	96	18248	30.14	1244	25000	-5	-0.25	0.25	20100	yes	150	140
163:16:55:26	1/5_Hz_Status_Data	96	18376	30.14	1244	25000	-5	-0.25	0	20100	yes	150	140
163:16:55:30	1/5_Hz_Status_Data	97.2	18508	30.14	1244	25000	-4.75	-1.25	2.75	20100	yes	150	140
163:16:55:35	1/5_Hz_Status_Data	97.2	18640	30.14	1244	25000	-4.5	-1.25	1.25	20100	yes	150	140
163:16:55:39	1/5_Hz_Status_Data	98.4	18774	29.92	1244	25000	-4.5	-0.75	0	20100	yes	150	140
163:16:55:45	1/5_Hz_Status_Data	99.6	18904	29.92	1244	25000	-4.5	-0.5	-0.25	20100	yes	150	140
163:16:55:51	1/5_Hz_Status_Data	101	19036	29.92	1244	25000	-4.5	0	-1	20100	yes	150	140
163:16:55:55	1/5_Hz_Status_Data	99.6	19162	29.92	1244	25000	-4.5	-0.25	-0.75	20100	yes	150	140
163:16:56:00	1/5_Hz_Status_Data	102	19308	29.92	1178	25000	-3.5	1	-1.25	108000	yes	150	140
163:16:56:04	1/5_Hz_Status_Data	103	19532	29.92	1178	25000	-3	-0.25	0	106200	yes	150	140
163:16:56:10	1/5_Hz_Status_Data	103	19770	29.92	1178	25000	-3	-1.25	2.5	104500	yes	150	140
163:16:56:16	1/5_Hz_Status_Data	103	19988	29.92	1178	25000	-2.75	-2.25	2.75	102700	yes	150	140
163:16:56:20	1/5_Hz_Status_Data	103	20202	29.92	1178	25000	-2.5	-0.75	-0.25	100900	yes	150	140
163:16:56:25	1/5_Hz_Status_Data	106	20404	29.92	1178	25000	-2.75	-0.25	-1	99100	yes	150	140
163:16:56:29	1/5_Hz_Status_Data	108	20616	29.92	1178	25000	-2.75	0	-1.25	97300	yes	150	140
163:16:56:35	1/5_Hz_Status_Data	109	20850	29.92	1178	25000	-2.5	-0.25	-0.75	95500	yes	150	140
163:16:56:41	1/5_Hz_Status_Data	110	21092	29.92	1178	25000	-2.5	-0.5	0	93600	yes	149	139
163:16:56:45	1/5_Hz_Status_Data	112	21342	29.92	1178	25000	-2.5	-0.25	-0.75	91800	yes	149	139
163:16:56:54	1/5_Hz_Status_Data	110	21820	29.92	1178	25000	-2.5	-0.5	0	88200	yes	149	139
163:16:57:00	1/5_Hz_Status_Data	112	22042	29.92	1178	25000	-2.5	-0.25	-0.25	86400	yes	149	139
163:16:57:06	1/5_Hz_Status_Data	112	22264	29.92	1178	25000	-2.5	-0.25	-0.75	84500	yes	149	139
163:16:57:10	1/5_Hz_Status_Data	112	22482	29.92	1178	25000	-2.5	-0.25	-0.75	82700	yes	149	139
163:16:57:15	1/5_Hz_Status_Data	113	22688	29.92	1178	25000	-2.5	-0.5	-0.25	80900	yes	149	139
163:16:57:19	1/5_Hz_Status_Data	114	22896	29.92	1178	25000	-2.5	-0.25	-0.25	79000	yes	149	139
163:16:57:25	1/5_Hz_Status_Data	115	23106	29.92	1178	25000	-2.5	-0.25	-0.75	77200	yes	148	138
163:16:57:31	1/5_Hz_Status_Data	115	23322	29.92	1178	25000	-2.5	-0.25	-0.25	75300	yes	148	138
163:16:57:35	1/5_Hz_Status_Data	115	23542	29.92	1178	25000	-2.5	-0.5	0	73400	yes	148	138
163:16:57:40	1/5_Hz_Status_Data	116	23762	29.92	1178	25000	-2.25	-0.25	-0.75	71600	yes	148	138
163:16:57:44	1/5_Hz_Status_Data	118	23974	29.92	1178	25000	-2.5	-0.5	0	69700	yes	148	138
163:16:57:50	1/5_Hz_Status_Data	119	24196	29.92	1178	25000	-2.5	-0.25	-0.25	67800	yes	148	138
163:16:57:56	1/5_Hz_Status_Data	119	24422	29.92	1178	25000	-2.5	-0.25	-0.75	66000	yes	148	138
163:16:58:00	1/5_Hz_Status_Data	119	24648	29.92	1178	25000	-2.5	-0.5	-0.25	64100	yes	148	138
163:16:58:05	1/5_Hz_Status_Data	119	24862	29.92	1178	25000	-2.5	-0.25	-0.5	62200	yes	148	138
163:16:58:09	1/5_Hz_Status_Data	120	25066	29.92	1178	25000	-2.5	-0.25	-0.5	60400	yes	147	137
163:16:58:15	1/5_Hz_Status_Data	120	25272	29.92	1178	25000	-2.25	-0.5	-0.5	58500	yes	147	137
163:16:58:25	1/5_Hz_Status_Data	121	25654	29.92	1178	25000	-2.25	-0.25	-1.25	54800	yes	147	137
163:16:58:30	1/5_Hz_Status_Data	118	25886	29.92	1178	25000	-2.5	0	0	52900	yes	147	137
163:16:58:34	1/5_Hz_Status_Data	116	26008	29.92	1178	25000	-3	-0.25	0	51000	yes	147	137
163:16:58:40	1/5_Hz_Status_Data	118	26134	29.92	1178	25000	-2.75	-0.5	0	49100	yes	147	137
163:16:58:46	1/5_Hz_Status_Data	116	26258	29.92	1178	25000	-2.5	-0.25	-0.75	47200	yes	147	137
163:16:58:50	1/5_Hz_Status_Data	119	26316	29.92	1178	25000	-2.5	-0.25	-0.5	45300	yes	147	137

LogTime	Description	AS	navAlt	AltSet	NxtWP	Altitude	Elevator	Rudder	Aileron	RngToWP	InCtrl	MaxAS	MinAS
163:16:58:55	1/5_Hz_Status_Data	122	26326	29.92	1178	25000	-2.5	-0.25	-0.5	43300	yes	147	137
163:16:58:59	1/5_Hz_Status_Data	124	26322	29.92	1178	25000	-2.5	-0.25	0	41400	yes	147	137
163:16:59:05	1/5_Hz_Status_Data	124	26314	29.92	1178	25000	-2.5	-0.25	-0.75	39400	yes	147	137
163:16:59:11	1/5_Hz_Status_Data	124	26320	29.92	1178	18000	-1.5	3.25	-10	38300	yes	147	137
163:16:59:15	1/5_Hz_Status_Data	126	26228	29.92	1178	18000	-6.5	0	-0.75	38300	yes	147	137
163:16:59:20	1/5_Hz_Status_Data	126	26024	29.92	1178	18000	-8.25	-1	0.5	38300	yes	147	137
163:16:59:24	1/5_Hz_Status_Data	122	25896	29.92	1178	18000	-8	-1.25	0.25	38300	yes	147	137
163:16:59:30	1/5_Hz_Status_Data	121	25770	29.92	1178	18000	-8	-1.25	0	38300	yes	147	137
163:16:59:36	1/5_Hz_Status_Data	120	25642	29.92	1178	18000	-8.25	-1	-0.25	38300	yes	147	137
163:16:59:40	1/5_Hz_Status_Data	119	25514	29.92	1178	18000	-9	-0.5	-0.25	38300	yes	147	137
163:16:59:45	1/5_Hz_Status_Data	118	25382	29.92	1178	18000	-9	-6.25	9.5	38300	yes	147	137
163:16:59:51	1/5_Hz_Status_Data	118	25258	29.92	1178	18000	-9	-0.25	-2.75	38300	yes	147	137
163:16:59:55	1/5_Hz_Status_Data	118	25134	29.92	1178	18000	-8.75	0.25	-2.5	38300	yes	147	137
163:17:00:01	1/5_Hz_Status_Data	118	25008	29.92	1178	18000	-8.75	-0.25	-0.75	38300	yes	147	137
163:17:00:05	1/5_Hz_Status_Data	116	24884	29.92	1178	18000	-8.75	-0.5	-0.5	38300	yes	148	138
163:17:00:10	1/5_Hz_Status_Data	116	24786	29.92	1178	18000	-8.75	-0.5	-0.5	38300	yes	148	138
163:17:00:14	1/5_Hz_Status_Data	116	24664	29.92	1178	18000	-8.5	-0.75	0	38300	yes	148	138
163:17:00:20	1/5_Hz_Status_Data	116	24518	29.92	1178	18000	-8.5	-0.75	-0.5	38300	yes	148	138
163:17:00:26	1/5_Hz_Status_Data	115	24392	29.92	1178	18000	-8.75	-0.5	-0.25	38300	yes	148	138
163:17:00:30	1/5_Hz_Status_Data	114	24270	29.92	1178	18000	-8.75	-0.5	-0.5	38300	yes	148	138
163:17:00:35	1/5_Hz_Status_Data	114	24144	29.92	1178	18000	-8.75	-0.75	0	38300	yes	148	138
163:17:00:39	1/5_Hz_Status_Data	114	24020	29.92	1178	18000	-8.75	-0.5	-0.25	38300	yes	148	138
163:17:00:45	1/5_Hz_Status_Data	113	23898	29.92	1178	18000	-8.75	-0.5	-0.25	38300	yes	148	138
163:17:00:51	1/5_Hz_Status_Data	113	23776	29.92	1178	18000	-8.75	-0.75	0	38300	yes	148	138
163:17:00:55	1/5_Hz_Status_Data	113	23654	29.92	1178	18000	-8.5	-0.75	0	38300	yes	148	138
163:17:01:00	1/5_Hz_Status_Data	113	23532	29.92	1178	18000	-8.5	-0.75	-0.25	38300	yes	148	138
163:17:01:05	1/5_Hz_Status_Data	113	23408	29.92	1178	18000	-8.25	-1	-0.25	38300	yes	148	138
163:17:01:10	1/5_Hz_Status_Data	113	23280	29.92	1178	18000	-8.25	-1	0	38300	yes	148	138
163:17:01:20	1/5_Hz_Status_Data	110	23036	29.92	1178	18000	-8.25	-1	0	38300	yes	148	138
163:17:01:25	1/5_Hz_Status_Data	110	22914	29.92	1178	18000	-8.25	-1	0	38300	yes	149	139
163:17:01:30	1/5_Hz_Status_Data	110	22792	29.92	1178	18000	-8.25	-1	-0.25	38300	yes	149	139
163:17:01:35	1/5_Hz_Status_Data	109	22668	29.92	1178	18000	-8	-1.25	0	38300	yes	149	139
163:17:01:41	1/5_Hz_Status_Data	109	22546	29.92	1178	18000	-8	-1.25	0	38300	yes	149	139
163:17:01:45	1/5_Hz_Status_Data	109	22420	29.92	1178	18000	-8.25	-1	0	38300	yes	149	139
163:17:01:50	1/5_Hz_Status_Data	109	22300	29.92	1178	18000	-8	-1.25	-0.25	38300	yes	149	139
163:17:01:55	1/5_Hz_Status_Data	108	22176	29.92	1178	18000	-8.25	-1	0	38300	yes	149	139
163:17:02:00	1/5_Hz_Status_Data	108	22046	29.92	1178	18000	-6.75	-2	-1	38300	yes	149	139
163:17:02:06	1/5_Hz_Status_Data	112	21892	29.92	1178	18000	-9.75	-0.5	-5.5	38300	yes	149	139
163:17:02:12	1/5_Hz_Status_Data	122	21656	29.92	1178	18000	-15	-4.25	-20.25	38300	yes	149	139
163:17:02:15	1/5_Hz_Status_Data	122	20960	29.92	1178	18000	-15.75	-3.75	11.5	38300	yes	149	139
163:17:02:21	1/5_Hz_Status_Data	0	19204	29.92	1178	18000	-5.75	-13.5	26	38300	yes	150	140
163:17:02:25	1/5_Hz_Status_Data	0	17354	30.14	1178	18000	-1	-8.75	29	38300	yes	150	140
163:17:02:41	1/5_Hz_Status_Data	16.8	13560	30.14	1178	18000	-1	-9	-29.5	38300	yes	150	140
163:17:02:45	1/5_Hz_Status_Data	0	12298	30.14	526	13324	8.25	0.25	-29.25	91500	yes	150	140
163:17:02:50	1/5_Hz_Status_Data	22.8	11020	30.14	526	13324	-0.75	-9	-29.25	91600	yes	150	140
163:17:02:56	1/5_Hz_Status_Data	39.6	9808	30.14	528	7024	-0.75	-9	28.5	110700	yes	150	131
163:17:03:22	1/5_Hz_Status_Data	0	3816	30.14	530	2860	0	-8	-29.25	136200	yes	150	131
163:17:03:27	1/5_Hz_Status_Data	0	2628	30.14	530	2868	-0.25	-8.5	-29.25	136400	yes	150	131

Naval Air Station Patuxent River TRACON

Date: June 18, 2012

Subject: Transcript Aircraft Accident, TRITN39, Nanticoke River, MD, June 11, 2012

This transcription covers the Patuxent TRACON Approach Control Position for the time period from June 11, 2011, 1546 UTC, to June 11, 2012, 1601 UTC.

Agencies Making Transmissions	Abbreviations
Patuxent Approach Control	APP
Patuxent Local Control	L/C
Potomac Approach Control GRACO Sector	GRACO
BAMS-D Global Hawk, Triton 39	TRITN39
DCH-8, Piedmont 4647	PDT4647
Cirrus, N335A	N335A
Caravan, N77TF	N77TF
Cirrus, N322MS	N322MS
Air Wisconsin 3822	AWI3822
Navajo, N123KW	N123KW
Unknown	UNK

I hereby certify that the following is a true transcription of the recorded conversations pertaining to the subject aircraft accident involving TRITN39.

(b)(6)

RADAR Branch Chief
Patuxent River TRACON

ENCLOSURE (43)

1546		
1547:08	APP	piedmont forty six forty seven contact washington center one three two point five five
1547:15	PDT4647	thirty two five five piedmont forty six forty seven
1547:36	APP	november three three five alpha contact potomac approach one two four point five five
1547:41	N335A	twenty four fifty five for three three five alpha thank you
1547:47	APP	november seven seven tango foxtrot do you have the weather at uh cambridge
1547:52	N77TF	yes sir we do tango fox
1547:54	APP	november seven tango fox roger expect visual approach into cambridge twelve o clock two zero miles report the field in sight
1548		
1548:01	N77TF	we'll call it seven tango fox*
1548:58	N77TF	cambridge in sight for seven tango fox
1549		
1549:05	APP	november seven tango fox roger
1549:08	N77TF	i'd like to cancel i f r if able "unintelligible"
1549:11	APP	november seven tango fox i f r cancellation is received radar services terminated frequency change to advisory is approved
1549:19	N77TF	tango fox have good day

1549:21	APP	you too see ya
1549:55	N322MS	patuxent cirrus three two two mike sierra out of twelve point four down to eight thousand
1550		
1550:08	APP	november three two two mike sierra patuxent approach patuxent altimeter three zero one five
1550:13	N322MS	three zero one five two mike sierra
1550:59	L/C	rolling six charlie kilo
1551		
1551:02	APP	say again
1551:04	L/C	rolling on six is triton
1551:45	TRITN39	good morning ah patuxent approach this is triton three niner airborne off of runway six passing one thousand for four thousand five hundred we'll be doing a right hand turn to four double o five
1551:54	APP	triton three nine patuxent approach ident
1551:58	TRITN39	triton three nine giving you the flash
1552		
1552:08	APP	triton three niner confirm uh disregard radar contact one mile northeast of patuxent (clears throat) leaving two thousand two hundred turn right on course
1552:20	TRITN39	passing two thousand five hundred now for four point five
1552:36	APP	november two mike sierra descend and maintain seven thousand

1552:44 1553:	N322MS	seven thousand two mike sierra
1553:06	TRITN39	and pax approach triton three nine ah we are requesting higher on this route into four zero zero five
1553:15	APP	triton three nine you can expect higher in about uh three miles there you're still uh in an area that i can't take you very high
1553:20	TRITN39	triton three nine roger
1554:00	TRITN39	uh patuxent approach triton three nine declaring an emergency at this time
1554:06	APP	triton three nine patuxent approach roger say your intentions wind one four zero at six
1554:11	TRITN39	uh triton three nine uh we need an immediate uh climb profile at this time uh request to climb and maintain flight level two five zero on present heading
1554:19	APP	triton three nine you want to climb to two five thousand now flight level two five zero
1554:23	TRITN39	that's connect we are leaving four thousand five hundred for flight level two five zero uh no (inaudible) climb
1554:30	APP	triton uh roger climb and maintain uh (background noise) flight level two five zero
1554:36	TRITN39	triton three nine roger uh we have a uh flight control malfunction uh aircraft appears to

		be stabile and controllable but we are gonna climb up and check it out
1554:45	APP	triton three nine roger
1554:56	APP	and triton three nine uh you gonna be able to do uh frequency change for the uh next controller
1555		
1555:03	TRITN39	uh triton three nine that's affirmative
1555:03	APP	triton three nine contact patuxent advisory three zero five point two
1555:09	TRITN39	switching three zero five point two triton three nine
1556		
1556:18	AWI3822	philly ops wisconsin uh thirty eight twenty two calling in range (static)
1557		
1558		
1558:05	N123KW	patuxent approach navajo one two three kilo whiskey seven thousand
1558:10	APP	navajo one two three kilo whiskey patuxent approach patuxent altimeter three zero one five
1558:16	N123KW	two three kilo whiskey three zero one five
1559		
1559:01	APP	november three two two mike sierra contact potomac approach (clears throat) one two four point five five
1559:08	N322MS	potomac one two four five five two mike sierra have a good day
1559:55	GRACO	pax graco
1600		

1600:02	APP	pax
1600:03	GRACO	got control for november two mike sierra
1600:04	APP	your control two mike sierra f m
1601		

ORIGINAL

End of Transcript

*This portion of the copy of the recording is not entirely clear, but this represents the best interpretation under the circumstances.

CERTIFIED COPY

Naval Air Station Patuxent River TRACON

Date: June 18, 2012

Subject: Transcript Aircraft Accident, TRITN39, Nanticoke River, MD, June 11, 2012

This transcription covers the Patuxent TRACON Advisory Control Position for the time period from June 11, 2011, 1554 UTC, to June 11, 2012, 1620 UTC.

Agencies Making Transmissions	Abbreviations
Patuxent Advisory Control	ADV
Patuxent Approach Control	APP
Patuxent Local Control	L/C
Patuxent Ground Control	G/C
Potomac Approach Control GRACO Sector	GRACO
Baywatch Military RADAR Unit	MRU
Washington Center Cape Charles Sector	CCV
Global Hawk Mobile	GHM
BAMS-D Global Hawk, Triton 39	TRITN39
MQ-8, Fire Scout 13	FSCT13
F18, Tester 02	TSTR02
F35, Lightning 72	LTNG72
Unknown	UNK

I hereby certify that the following is a true transcription of the recorded conversations pertaining to the subject aircraft accident involving TRITN39.

(b)(6)

RADAR Branch Chief
Patuxent River TRACON

ENCLOSURE (44)

1554		
1554:52	GHM	pax tower hawk mobile
1555		
1555:15	TRITN39	pax advisory triton three nine emergency aircraft passing eight thousand uh eight hundred now for flight level two five zero
1555:23	APP	triton three nine patuxent advisory uh state the nature of your emergency sir
1555:29	TRITN39	uh triton three nine we have received a fault from the aircraft indicating a right uh inner rudder vator failure uh it is a flight control failure aircraft appears to be controllable and stable at this time
1555:42	ADV	triton three nine roger are you looking to uh delay in the areas
1555:46	TRITN39	uh triton three nine that's affirmative we're going to take and remain in r four zero zero eight you can expect us to uh make an approach uh back to the field here shortly and uh um we'll uh have to think about what runway we'll need
1556		
1556:01	ADV	triton three nine roger just let me know
1556:03	TRITN39	triton three nine
1556:14	L/C	advisory local let us know conditions about triton so we can uh work the gear
1556:20	ADV	i'm sorry say again

1556:21	L/C	let us know what you about triton as soon as possible cause we're in the middle of uh about to derigg the gear
1556:23	ADV	oh he said he's gunna to figure out which runway he wants to come to and he'll let me know
1556:26	L/C	roger
1556:27	ADV	as soon as i know i'll let you know
1556:27	L/C	mmhmm thanks charlie kilo
1556:28	ADV	j c
1556:35	ADV	triton three nine say uh expected delay in the restricted areas
1556:39	TRITN39	triton three nine uh unknown at this time probably about an hour
1556:43	ADV	three nine roger
1557		
1558		
1559		
1559:56	GRACO	pax graco
1600		
1600:52	TRITN39	pax advisory triton three nine say current winds
1600:57	ADV	triton three nine current winds are one four zero at eight at patuxent
1600:59	TRITN39	one four zero at eight at pax copy that
1601		
1601:33	FSCT13	pax advisory fire scout one three

1601:40	ADV	fire scout one three advisory go ahead
1601:43	FSCT13	advisory fire scout one three working the o five southwest like to put the uh sixty six o nine on request six to one zero thousand and to transit
1601:50	TRITN39	patuxent advisory triton three nine uh we'd like to take and leave flight level two five zero for flight level one eight zero at this time
1601:59	ADV	triton three nine roger that is approved as requested
1602		
1602:06	ADV	triton three nine confirm you will be uh operating in uh just four double o six at one eight zero
1602:13	TRITON39	that's affirmative triton three nine
1602:15	ADV	three nine roger
1602:23	ADV	fire scout one three you said you're looking for sixty six o nine uh six to ten
1602:26	FSCT13	that's affirmative for fire scout one three
1602:30	ADV	roger
1602:49	G/C	advisory ground
1602:52	ADV	advisory

1602:53	G/C	salty dog one zero zero requesting direct to the areas runway two four
1602:57	ADV	off of two four i'll call you back
1602:59	G/C	d g
1603:00	ADV	j c (background noise)
1603:03	ADV	approach advisory request direct to the areas with a flight of two f eighteens off runway two four
1603:08	APP	approved
1603:09	ADV	thanks j c
1603:09	APP	f m
1603:11	ADV	ground advisory direct to the areas for uh salty dog one zero zero and his uh playmate at uh or below four thousand five hundred is approved
1603:18	G/C	roger d g
1603:19	ADV	j c
1603:34	TRITN39	patuxent advisory triton three nine be advised we intend to conduct an approach to runway two four and we're currently about uh twenty five minutes out from landing
1603:46	ADV	triton three nine roger thanks

1603:52	ADV	fire scout one three uh standby for one moment we have an emergency in progress triton three nine is going to be making an emergency uh landing into runway two four
1604		
1604:02	FSCT13	fire scout one three roger standing by (inaudible background noise)
1604:06	ADV	triton three nine say request
1604:11	TRITN39	disregard that was supposed to go to "unintelligible"
1604:13	ADV	roger
1604:18	ADV	local approach
1604:18	L/C	local
1604:19	ADV	hey uh triton three nine is gunna be making an attempt to runway two four in twenty five minutes
1604:26	L/C	okay attempt to two four in twenty five minutes charlie kilo
1604:28	ADV	j c (background noise)
1604:43	ADV	(ringing) yes sir
1604:45	MRU	do you guys got an emergency inbound
1604:47	ADV	yea triton three nine um he is emergency
1604:50	MRU	where is he at

1604:51	ADV	uh he is currently twenty two miles to the east at uh flight level two one four squawking four six two four
1604:57	MRU	oh the global hawk
1604:57	ADV	yes sir
1604:59	MRU	okay uh what we usually do is put cameras on these aircraft so we'll get some guys out here to "unintelligible" cameras on him you said do you know what his problem is *
1605		
1605:06	ADV	uh he's going to be making an emergency landing to runway two four he's actually uh doing his uh maneuvering to land there now (background noise)
1605:14	MRU	i mean does he have flight control problems or (background noise)
1605:16	ADV	um it's uh what did he say he said a right inner rudder failure (background noise)
1605:20	MRU	right inner rudder alright thanks
1605:21	ADV	yup
1605:21	MRU	yup
1605:22	ADV	j c
1605:44	TRITN39	pax advisory triton three nine uh we have lost control of the aircraft the aircraft is going to crash and mark our location

1605:51	ADV	triton three nine roger
1606		
1606:04	TRITN39	aircraft is currently descending through ten thousand feet
1606:07	ADV	triton three nine say again
1606:11	ADV	triton three nine say again
1606:14	TRITON39	pax advisory triton three nine we have lost control of the aircraft the aircraft is going to crash mark our location
1606:22	ADV	triton three nine wilco we're doing it now
1606:26	G/C	advisory da ground
1606:27	ADV	hey no not right now
1606:36	TRITN39	triton three nine appears to be passing through three thousand feet
1606:39	ADV	triton three nine roger
1607		
1607:16	TSTR02	baywatch check in tester zero two airborne passing twenty four hundred with the ident
1607:30	ADV	tester zero two patuxent advisory confirm you're five miles southwest of patuxent passing through two thousand nine hundred southwest bound
1607:39	TSTR02	that's affirmative tester zero two

1607:39	ADV	tester zero two radar contact once established your approved to operate four double o six and eight three thousand five hundred block flight level four zero zero four double o five southwest is exclusive surface block three thousand five hundred
1607:52	TSTR02	cleared up to four zero zero once established tester zero two
1608		
1608:07	GRACO	pax graco that november one two six cancelled flight following
1608:20		"unintelligible"
1608:43	G/C	advisory ground
1608:45	ADV	advisory
1608:47	G/C	lightning seven two requesting direct to the areas runway two four
1608:51	ADV	alright um I am gunna have to unable that right now approach is a little busy we just had global hawk go down
1608:57	G/C	roger d g
1608:58	ADV	alright j c
1609		
1610		
1610:24	ADV	(ringing) yes sir
1610:24	MRU	"unintelligible" hey you guys pick up the code on the global hawk cause i lost it

1610:29	ADV	uh he uh he went down
1610:31	MRU	he went down
1610:32	ADV	yeah
1610:33	MRU	okay
1610:34	ADV	alright
1610:34	MRU	alright i'll pass it on to safety
1610:35	ADV	alright
1610:36	MRU	give me uh do you have uh last known position
1610:38	ADV	uh they've got the pim over standby let me get the pim for you
1610:49	ADV	okay we've got thirty eight
1610:52	MRU	uh huh
1610:53	ADV	nineteen
1610:53	MRU	uh huh
1610:54	ADV	one two
1610:54	MRU	uh huh
1610:55	ADV	uh seventy five
1610:56	MRU	uh huh
1610:56	ADV	fifty six zero zero
1610:58	MRU	zero zero i'll pass it to safety thanks

1611:00	ADV	alright thank you
1611:12	UNK	hey try him again okay
1611:16	ADV	tester zero two advisory
1611:24	ADV	tester zero two patuxent advisory
1611:26	TSTR02	advisory tester zero two has you loud and clear go ahead
1611:30	ADV	two zero two have you loud and clear uh we just had global hawk go down if you could make a left hand heading of uh zero six zero and see if you can uh see where he crashed at
1611:43	TSTR02	zero six zero
1611:49	ADV	and tester zero two recommend heading zero five zero
1612		
1612:03	TSTR02	advisory tester zero two
1612:06	ADV	zero two advisory go ahead
1612:08	TSTR02	yes sir do you have uh a last reported lat long for the uh u a s
1612:12	ADV	yes sir its uh thirty eight nineteen point one two by seventy five fifty six zero zero
1612:21	TSTR02	which way was he heading uh when you got that last report
1612:25	ADV	he's uh northbound sir
1612:26	TSTR02	copy northbound

1612:47	ADV	(ringing) advisory
1612:48	MRU	hey i'm i'm sorry to bug you again man i know your getting busy
1612:51	ADV	it's alright
1612:51	MRU	um i passed to safety they just want to confirm that it did go down
1612:55	ADV	yes
1612:56	MRU	okay thanks
1612:56	ADV	alright j c
1613		
1613:18	TRITN39	pax advisory uh triton uh three nine uh we are initiating our uh mishap plan if you would uh could you take and uh mark the tapes and uh uh and uh uh save all of uh the data that you have on this incident
1613:39	ADV	triton three nine uh if you would contact the radar supervisor advise when ready to copy the uh land line number
1613:46	TRITN39	um triton three nine i have it
1613:48	ADV	and three nine roger
1613:56	TSTR02	baywatch uh tester zero two
1613:58	ADV	zero two advisory
1613:59	TSTR02	yea we got uh some visual on uh smoke coming up uh present position off the nose at about uh two miles

1614:08	ADV	tester zero two roger
1614:13	TSTR02	we're gunna fly right over top and get a mark
1614:16	ADV	tester zero two roger
1615		
1615:08	TSTR02	advisory tester zero two when able
1615:10	ADV	zero two go ahead
1615:12	TSTR02	yes sir i got the uh updated lat long for ya and i can give you a sitrep of the impact site if you want
1615:17	ADV	go ahead zero two
1615:19	TSTR02	okay uh lat long north thirty eight eighteen fifty point two five west seventy five fifty five fifty one point nine nine
1615:32	ADV	tester zero two copy all thanks
1615:34	TSTR02	okay the impact area is basically a uh large marsh area no uh structures close at all closest structure well outside of probably four mile five mile radius
1615:48	ADV	tester zero two roger thanks for your help
1615:50	TSTR02	copy do you need anything else from us today
1615:53	ADV	tester zero two negative

1615:55	TSTR02	copy
1616		
1616:20	ADV	attention in the restricted areas swaby six departure in progress e two climbing to flight level two two zero
1616:30	LTNG72	baywatch lightning seven two currently passing twenty two
1616:36	ADV	lightning seven two patuxent advisory ident
1616:41	LTNG72	seven two
1616:57	ADV	lightning seven two ident not observed confirm you're five miles southwest patuxent climbing out of three thousand three hundred
1617		
1617:04	LTNG72	seven two roger passing four thousand
1617:06	ADV	lightning seven two roger radar contact uh say highest altitude requested
1617:12	LTNG72	uh highest in the local area will be twelve hundred then we'll be uh transiting the test track at uh one seven five seventeen five
1617:21	ADV	lightning seven two roger once established you are approved to operate four double o six three thousand five hundred block one seven thousand five hundred four double o five southwest is exclusive three point five down to the surface and uh you have traffic one eight zero four miles southbound seven thousand two hundred is an e two on a swaby six

		departure climbing to flight level two two zero
1617:43	LTNG72	seven two looking
1617:59	CCV	approach sixty three line cape
1618		
1618:47	ADV	lightning seven two that previously called traffic is now two one zero three miles and increasing no factor climbing out of one zero thousand
1618:55	LTNG72	seven two roger thanks
1619		
1619:30	ADV	attention in the restricted areas active in whoop
1619:32	ADV	active runway at patuxent now one four barron arrivals
1619:39	ADV	(ringing) yes sir
1619:40	MRU	hey just to give you a heads up all pertinent information i was listening with that tester zero two whatever your on scene commander was*
1619:45	ADV	yes
1619:45	MRU	i heard all that i passed everything to them
1619:48	ADV	okay
1619:48	MRU	just so you know i just the only thing i didn't get was the time he went down
1619:51	ADV	its sixteen o five
1619:53	MRU	sixteen o five appreciate it man

1619:55	ADV	no problem
1619:56	ADV	thank you
1619:56	MRU	"unintelligible"
1620		
1620:08	ORF	pax norfolk eighteen seventy one line handoff three six sierra
1621		

End of Transcript

*This portion of the copy of the recording is not entirely clear, but this represents the best interpretation under the circumstances.

CERTIFIED COPY

Mission Name: E0632N01 | Flight: PRIMARY | Aircraft: 1 | Flight Date: 14 APR 10 | Mission Gen Date: None.

Flight Date : 14 APR 10
Takeoff Time GMT: 00:00:00
Flight Duration : 13:05:34
Landing Time : 13:05:34

Tail_Number : 02-0509
Empty Weight: 11500
Fuel Load : 9600
Gross Weight: 21100

SEQ #	DTD ID	AP SC EW	FIX RRR/DDD	Latitude	TC	W/V	TH	Com ALT	CAS	TAS	Dist	Leg Time	ETA	Leg Fuel		C1 DTD	C2 DTD	C3 DTD	C4 DTD
			Remarks	Longitude	MC	DC	MH	Exp ALT	MACH	GS	AC Dist	AC Time	ATA	Fuel RMNG		Route #	Route #	Route #	Route #
1	P1	AP		N38-16.5830	0.0	000/000	0.0	-90	6	6	0.0	00:00:00	00:00:00	0					
			NEW MSN ST A1	W076-25.0080	0.0	0	0.0	-90	0.01	6	0.0	00:00:00		9300					
2	P3	AP		N38-16.6060	358.0	000/000	358.0	-90	6	6	0.0	00:00:14	00:00:14	0					
			NEW Taxi A2	W076-25.0090	9.0	0	9.0	-90	0.01	6	0.0	00:00:14		9300					
3	P4			N38-16.6024	267.8	000/000	267.8	-90	6	6	0.1	00:00:57	00:01:11	0					
			Taxi 3209	W076-25.1300	278.8	0	278.8	-90	0.01	6	0.1	00:01:11		9300					
4	P5			N38-16.5997	267.6	000/000	267.6	-90	6	6	0.1	00:00:39	00:01:50	0					
			Taxi 3208	W076-25.2132	278.6	0	278.6	-90	0.01	6	0.2	00:01:50		9300					
5	P1686			N38-16.6467	322.0	000/000	321.9	-90	6	6	0.1	00:00:36	00:02:26	0					
			Taxi	W076-25.2600	332.8	0	332.8	-90	0.01	6	0.2	00:02:26		9300					
6	P1687			N38-16.6711	56.1	000/000	56.2	-90	6	6	0.0	00:00:26	00:02:52	0					
			Taxi	W076-25.2137	67.2	0	67.2	-90	0.01	6	0.3	00:02:52		9300					
7	P14	AP		N38-16.7701	49.0	000/000	49.1	-90	6	6	0.2	00:01:31	00:04:23	0					
			Last Taxi	W076-25.0687	60.0	0	60.0	-90	0.01	6	0.4	00:04:23		9300					
8	P15			N38-17.5173	49.0	000/000	49.1	4500	150	154	1.1	00:00:28	00:04:51	25		P15	P15	P15	P15
			CD_Takeoff	W076-23.9726	60.1	0	60.1	1754	0.23	154	1.6	00:04:51		9275		1	1	1	1
9	P16	AP	KPXT 051/001	N38-18.2144	48.7	000/000	48.8	4500	150	158	1.1	00:00:25	00:05:16	22		P16	P16	P16	P16
		W	CD_In Flight	W076-22.9603	59.8	0	59.8	3389	0.24	158	2.6	00:05:16		9253		1	1	1	1
10	P1350		KPXT 056/003	N38-19.5483	48.8	000/000	48.9	4500	150	160	1.8	00:00:42	00:05:58	21		P1350	P1350	Z416	P1350
		W	CD_In Flight	W076-21.0217	59.8	0	59.8	4500	0.25	160	4.5	00:05:58		9232		1	1	20	1
11	P1351		KPXT 100/005	N38-17.3033	136.1	000/000	135.9	4500	150	160	2.9	00:01:05	00:07:03	15		P1351	P1351	Z416	P1351
		W	CD_In Flight	W076-18.2650	146.9	0	146.9	4500	0.25	160	7.3	00:07:03		9217		1	1	20	1
12	P1688		KPXT 112/004	N38-16.3225	190.4	000/000	190.5	75000	150	164	1.0	00:00:22	00:07:25	19		P1688	P1688	Z423	P1688
		W	In Flight	W076-18.4946	201.5	0	201.5	5886	0.25	164	8.3	00:07:25		9198		1	1	21	1
13	P1689		KPXT 137/005	N38-14.2481	190.5	000/000	190.6	75000	150	171	2.1	00:00:46	00:08:11	37		P1689	P1689	Z571	P1689
		W	In Flight	W076-18.9848	201.6	0	201.6	8734	0.27	171	10.4	00:08:11		9161		1	1	60	1

ENCLOSURE (45)

SEQ #	DTD ID	AP SC EW	FIX RRR/DDD Remarks	Latitude Longitude	TC MC	W/V DC	TH MH	Com ALT Exp ALT	CAS MACH	TAS GS	Dist AC Dist	Leg Time AC Time	ETA ATA	Leg Fuel Fuel RMNG		C1 DTD Route #	C2 DTD Route #	C3 DTD Route #	C4 DTD Route #
14	P1275	W	KPXT 172/009 In Flight	N38-08.4700 W076-20.4617	191.4 202.4	000/000 0	191.4 202.4	75000 15668	150 0.30	190 190	5.9 16.3	00:02:00 00:10:11	00:10:11	88 9073		P1275 1	P1275 1	Z571 60	P1275 1
15	P1244	W	KPXT 182/014 In Flight	N38-03.5150 W076-21.6233	190.4 201.4	000/000 0	190.5 201.4	75000 20658	150 0.34	206 206	5.0 21.3	00:01:33 00:11:44	00:11:44	61 9012		P1244 1	P1244 1	Z526 42	P1244 1
16	P1175	AP W	KPXT 190/023 In Flight	N37-53.8277 W076-23.8061	190.1 201.0	000/000 0	190.1 201.0	75000 28314	145 0.38	228 228	9.8 31.2	00:02:45 00:14:29	00:14:29	92 8920		P1175 1	P1175 1	Z525 42	P1175 1
17	P17	W	KPXT 191/027 In Flight	N37-50.6333 W076-24.5233	190.0 200.9	000/000 0	190.0 200.9	75000 29961	145 0.40	233 233	2.7 33.9	00:00:42 00:15:11	00:15:11	20 8900		P17 1	P17 1	Z525 42	P17 1
18	P1176	W	KPXT 181/028 In Flight	N37-49.5667 W076-18.2433	102.2 112.9	000/000 0	102.1 112.9	75000 32423	143 0.41	241 241	4.5 38.4	00:01:09 00:16:20	00:16:20	30 8870		P1176 1	P1176 1	Z525 42	P1176 1
19	P18		KPXT 175/029 In Flight	N37-49.2583 W076-14.5667	96.1 107.1	000/000 0	96.2 107.1	75000 33734	142 0.42	246 246	2.7 41.1	00:00:40 00:17:00	00:17:00	17 8853		P18 1	P18 1	Z525 42	P18 1
20	P1178		KSBY 258/022 In Flight	N38-11.8350 W075-56.0783	32.9 44.0	000/000 0	32.9 44.0	75000 41899	138 0.49	283 283	26.7 67.8	00:06:02 00:23:02	00:23:02	114 8739		P1178 1	P1178 1	Z525 42	P1178 1
21	P1173		KSBY 282/010 In Flight	N38-20.6167 W075-42.9917	49.5 60.8	000/000 0	49.5 60.8	75000 44533	136 0.52	297 297	13.4 81.2	00:02:47 00:25:49	00:25:49	42 8697		P1173 1	P1173 1	Z525 42	P1173 1
22	P19		KSBY 345/016 In Flight	N38-34.6800 W075-39.8867	9.8 21.2	000/000 0	9.8 21.2	75000 46570	135 0.54	308 308	12.5 93.8	00:02:29 00:28:18	00:28:18	35 8662		P19 1	P19 1	Z525 42	P19 1
23	P20		KSBY 321/022 In Flight	N38-34.5433 W075-52.7067	269.2 280.7	000/000 0	269.2 280.7	75000 47732	134 0.55	314 314	8.3 102.1	00:01:35 00:29:53	00:29:53	21 8641		P20 1	P20 1	Z525 42	P20 1
24	P21	W	KPXT 085/011 In Flight	N38-20.2133 W076-10.1767	223.6 235.2	000/000 0	223.9 235.2	75000 47800	133 0.55	314 314	19.7 121.8	00:03:46 00:33:39	00:33:39	29 8612		P21 1	P21 1	Z525 42	P21 1
25	P1174	W	KPXT 195/016 In Flight	N38-00.9033 W076-25.7383	212.3 223.6	000/000 0	212.5 223.6	75000 48460	133 0.55	318 318	22.9 144.6	00:04:18 00:37:57	00:37:57	37 8575		P1174 1	P1174 1	Z526 42	P1174 1
26	P22	W	KPXT 196/020 In Flight	N37-57.4217 W076-26.7733	193.2 203.8	000/000 0	192.9 203.8	75000 48600	133 0.56	318 318	3.4 148.0	00:00:38 00:38:35	00:38:35	5 8570		L263 51	P22 1	Z525 42	P22 1
27	P23	W	KCCV 343/027 GHAWK PXT 1780	N37-45.0833 W076-15.7450	144.8 155.5	000/000 0	144.6 155.5	75000 50188	132 0.57	327 327	14.9 163.0	00:02:46 00:41:21	00:41:21	35 8535		P23 1	P23 1	Z525 42	P23 1
28	P24	W	KORF 048/009 In Flight	N37-00.0000 W076-05.0000	169.3 180.1	000/000 0	169.2 180.1	75000 53409	128 0.60	342 342	44.9 207.9	00:08:02 00:49:23	00:49:23	89 8446		P24 1	P24 1	Z525 42	P24 1
29	P25	W	KNTU 075/027 In Flight	N37-00.8000 W075-31.3133	88.5 99.0	000/000 0	88.2 99.0	75000 54658	125 0.60	345 345	26.0 233.9	00:04:32 00:53:55	00:53:55	46 8400		P25 1	P25 1	Z1129 103	P25 1

(b)(4) [Northrup Grumman internal document]

ENCLOSURE (46)

(b)(4) [Northrup Grumman internal document]

(b)(4) [Northrop Grumman internal document]

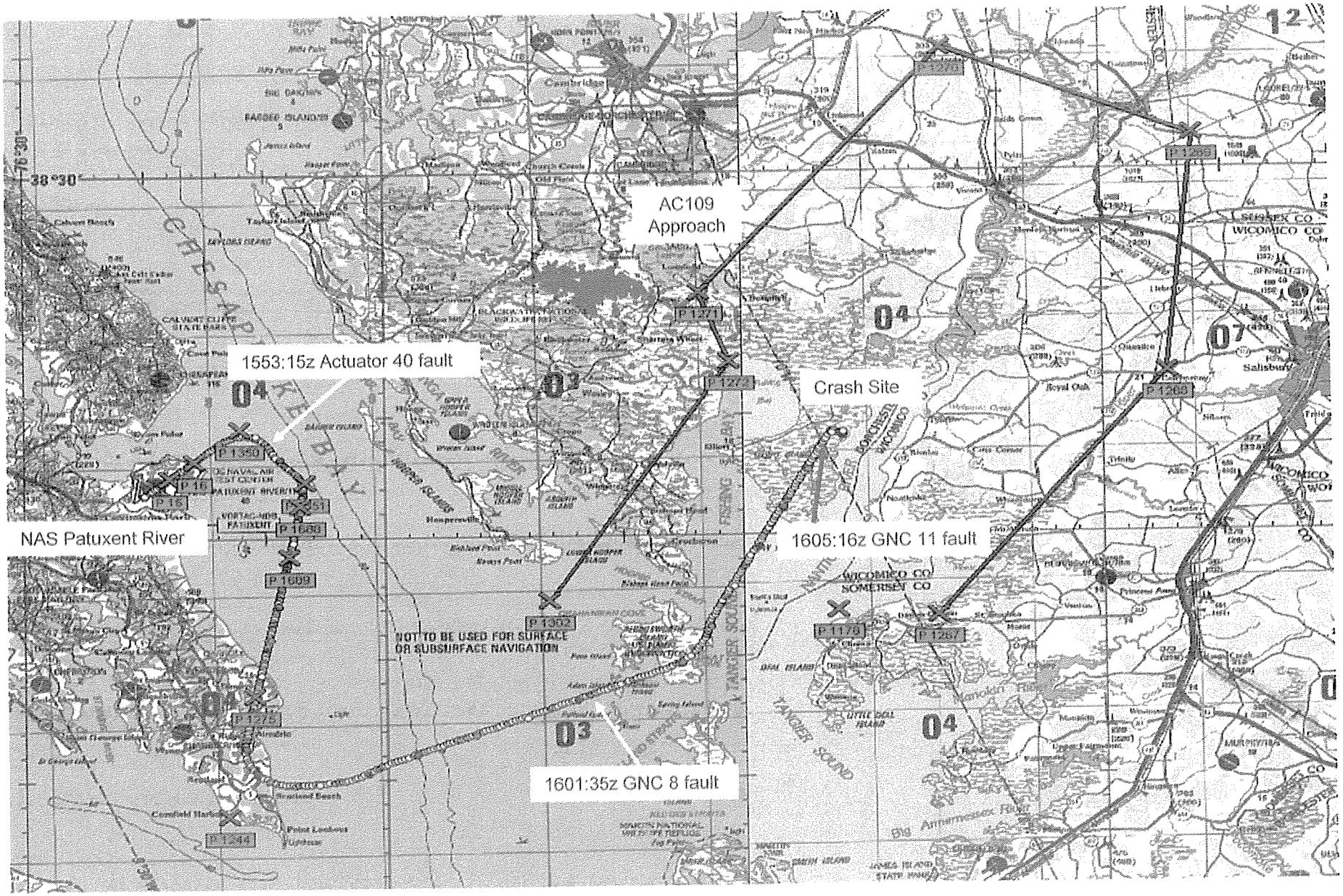
(b)(4) [Northrop Grumman internal document]

(b)(4) [Northrop Grumman internal document]

(b)(4) [Northrop Grumman internal document]

6/19/2012
ENCLOSURE (48)

11 June 2012 RQ-4A Mishap Aircraft Flight Path



ENCLOSURE (49)

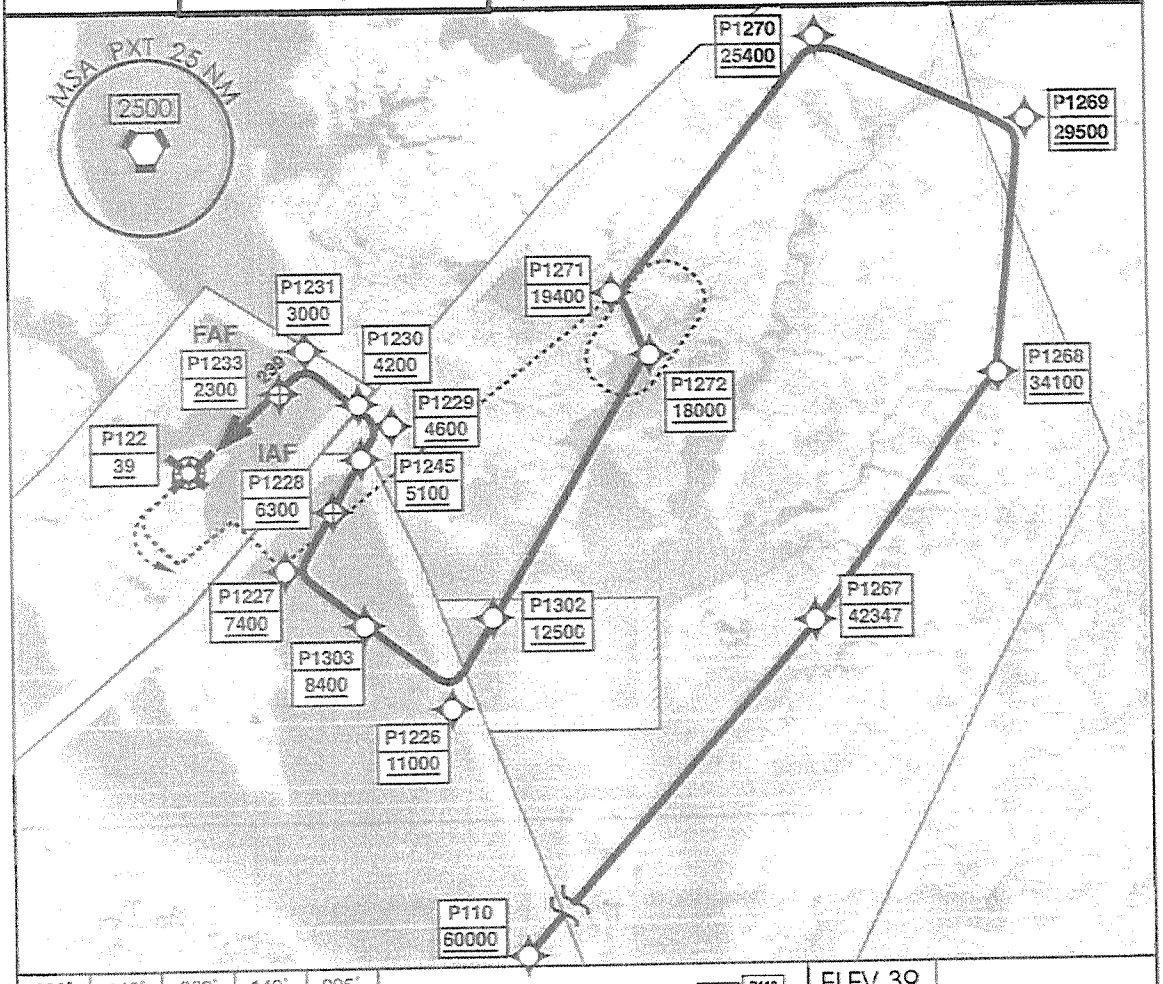
GLOBAL HAWK UAV RWY 24 HIGH ARRIVAL

****FOR CREW COORDINATION PURPOSES ONLY****

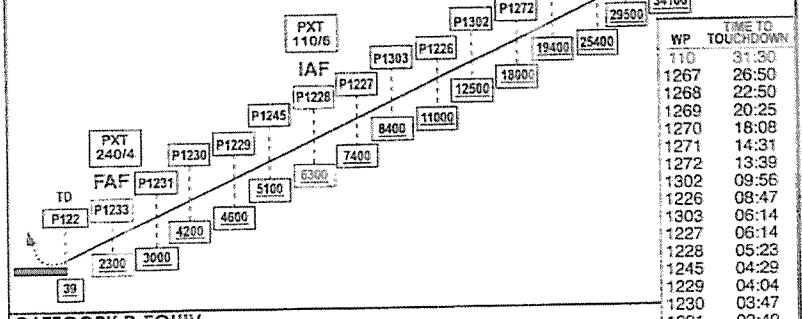
KNHK — VX-20 / NATOPS CHANGE 0 7 JUNE 2007 NAS Pax River KNHK

NAS Pax River	NAS Pax River	
ATIS 276.2	Tower	343.65 / 123.7
	Pax APP	281.8 / 120.05

MISSED APPROACH: Climb to 4500 TRACKING 239° then LEFT 140° then LEFT to 060° then RIGHT 140°. On entry into R-4005 CLIMBING LEFT TURN to 095° (WP1271) MAINTAIN FL190 and HOLD. Time to touchdown from hold (WP1272) is 13:39

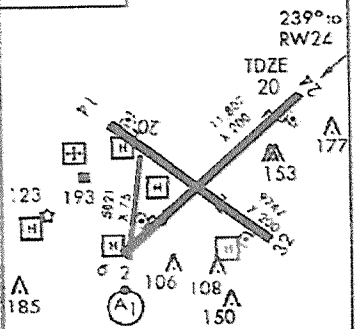


239°	140°	060°	140°	095°
4500	4500	4500	4500	FL190



WP	TIME TO TOUCHDOWN
110	31:30
1267	26:50
1268	22:50
1269	20:25
1270	18:08
1271	14:31
1272	13:39
1302	09:56
1226	08:47
1303	06:14
1227	06:14
1228	05:23
1245	04:29
1229	04:04
1230	03:47
1231	02:49
1232	02:31
1233	02:14

ELEV 39



CATEGORY D EQUIV

Ldg: 1000 – 1 (Tempo or prevailing) ETA +/– 2 hours
Below 3000 – 3 (Forecast or Actual):
Two hours holding fuel required upon return if no alternate specified.
Below 1000 – 1 Recover to alternate unless landing below minimums is approved by VX20/CO. May hold until divert bingo fuel is reached if WX is expected to get better

KNHK NAS Pax River KNHK

****FOR CREW COORDINATION PURPOSES ONLY****

GLOBAL HAWK UAV RWY 24 HIGH ARRIVAL

16
144

(b)(4) [Northrop Grumman internal document]

ENCLOSURE (51)

(b)(4) [Northrop Grumman internal document]

(b)(4) [Northrop Grumman internal document]

(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(3), (b)(6) LT, CPRW-2, BAMS-D
Sent: Friday, July 06, 2012 10:03 AM
To: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: Mishap Lat Long
Signed By: (b)(3), (b)(6) @navy.mil

LCDR(b)(3), (b)(6),

The AMB determined the lat long of the mishap site to be:

N381911 W0755549

V/R,
LT (b)(3), (b)(6)
AMB ASO

ENCLOSURE (52)

(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(3), (b)(6) LT, CPRW-2, BAMS-D
Sent: Monday, July 09, 2012 8:07 AM
To: (b)(3), (b)(6) LCDR OIC BAMS-D
Cc: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: RE: Weather observation at the time of the mishap
Signed By: (b)(3), (b)(6) navy.mil

LCDR (b)(3), (b)(6)

(b)(6) (BAMS-D safety rep) did go to the weather office following the mishap to receive an observation. They gave him current METAR and TAF lines with no significant weather reported (should have given him an observation). The weather brief for the mishap flight was substantially correct to the weather observed (from interview statements w/ aircrew, observers and (b)(6) 's discussion with the weather office).

Let me know if you want (b)(6) s cell number or more info.

V/R,
(b)(3), (b)(6)

-----Original Message-----
From: (b)(3), (b)(6) LCDR OIC BAMS-D
Sent: Sunday, July 08, 2012 11:44
To: (b)(3), (b)(6) LT, CPRW-2, BAMS-D
Cc: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: FW: Weather observation at the time of the mishap

Can you send an email to (b)(3), (b)(6) I think you know the specifics of this better than me.

Very Respectfully,

LCDR (b)(3), (b)(6)
OIC BAMS-D
Com (b)(6)
Cell (b)(6)
(b)(3), (b)(6) @navy.smil.mil
(b)(3), (b)(6) @navy.mil

-----Original Message-----
From: (b)(3), (b)(6) LCDR CPRW-2, N7
Sent: Saturday, July 07, 2012 19:26
To: (b)(3), (b)(6) LCDR OIC BAMS-D
Subject: Weather observation at the time of the mishap

(b)(3), (b)(6)

Can I get something stating that no weather observation was taken at the time of the mishap. Need something other than my memory to reference in the report.

R/

(b)(3), (b)(6)

LCDR (b)(3), (b)(6)

ENCLOSURE (53)

N7 - Training Officer
Patrol and Reconnaissance Wing TWO
MCBH Kaneohe Bay, HI
COM: (b)(6)
DSN: (b)(6)
(b)(3), (b)(6) @navy.mil
(b)(3), (b)(6) @navy.smil.mil
Sharepoint Website: https://www.portal.navy.mil/comnavairfor/CPRW2/TRNG/default.aspx
"For Official Use Only - Privacy Sensitive: Any misuse or unauthorized disclosure may result in both civil and criminal penalties"

Aviation Digital Data Service (ADDS)

Output produced by TAFs form (1858 UTC 11 June 2012)
found at http://aviationweather.gov/adds/tafs/

```
KNHK 111852Z 13009KT 10SM SCT060 SCT180 BKN250 29/18 A3012 RMK AO2
SLP199 T02940183
KNHK 111752Z 12009KT 10SM FEW060 SCT180 BKN250 29/18 A3013 RMK AO2
SLP204 T02890183 10294 20244 58006
KNHK 111652Z 11007KT 10SM BKN250 29/19 A3015 RMK AO2 SLP208 T02890189
KNHK 111552Z 12007KT 10SM SCT180 BKN250 28/19 A3015 RMK AO2 SLP210
T02830194
KNHK 111452Z 11006KT 10SM BKN250 28/18 A3015 RMK AO2 SLP209 T02830183
50004
KNHK 111352Z 00000KT 10SM BKN250 28/17 A3015 RMK AO2 SLP210 T02830172
```

ENCLOSURE (54)

(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(3), (b)(6) CDR CTP VX-20, 5.1.3
Sent: Wednesday, June 20, 2012 10:37 AM
To: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: FW: BAMS-D incident post action
Signed By: (b)(3), (b)(6) @navy.mil

-----Original Message-----
From: (b)(3), (b)(6) CAPT PMA-262
Sent: Thursday, June 14, 2012 15:49
To: (b)(3), (b)(6) CDR CTP VX-20, 5.1.3
Cc: (b)(3), (b)(6) CDR CO VX-20, 5.1.3; (b)(6) CIV NAVAIR PEO(U&W) PMA-262A DPM; (b)(6) GHMD LEAD NAVAIR
Subject: Fw: BAMS-D incident post action

(b)(3)(b)(6)

Know you are busy, but when it is time will need your recommendation on disposition of any wreckage. Thanks. V/R, (b)(3), (b)(6)

----- Original Message -----
From: (b)(6) CIV NAVFAC MIDLANT, EV
To: (b)(6) CIV NAVFAC MIDLANT, EV; (b)(6) CIV NAVFAC Washington, PAXR
PWD; (b)(3), (b)(6) CAPT NAVFAC, Washington; (b)(3), (b)(6) CAPT NAS Patuxent River HQ, N00
Cc: (b)(6) CIV NAVFAC Washington, Patuxent River; (b)(3), (b)(6) R CDR NAVFAC Washington; (b)(6) CIV NDW WNYD, N01; (b)(3), (b)(6) CAPT PMA-262; (b)(6) CIV NAVAIR PEO(U&W) PMA-262A DPM; (b)(3), (b)(6) CAPT, XO NAS Patuxent River, N01; (b)(6) CIV NAS Patuxent River, N00; (b)(3), (b)(6) CAPT NAVFAC, Washington; (b)(6) CIV NAVFAC MIDLANT, EV; (b)(6) CIV NAVFAC MIDLANT, EV BLC
Sent: Thu Jun 14 15:22:58 2012
Subject: RE: BAMS-D incident post action

Great summary (b)(6) , and thank you for coordinating this information.

It appears most of the oil burned at the scene upon impact and provided a fuel source for the fire until it extinguished itself (that explains why there is only a small amount of residual and no odor present in the impact zone).

The only thing I would like to add is that the US Fish and Wildlife (USFW) Officers along with the local Dorchester County Sheriff's office and Maryland State Police provided key support with this operation. The airboats and operators were provided by USFW and the Sheriff's office provided intimate knowledge about the landscape, and access points which helped our search efforts significantly. They responded to our needs promptly and with exuberance.

We are tentatively planning to return to the site on June 26th, following the AMBs site turnover to complete the restoration effort. The AMB investigators have instructed me to keep the impact area as it stands in case they would like to return to the site to collect additional information. That is of course contingent upon them completing their operations in the next week (which was the estimate provided to me by the AMB as of yesterday morning).

I envision the site restoration effort (at a minimum) to require the removal of any visible debris from the impact zone. My past experience with these types of incidents has been the

ENCLOSURE (55)

Navy would like any recoverable debris from the aircraft returned to the installation (PAX River). Let me know if this will be the case or if you would rather us dispose of it properly at a licensed disposal facility (i.e. landfill it). I realize this decision may require input from the AMB, but as soon as this decision is made please let me know, because if disposal is the selected option, it will require us to characterize the debris with laboratory samples for analytical screening and acceptance from a disposal facility.

Other than that because of the sensitive ecological receptors in that area, we will most likely not be able to do much else. I am still trying to finalize that with the State of Maryland officials and will let you know the situation as soon as it develops.

Please let me know if you have any questions or comments regarding this matter.

(b)(6)

(b)(6)
CNRMA Navy On Scene Coordinator Representative
NAVFAC MIDLANT
9742 Maryland Avenue
Norfolk, VA 23511-3095
Phone: (b)(6)
Fax: (b)(6)
(b)(6) @navy.mil

-----Original Message-----
From: (b)(6) CIV NAVFAC MIDLANT, EV
Sent: Wednesday, June 13, 2012 11:05 AM
To: (b)(6) CIV NAVFAC Washington, PAXR PWD; (b)(3), (b)(6) CAPT NAVFAC, Washington; (b)(3), (b)(6) CAPT NAS Patuxent River HQ, N00
Cc: (b)(6) CIV NAVFAC Washington, Patuxent River; (b)(3), (b)(6) CDR NAVFAC Washington; (b)(6) CIV NDW WNYD, N01; (b)(3), (b)(6) CAPT PMA-262; (b)(6) CIV NAVAIR PEO(U&W) PMA-262A DPM; (b)(3), (b)(6) CAPT, XO NAS Patuxent River, N01; (b)(6) CIV NAS Patuxent River, N00; (b)(3), (b)(6)) CAPT NAVFAC, Washington; (b)(6) CIV NAVFAC MIDLANT, EV; (b)(6) CIV NAVFAC MIDLANT, EV
Subject: RE: BAMS-D incident post action

All,

It appears that there may be some questions WRT the BAMS-D incident environmental response so I wanted to share with you what I know to date.

(b)(6) (NAVFAC Midlant EV), as the Navy On-Scene Coordinator (NOSC) Representative for CNRMA and NDW, responded to the crash scene on Monday June 11th. As is the protocol for responding to spills for which internal Navy capabilities/capacity have been exceeded, (b)(6) (b)(6) activated the Coast Guard Basic Ordering Agreement (BOA) contract vehicle and (b)(6) (b)(6) responded to the scene. Below is a quick summary I received from (b)(6) of the current status FYI.

- The crash was in a wetlands area located in a State Preservation Area which is only accessible by airboat. Therefore, recovery of the aircraft or environmental cleanup may cause more harm to the wetlands area than environmental benefit.
- After looking at the crash scene in the daylight, it is estimated that there is approximately 1 liter of fuel causing a visible sheen on the water surface
- (b)(6) is still in the process of coordinating with the Coast Guard and MD Department of Environmental Protection to come to consensus on required environmental cleanup efforts
- The Aircraft Mishap Board and Investigation Team have recovered some items from the scene, which are being transported by the environmental contractor to PAX River today

- The Aircraft Mishap Board and Investigation Team have communicated to (b)(6) that it will take approximately one more additional week before they can determine if any more aircraft parts need to be retrieved from the scene.
- (b)(6) has arranged for (b)(6) to demobilize from the crash scene today. After the Accident Investigation Team has concluded their investigation, and pending Coast Guard and MD Department of Environmental Protection determination of the required cleanup, (b)(6) will remobilize to conduct any further cleanup actions as necessary.

If anyone has any questions or concerns, please contact me or (b)(6) . Our contact information is included in (b)(6) 's email below.

V/r,
(b)(6)
NAVFAC Midlant
Director Air & Tank Compliance
(b)(6)

-----Original Message-----
From: (b)(6) CIV NAVFAC Washington, PAXR PWD
Sent: Wednesday, June 13, 2012 9:00
To: (b)(3), (b)(6) CAPT NAVFAC, Washington; (b)(3), (b)(6) CAPT NAS Patuxent River HQ, N00
Cc: (b)(6) CIV NAVFAC Washington, Patuxent River; (b)(3), (b)(6) CDR NAVFAC Washington; (b)(6) CIV NDW WNYD, N01; (b)(3), (b)(6) CAPT PMA-262; (b)(6)
CIV NAVAIR PEO(U&W) PMA-262A DPM; (b)(3), (b)(6) CAPT, XO NAS Patuxent River, N01;
(b)(6) CIV NAS Patuxent River, N00; (b)(3), (b)(6) CAPT NAVFAC, Washington;
(b)(6) CIV NAVFAC MIDLANT, EV; (b)(6) CIV NAVFAC MIDLANT, EV
Subject: RE: BAMS-D incident post action

CO's,

The LANT contract contact is (b)(6) (on scene) and (b)(6) (both are cc'd) (b)(6) is on site and his cell numbers are (b)(6) personal is (b)(6) . He works for (b)(6) , and she can be reached (b)(6) cube or cell (b)(6) . Not sure (b)(6) 's signal strength.

If I can be of any assistance for either of you do not hesitate to let me know. In the mean time I have told (b)(6) CAPT (b)(3), (b)(6) concerns below.

"I think bear consideration as we work through this:
-The aircraft is an extremely inaccessible site, can only be reached by airboat.
-The aircraft also went down in a wide life refuge. There may be more environmental damage in the cleanup than the crash.
-Some press and VIP visibility on this, not that its unusual - but how a UAV in CONUS is handled will be watched.
-The reporting custodian for the aircraft is in Hawaii, not PAXR.
-Other program and platform specific factors."

Vr,

(b)(6)

-----Original Message-----
From: (b)(3), (b)(6) CAPT NAVFAC, Washington

Sent: Tuesday, June 12, 2012 7:46 PM
To: (b)(3), (b)(6) CAPT NAS Patuxent River HQ, N00
Cc: (b)(6) CIV NAVFAC Washington, Patuxent River; (b)(6) CIV NAVFAC Washington, PAXR PWD; (b)(3), (b)(6) CDR NAVFAC Washington; (b)(6) CIV NDW WNYD, N01; (b)(3), (b)(6) CAPT PMA-262; (b)(6) . CIV NAVAIR PEO(U&W) PMA-262A DPM; (b)(3), (b)(6) (b)(3), (b)(6) CAPT, XO NAS Patuxent River, N01; (b)(6) CIV NAS Patuxent River, N00; (b)(3), (b)(6) CAPT NAVFAC, Washington
Subject: RE: BAMS-D incident post action

Skipper,
I'll find out who is managing the contract. Glad to discuss, sounds like a tough job.
v/r,
(b)(3), (b)(6)

-----Original Message-----
From: (b)(3), (b)(6) CAPT NAS Patuxent River HQ, N00
Sent: Tuesday, June 12, 2012 17:04
To: (b)(3), (b)(6) CAPT NAVFAC, Washington
Cc: (b)(6) CIV NAVFAC Washington, Patuxent River; (b)(6) CIV NAVFAC Washington, PAXR PWD; (b)(3), (b)(6) CDR NAVFAC Washington; (b)(6) CIV NDW WNYD, N01; (b)(3), (b)(6) CAPT PMA-262; (b)(6) . CIV NAVAIR PEO(U&W) PMA-262A DPM; (b)(3), (b)(6) (b)(3), (b)(6) CAPT, XO NAS Patuxent River, N01; (b)(6) CIV NAS Patuxent River, N00; (b)(3), (b)(6) CAPT NAVFAC, Washington
Subject: BAMS-D incident post action

(b)(3), (b)(6)

You are probably well aware by now of the unmanned aircraft crash that occurred yesterday. The program head (b)(3), (b)(6) , cced) and I have spoken several times over the last two days. I've also visited the site.

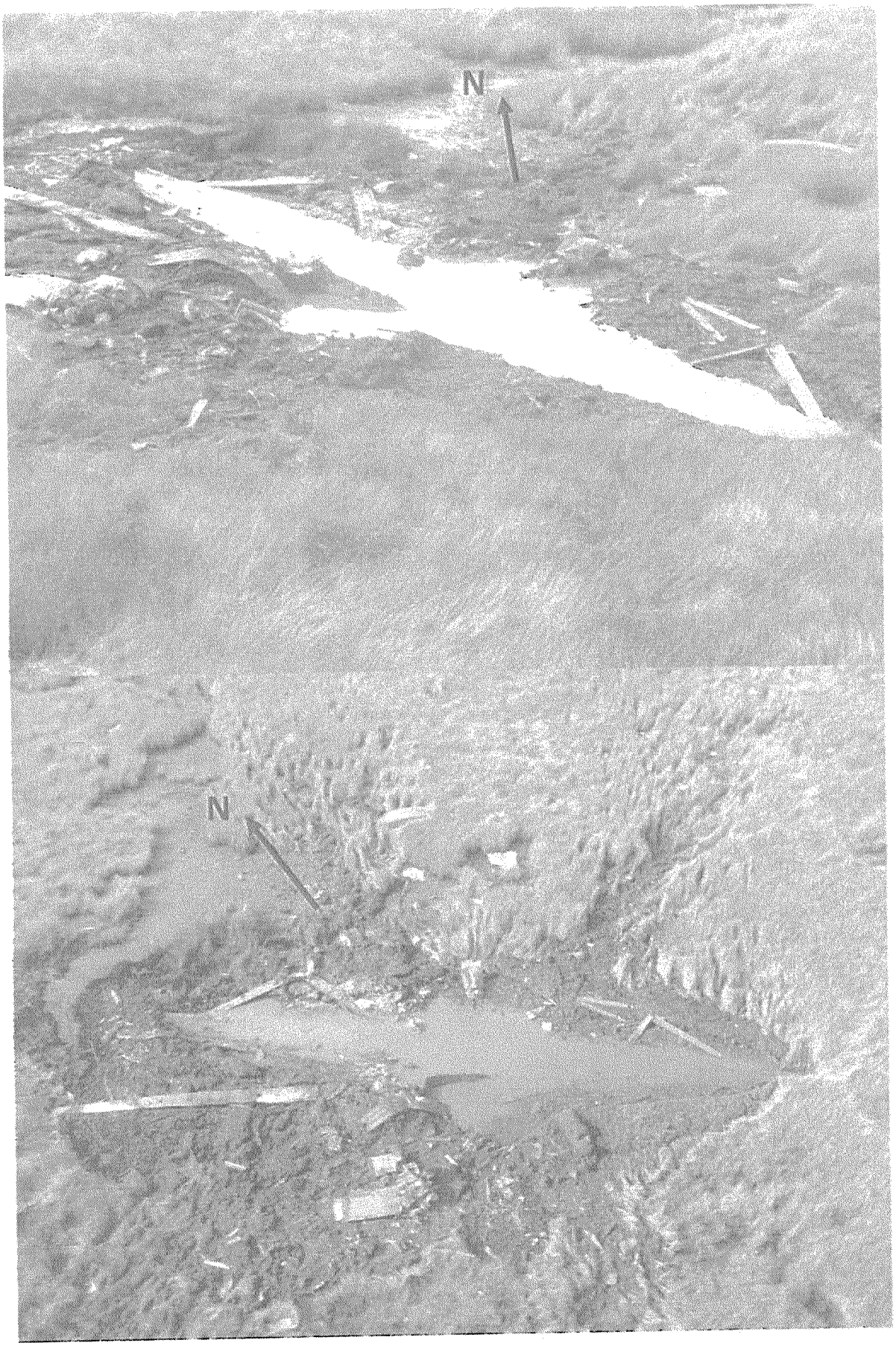
I understand that NAVFAC Atlantic has contracted a cleanup company to come in after the mishap investigation is done. I heard it's the same company that did the F-18 in Oceana. Some items that I think bear consideration as we work through this:
-The aircraft is an extremely inaccessible site, can only be reached by airboat.
-The aircraft also went down in a wide life refuge. There may be more environmental damage in the cleanup than the crash.
-Some press and VIP visibility on this, not that its unusual - but how a UAV in CONUS is handled will be watched.
-The reporting custodian for the aircraft is in Hawaii, not PAXR.
-Other program and platform specific factors.

As (b)(3), (b)(6) and I have spoken, we've speculated on what might be some Navy COAs with respect to clean up. I'd like to engage and get your thoughts at your first availability. May have some OGC items we need to have vetted.

V/R
Ted

CAPT H.E. Mills, USN
Commanding Officer
NAS Patuxent River
(b)(6)
(b)(6) @navy.mil

ENCLOSURE (56)


N
N

UNCLASSIFIED//
ALSAFE 056/09
SECINFO/U-//
MSGID/GENADMIN/COMNAVSAFECEN/00/FEB//
SUBJ/REVISION TO COST THRESHOLDS FOR ACCIDENT SEVERITY
/CLASSIFICATION//
REF/A/DESC:LTR/USD AT&L/05OCT2009//
REF/B/DESC:DOC/CNO/01MAR2001//
REF/C/DESC:DOC/CNO/07JAN2005//
NARR/REF A IS A MEMORANDUM FROM THE UNDER SECRETARY OF DEFENSE (ACQUISITION, TECHNOLOGY AND LOGISTICS) TO THE HEADS OF THE DOD COMPONENTS. REF B IS OPNAVINST 3750.6R, THE NAVAL AVIATION SAFETY PROGRAM. REF C IS OPNAVINST 5102.1D/MCO P5102.1B, THE NAVAL AND MARINE CORPS MISHAP SAFETY AND INVESTIGATION REPORTING AND RECORD KEEPING MANUAL.//
POC/ (b)(6) /CIV/UNIT:NAVSAFECEN/NAME:NORFOLK/
TEL:DSN (b)(6) /TEL: (b)(6)
EMAIL (b)(6) @NAVY.MIL//
GENTEXT REMARKS/1. IN COMPLIANCE WITH REF A, NAVY AND MARINE CORPS MISHAP REPORTING COST THRESHOLD CHANGES WERE EFFECTIVE 0001 (LOCAL) 1 OCT 2009. THE COST THRESHOLD FOR CLASS A MISHAPS IS $2 MILLION, CLASS B MISHAPS IS $500,000, AND CLASS C MISHAPS IS $50,000. ALL OTHER CONDITIONS FOR CATEGORIZING MISHAP SEVERITY REMAIN UNCHANGED (E.G., CLASS A STILL INCLUDES ANY FATALITY, PERMANENT TOTAL DISABILITY, AND DESTROYED AIRCRAFT).
2. THIS MESSAGE IS AUTHORITY TO CHANGE THE COST THRESHOLDS IN REFERENCES B AND C.//

ENCLOSURE (57)

DEPARTMENT OF DEFENSE
ARMED FORCES MEDICAL EXAMINER SYSTEM
115 PURPLE HEART DRIVE
DOVER AFB, DE 19902-5051

REPLY TO ATTENTION OF
MCMR-MET

TO:

(b)(6)

PATIENT IDENTIFICATION

Name (b)(6) **SSAN** (b)(6)

Toxicology Accession #: (b)(6)
Date Report Generated: June 18, 2012

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

AFMES DIAGNOSIS **REPORT OF TOXICOLOGICAL EXAMINATION**

Condition of Specimens: GOOD
Date of Incident: 6/11/2012 **Date Received:** 6/14/2012

ETHANOL: The **BLOOD** was examined for the presence of ethanol at a cutoff of 20 mg/dL. No ethanol was detected.

DRUGS: The **URINE** was screened for amphetamine, barbiturates, benzodiazepines, cannabinoids, cocaine, opiates and phencyclidine by immunoassay or chromatography. The following drugs were detected:

None were found.

(b)(6)

(b)(3), (b)(6) PhD
CDR, MSC, USN
Certifying Scientist, Forensic Toxicology Laboratory
Armed Forces Medical Examiner System

BARRY LEVINE, PhD, DABFT
Director, Forensic Toxicology Laboratory
Armed Forces Medical Examiner System

This document contains information EXEMPT FROM MANDATORY DISCLOSURE under the FREEDOM OF INFORMATION ACT Exemption No. 6c,d Applies

FOR OFFICIAL USE ONLY

ENCLOSURE (58)

DEPARTMENT OF DEFENSE
ARMED FORCES MEDICAL EXAMINER SYSTEM
115 PURPLE HEART DRIVE
DOVER AFB, DE 19902-5051

REPLY TO
ATTENTION OF
MCMR-MET

TO:

(b)(6)

PATIENT IDENTIFICATION

Name (b)(6) **SSAN** (b)(6)

Toxicology Accession #: (b)(6)
Date Report Generated: June 18, 2012

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

AFMES DIAGNOSIS **REPORT OF TOXICOLOGICAL EXAMINATION**

Condition of Specimens: GOOD
Date of Incident: 6/11/2012 **Date Received:** 6/14/2012

ETHANOL: The **BLOOD** was examined for the presence of ethanol at a cutoff of 20 mg/dL. No ethanol was detected.

DRUGS: The **URINE** was screened for amphetamine, barbiturates, benzodiazepines, cannabinoids, cocaine, opiates and phencyclidine by immunoassay or chromatography. The following drugs were detected:

None were found.

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Director, Forensic Toxicology Laboratory
Armed Forces Medical Examiner System

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ENCLOSURE (59)

DEPARTMENT OF DEFENSE
ARMED FORCES MEDICAL EXAMINER SYSTEM
115 PURPLE HEART DRIVE
DOVER AFB, DE 19902-5051

REPLY TO
ATTENTION OF
MCMR-MET

TO:

(b)(6)

PATIENT IDENTIFICATION

Name (b)(6) **SSAN** (b)(6)

Toxicology Accession #: (b)(6)
Date Report Generated: June 18, 2012

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

AFMES DIAGNOSIS **REPORT OF TOXICOLOGICAL EXAMINATION**

Condition of Specimens: GOOD
Date of Incident: 6/11/2012 **Date Received:** 6/14/2012

ETHANOL: The **BLOOD** was examined for the presence of ethanol at a cutoff of 20 mg/dL. No ethanol was detected.

DRUGS: The **URINE** was screened for amphetamine, barbiturates, benzodiazepines, cannabinoids, cocaine, opiates and phencyclidine by immunoassay or chromatography. The following drugs were detected:

None were found.

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(b)(3), (b)(6) PhD
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Certifying Scientist, Forensic Toxicology Laboratory
Armed Forces Medical Examiner System

BARRY LEVINE, PhD, DABFT
Director, Forensic Toxicology Laboratory
Armed Forces Medical Examiner System

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ENCLOSURE (60)

DEPARTMENT OF DEFENSE
ARMED FORCES MEDICAL EXAMINER SYSTEM
115 PURPLE HEART DRIVE
DOVER AFB, DE 19902-5051

REPLY TO ATTENTION OF
MCMR-MET

TO:

(b)(6)

PATIENT IDENTIFICATION

Name (b)(6) **SSAN** (b)(6)

Toxicology Accession #: (b)(6)
Date Report Generated: June 18, 2012

CONSULTATION REPORT ON CONTRIBUTOR MATERIAL

AFMES DIAGNOSIS **REPORT OF TOXICOLOGICAL EXAMINATION**

Condition of Specimens: GOOD
Date of Incident: 6/11/2012 **Date Received:** 6/14/2012

ETHANOL: The **BLOOD** was examined for the presence of ethanol at a cutoff of 20 mg/dL. No ethanol was detected.

DRUGS: The **URINE** was screened for amphetamine, barbiturates, benzodiazepines, cannabinoids, cocaine, opiates and phencyclidine by immunoassay or chromatography. The following drugs were detected:

None were found

(b)(6)

(b)(3), (b)(6) PhD
CDR, MSC, USN
Certifying Scientist, Forensic Toxicology Laboratory
Armed Forces Medical Examiner System

BARRY LEVINE, PhD, DABFT
Director, Forensic Toxicology Laboratory
Armed Forces Medical Examiner System

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ENCLOSURE (61)

TRITN39	4624	NHK	~~+V16 COLIN PXT178076+~~ 170 1005	B		1550
RQ4/U NHKO	P1457		NHK PXT R4006 R4008***W386	1548		
601	510B600		ORQ4 IS GLOBAL HAWK UAS***	6		

ENCLOSURE (62)

NHK/NUI
AIR TRAFFIC CONTROL INCIDENT REPORT

The following is a description of an incident which adversely affected the operation of this facility. This formal record is forwarded in the interest of aviation safety to advise you of the particulars. It is requested that, as appropriate, these details be brought to the attention of the pilot(s) and/or other agencies involved. The undersigned certifies that all information on this report is accurate and complete to the best of their knowledge.

From: AC1(AW/SW) (b)(3), (b)(6) To: ATCFO

Incident Type: Crash Date: 11Jun2012 Time: 1605Z Incident #:

☐ Accident
☐ Operational Error Aircraft ID: TRITN39 Type: RQ4 Service: Squadron: BAMS
☐ Operational Deviation
× Other Facilities Involved: NHK

Controller(s) Involved and Initials: (b)(6) Position Name & Number: RADAR SUP / FWS

Weather Sequence: See attached

SUMMARY OF INCIDENT:

TRITON39, RQ4, departed NHK IFR to the SUA. I was informed by the APP that RQ4 declared Emergency. RQ4 requested to continue in the SUA and to climb to FL250. The aircraft was cleared to climb and was handed off to ADV. RQ4 reported nature of emergency as Right Inner Rudder Main problem and advised it will be delaying for 1 hour in the SUA prior to recovery. I informed the TS and instructed him not to activate the Crash Phone yet. A few minutes later, RQ4 said they will be recovering RY24 in 25 minutes. A couple of minutes later (1605Z), ADV Controller said to me "Global Hawk is going down". I cleared RADAR of unnecessary personnel. I immediately notified my Chain Of Command. RADAR contact was lost on N38'19.12 W075'55.49 (coordinates later confirmed by RQ4 personnel). I then began the notification process as follows: 1611Z: Coast Guard (410-576-2525) notified of the Crash and instructed to dispatch personnel to the site immediately for security. 1613Z: DEN notified. They requested no further details. 1615Z: RQ4 personnel reported nobody around the area of the crash and the aircraft went down in a marsh. TSTR02 (F18 in SUA) reported smoke in the crash area. 1617Z: RQ4 personnel confirm the coordinates. 1619Z: Police Department notified via SYSCOM (410-783-7525 not dispatching anyone because it is not a rescue mission). 1628Z: LT (b)(3), (b)(6) (CG) called inquiring about the fire. I informed him that the aircraft is classified, provide maximum security, put the fire out. 1630Z: I informed RQ4 personnel (b)(6) about the fire and that CG was told to put it out. I gave him CG number for direct communication. 1632Z: 911 dispatcher/operator ((b)(6)) reported spectators at the site. I told her to secure the area and get the spectators out. 1648Z: News helo spotted over crash site (confirmed by SBY tower as Chopper16). OPS765 on site. 1652Z: I called FSS for TFR over crash site. FSS referred me to NOTAM office who then referred me to ZDC (b)(6) ZDC took the TFR for action. 1724Z: TFR in effect (see attached). 1726Z: news helo left site. AC1. (b)(6)

N.F.E.T.P.

(b)(6)

FWS COMMENTS:

Statement written by the FWS.
Attached Documents:

- Weather Observation
- Copy of TFR info
- App instructor statement (AC1 (b)(3), (b)(6))
- CD controller statement (AC3 (b)(3), (b)(6))
- App trainee statement ((b)(6))
- Civilian present in the room ((b)(6))
- AC2 (b)(3), (b)(6) (person instructed to record my actions)
- Advisory Controller (AC2 (b)(3), (b)(6))

All calls were made on the recorded line 301-342-3740. ATC Audio/Video was requested to be safeguarded from 1600Z to 1800Z.

AC1 (b)(3), (b)(6) (b)(6)

BRANCH CHIEF COMMENTS:

LCPO COMMENTS:

(b)(6)

ATCFO COMMENTS:

CT (b)(6)

AIR TRAFFIC CONTROL INCIDENT REPORT

The following is a description of an incident which adversely affected the operation of this facility. This formal record is forwarded in the interest of aviation safety to advise you of the particulars. It is requested that, as appropriate, these details be brought to the attention of the pilot(s) and/or other agencies involved. The undersigned certifies that all information on this report is accurate and complete to the best of their knowledge.

From: AC1 (b)(3), (b)(6) To: ATCFO

Incident Type:
- [x] Accident
- [ ] Operational Error
- [ ] Operational Deviation
- [ ] Other

Date: 11JUN12 Time (UTC) 1605 Incident #:

Aircraft ID: TRITN39 Type: RQ4 Service: Other Squadron:

Facilities Involved: NHK Controller(s) Involved and Initials: (b)(6)

Position Name & Number: ~~PME~~ Approach Pos. 5

Weather Sequence: 0000 10SM BKN250 28/17 A3015

SUMMARY OF INCIDENT:

I was on approach. Triton39 departed and declared an emergency. He requested to climb to FL250 and hold in the restricted areas. Aircraft was handed off to Advisory Control, Advisory control told supervisor that aircraft was RTB in 25 minutes. Shortly after advisory told supervisor that the aircraft was going down. The supervisor begantonotify the required people I marked the radial and DME from PXT of where radar contact was lost. Shortly after the crash a VFR aircraft appeared over the crash site SBY tower said they had released Clopper16. OPS765 departed WAL and went to the crash site OPS765 tried to get the VFR helicopter away from the crash site, but was unable I coordinated with OPS765 about access roads to the crash site

N.F.E.T.P.

(b)(6)

AC1

AIR TRAFFIC CONTROL INCIDENT REPORT

The following is a description of an incident which adversely affected the operation of this facility. This formal record is forwarded in the interest of aviation safety to advise you of the particulars. It is requested that, as appropriate, these details be brought to the attention of the pilot(s) and/or other agencies involved. The undersigned certifies that all information on this report is accurate and complete to the best of their knowledge.

From (b)(6) To: ATCPO

Incident Type:
- ☐ Accident
- ☐ Operational Error
- ☐ Operational Deviation
- ☐ Other

Date: 11 JUN 12 Time (UTC) 1605 Incident #:

Aircraft ID: TRITN39 Type: R44 Service: Other USN Squadron:

Facilities Involved: NHK Controller(s) Involved and Initials:

Position Name & Number: APPROACH, POSITION 5

Weather Sequence:

SUMMARY OF INCIDENT:

TRITN39 DEPARTED & WAS RADAR IDENTIFIED. SHORTLY AFTER DEPARTURE, THE A/C DECLARED AN EMERGENCY. I ASKED THE A/C IF HE COULD ACCEPT A FREQUENCY CHANGE AFTER HE SAID THAT HE NEEDED TO CLIMB TO FL 250. THE PILOT SAID THAT HE COULD CHANGE. THE A/C WAS HANDED OFF TO THE ADVISORY CONTROLLER & SWITCHED TO 302.55. END OF STATEMENT.

(b)(6)

NHK/NUI

AIR TRAFFIC CONTROL INCIDENT REPORT

The following is a description of an incident which adversley affected the operation of this facility. This formal record is forwarded in the interest of aviation safety to advise you of the particulars. It is requested that, as appropriate, these details be brought to the attention of the pilot(s)and/or other agencies involved. The undersigned certifies that all information on this report is accurate and complete to the best of their knowledge.

From: AC2 (b)(3), (b)(6) To: ATCFO

Incident Type: Date: 11-Jun-12 Time(UTC): 1605 Z Incident #: _____

[X] Accident
[ ] Operational Error
[ ] Operational Deviation
[ ] Other: _____

Aircraft ID: TRITN39 Type: RQ-4 Service: _____

Facilities Involved: NHK / Controller(s) Involved and Initials

Position Name and Number: ADVISORY/8

Weather Sequence: VFR

Summary of Incident:

The restricted areas were active 3.5BFL600. TRITN39 took off from Patuxent and was talking with Patuxent approach. TRITN39 declared an emergency, right inner rudder failure, with approach. Approach ascertained the intentions and switched the aircraft to Advisory. TRITN39 checked in with advisory and stated his emergency and requested to delay in the restricted areas at FL250. I approved the request and TRITN39 began his climb. I asked TRITN how long he planned to delay and he told me an hour. TRITN told me that he was requesting to land runway 24 in 25 minutes. Around 5 minutes later TRITN39 stated that they had lost control of the aircraft and it was going to crash. I rogered the aircraft and told the Radar supervisor.

NFETP

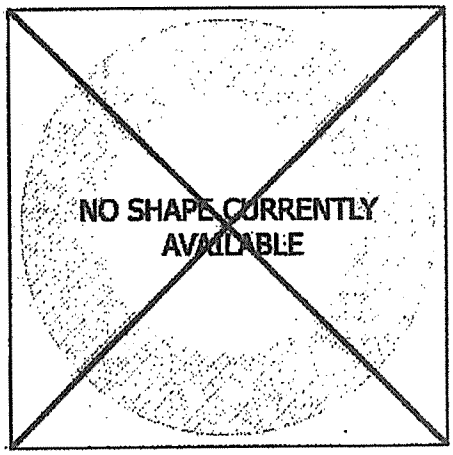
(b)(6)

FAA.gov Home

TFR List | TFR Map | Map Airports | TFR Help | SUA

NOTAM Number : **FDC 2/7903** Download shapefiles

Issue Date :	June 11, 2012 at 1724 UTC
Location :	Maryland near SALISBURY VORTAC (SBY)
Beginning Date and Time :	Effective Immediately
Ending Date and Time :	Until further notice
Reason for NOTAM :	TO PROVIDE A SAFE ENVIRONMENT FOR SEARCH
Type :	Hazards
Replaced NOTAM(s) :	N/A
Pilots May Contact :	WASHINGTON (ZDC) Center, 703-771-3470



Click for Sectional

NOTAM Text

Jump To: Affected Areas
Operating Restrictions and Requirements
Other Information

Affected Area(s)

Top

Airspace Definition:

Center: On the SALISBURY VORTAC (SBY) 278 degree radial at 19.8 nautical miles. (Latitude: 38°19'11"N, Longitude: 75°55'49"W)
Radius: 5 nautical miles
Altitude: From the surface up to and including 4000 feet MSL

Effective Date(s):

From June 11, 2012 at 1724 UTC
Until further notice

Operating Restrictions and Requirements

Top

No pilots may operate an aircraft in the areas covered by this NOTAM (except as described).

Other Information:

Top

ARTCC:	ZDC - Washington Center
Point of Contact:	US NAVY Telephone 301-342-3740
Authority:	Title 14 CFR section 91.137(a)(2)

Depicted TFR data may not be a complete listing. Pilots should not use the information on this website for flight planning purposes. For the latest information, call your local Flight Service Station at 1-800-WX-BRIEF.

209 TRITN39 RQ4/U 340 W386 P2000 510B600 W386/D4+00..PXT159085..
PXT178076..PXT178033..R4008..PXT..NHK/0240 ORQ4 IS GLOBAL HAWK UAS
PILOT PHONE (b)(6)

Aviation Digital Data Service (ADDS)

Output produced by TAFs form (1645 UTC 11 June 2012)
found at http://aviationweather.gov/adds/tafs/

```
KNHK 111552Z 12007KT 10SM SCT180 BKN250 28/19 A3015 RMK AO2 SLP210
T02830194
KNHK 111452Z 11006KT 10SM BKN250 28/18 A3015 RMK AO2 SLP209 T02830183
50004
KNHK 111352Z 00000KT 10SM BKN250 28/17 A3015 RMK AO2 SLP210 T02830172
```

DAILY RECORD OF FACILITY OPERATION

PAGE NO: Page 1 of 1

DATE 11-Jun-2012

LOCATION	IDENTIFICATION	TYPE FACILITY	OPERATING POSITION	CHECKED BY
NAS PATUXENT RIVER, MD	NHK	RADAR	ALL	CHIEF AC1(AW/SW) (b)(3), (b)(6)

TIME (UTC)	REMARKS
10:40	(b)(3), (b)(6) ON, FWS DD, PAR CHAN B, DASR CHAN A, TCW 7, VIDS 10 OTS.
10:47	TRACON ASSUMES AIRSPACE 7000' AND BELOW.
12:30	R4006/8 ACTV 035B600. MAP ALIGNMENT SAT, MRU ASSUMES SUA./DM
15:04	TRACON ASSUMES SUA./PW
15:53	TRITON39, RQ4, RIGHT INNER RUDDER MAIN, DELAY IN R4006.
16:05	TRITON39 CRASH. LOCATION N38'19.11 W075'55.49 ALL ENTITIES NOTIFIED. SEE OFFICIAL CRASH DOCUMENTS FOR FURTHER DETAILS.
17:55	MRU ASSUMES SUA.
18:22	R4006/8 ACTV 035B400.
18:40	(b)(6) ON, FWS WW, ABOVE NOTED.
18:56	WCLC.
20:27	TRACON ASSUMES SUA.
22:02	R4006/8 RELEASED ABV 7000'
2:52	ZDC ASSUMES AIRSPACE 7000' AND BELOW.
3:00	COB.

I CERTIFY that entries above are correct, that all scheduled operations have been accomplished except as noted and that all abnormal occurrences and conditions have been recorded	SIGNATURE(S) OF WATCH

FAA Form 7230-4

(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(3), (b)(6) LT, CPRW-2, BAMS-D
Sent: Friday, July 06, 2012 12:02 PM
To: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: EI Results
Attachments: JAG EI evidence.docx
Signed By: (b)(3), (b)(6) @navy.mil

LCDR(b)(3), (b)(6),

Updated non-privileged EI results are below and attached.

Hope it helps.

V/R,
LT (b)(3), (b)(6)

EI failure investigation of the ruddervator actuator responsible for the mishap has determined:

1. The actuator power card that converts aircraft supplied 28VDC to a regulated 12VDC for the actuator had an intermittent failure. This intermittent failure increased in severity and frequency with heat (heat being a temperature that is within operation spec and seen in normal operation). It will eventually fail the actuator hard but after the actuator cools it will begin operating nominally.
2. The failure is due to a random component failure, not a manufacturing, design, test, etc issue.
3. It would not be possible to inspect or test for a power card for the observed intermittent failure.
4. Root cause appears to be a combination of two bad components on the power card, the C12 capacitor and the transformer. It cannot be determined which was the original failure (did the leaking capacitor cause the transformer noise or did a noisy transformer eventually cause capacitor leakage?) It took both components together, with heat to reproduce the intermittent behavior.

ENCLOSURE (63)

NORTHROP GRUMMAN

Data Review Summary for flight 2010-278
(REFERENCE:)

DOCUMENT DATE	06-15-2012	NO.	N/A
		REV	N/A

SUPERSEDING N/A

Guidance & Control Analysis of the Flight 2010-278 Accident

References

1. LRE 1 Hz C2 Data
2. LRE Detailed Status Data

Synopsis

The right inboard actuator recovered from the crash site of Flight 2010-278 was recovered and when operated during bench testing shown to exhibit intermittent failures. Through the disassembly and troubleshooting process it was determined the source of the intermittent behavior was due to voltage instability which power circuits within the servo control loop. This instability was determined to be caused by the plus and minus 12 volt supply which operate the control electronics. This instability was determined to be due to component failures of a 15 μF capacitor and power transformer used to step the voltage down and which is required for the logic chips and position feedback.

Flight Information

The BAMS-D program experienced the loss of aircraft N-5 in a mishap on 11 Jun 2012 which from data reviews and hardware testing indicates the cause was due to a ruddervator actuator anomaly. The Flight 2010-278 accident occurred on Monday June 11, 2012 at 17:03:36, when the vehicle departed controlled flight during decent at FL 205. This analysis of the accident was requested in support of the initial 2010-278 safety review to determine plausible root cause. All available 2010-278 flight data was analyzed in detail (see References 1, 2 and 3). Additionally, the suspect actuator was recovered from the crash site and returned to Northrop Grumman Unmanned Systems for evaluation.

Table 1: Flight 2010-278 Fault Timeline (CHECK TO SEE IF IS LATEST AND GREATEST WITH DEREK)

LogTime	Status	Cmd Hdg	Rpt Hdg	BarAlt	Pitch	Roll	CalAS	Grd Spd	Description
163:16:47:40	Takeoff Commanded								
163:16:48:11	Airborne								
163:16:50:03	Climbing	-15.1	151.111	4518	3.4	17.1	148	152	
163:16:50:05	Red FCS 49 - Latching Fault	-15.8	153.752	4524	-2.9	7.7	149	152	Right Inboard Ruddervator Not within 3V (6 deg) model prediction
163:16:50:06		-17.8	156.364	4506	-0.2	4.7	151	154	
163:16:50:07	Red GNC 12 - Non Latching	-21.0	159.132	4494	-1.4	1.6	153	154	Airspeed is > 50 knots & Surface A/I or Rudd is within 1 degree of cmd limit
163:16:50:08		-23.1	161.027	4479	2.5	-5.3	154	154	
163:16:50:13	GNC fault clears	-8.6	141.850	4508	6.8	-12.7	146	156	
163:16:50:25	Yellow GNC 8 Fault	-2.2	68.005	24370	9.7	-1.9	146	224	Turbulence Fault
163:17:02:04	Yellow GNC 8 Fault	-4.5	28.389	20832	-4.0	6.3	149	234	Turbulence Fault
163:17:02:06	Red GNC 11 - Non Latching	-3.4	30.396	20802	-4.1	2.1	150	234	Airspeed is > 50 knots & Surface A/I or Rudd is within 1 degree of cmd limit
163:17:02:10		-12.5	39.432	20726	-2.7	-0.2	156	215	
163:17:02:12	Red AIR 4	-16.4	43.440	20732	-3.7	-0.7	158	215	Air Data Bad Dynamic Pressure. CSC Failure
163:17:02:12	Red AIR 7	-21.6	48.406	20684	-10.1	-5.2	157	213	Air Data Both Dynamic Pressures Bad
163:17:02:12	GNC 14	-30.9	57.914	20722	-25.3	-13.8	157	205	Structural Load Factor
163:17:02:14	Yellow AIR 15	-44.3	71.274	20848	-35.5	-21.1	158	185	Local Baro Altitude Differs From Other Baro Altitude
163:17:02:14	ENG 2	-57.8	84.867	20796	-50.0	-17.1	156	164	Switch indicates low oil pressure
163:17:02:16		-22.3	59.752	20428	-74.8	-11.1	160	96	
163:17:02:23	GNC 10	-24.3	51.334	17902	-71.6	-167.9	44	27	Control Bank Angle
163:17:02:28	GNC 13	-261.5	288.490	17924	-84.0	-59.5	0	29	Structural Airspeed
163:17:02:25	RED FCS 42, 44	-96.0	63.029	17056	-57.7	-155.4	0	40	Right Outer/ Inner RDV Difference failure. Surface response not matching model
163:17:02:28	AIR 5, 15	-77.6	104.590	16082	-14.9	-165.8	0	62	Air Data Bad Static Pressure CSC / Local Baro Altitude Differs From Other Baro
163:17:02:27	GNC 35	-97.3	124.527	16664	-28.5	98.0	0	71	Control Load Factor
163:17:02:27	AIR 14, FCS 41, FLIO 11	-119.1	146.080	15628	-96.9	161.6	0	86	Many Faults Occur Until Last Data Transmission
163:17:02:39		-44.2	71.186	14672	-18.8	73.9	76	71	
163:17:03:36		-320.6	347.581	734	-54.6	175.4	102	96	Last Data Transmission

(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(3), (b)(6) LCDR OIC BAMS-D
Sent: Tuesday, July 03, 2012 5:34 AM
To: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: FW: CRM date....
Attachments: image001.png
Signed By: (b)(3), (b)(6) @navy.mil

(b)(3), (b)(6),

Here is the email that he sent on 30 Apr 2012 stating that he completed it on his own since he missed the March training that we held.

Hope this helps,

(b)(3), (b)(6)

-----Original Message-----
From: (b)(6) (TS) [mailto: (b)(6)
Sent: Wednesday, June 20, 2012 17:33
To: (b)(3), (b)(6) LCDR OIC BAMS-D
Subject: Fw: CRM date....

CRM date

From: (b)(6) (TS)
Sent: Monday, June 18, 2012 12:03 PM
To: (b)(6) (TS)
Subject: CRM date....

April 30th….

From: (b)(6) (TS)
Sent: Monday, April 30, 2012 11:19 AM
To: (b)(6) (TS); (b)(6) (TS)
Cc: (b)(6) (TS)
Subject: RE: May Scheduling Considerations

Hi,

I got the CD from (b)(6) ; CRM training completed this date.

n (b)(6)

ENCLOSURE (64)

n

From: (b)(6) (TS)
Sent: Thursday, April 26, 2012 11:34 AM
To: (b)(6) (TS)
Cc: (b)(6) (AS); (b)(6) (TS); (b)(6) '; (b)(6) (TS); (b)(6) (AS); (b)(6) ; (b)(6) (TS)
Subject: May Scheduling Considerations

JL,

Here's what I have for May:

(b)(6) : overdue for NATOPS check

(b)(6) : Non -current LDGS

(b)(6) : Non-current T/O and LDGs.

"Other" requirements:

(b)(6) : CRM (overdue)

(b)(6) : CRM & ORM (overdue)

(b)(6) : Course Rules Brief (May)

(b)(6) : CRM (April) & ORM (May)

V/R,

(b)(6)

(b)(6)

Pilot, BAMS Demonstration

Northrop Grumman Corporation

Technical Services Sector

(b)(6)

Office (b)(6)

Cell (b)(6)

(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(3), (b)(6) LT, CPRW-2, BAMS-D
Sent: Tuesday, July 10, 2012 7:10 AM
To: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: FW: Mishap site cleanup and closing
Signed By: (b)(3), (b)(6) @navy.mil

...From CDR(b)(3), (b)(6)

-----Original Message-----
From: Mills, Ted CAPT NAS Patuxent River HQ, N00
Sent: Wednesday, June 27, 2012 17:19
To: (b)(3), (b)(6) CAPT PMA-262; (b)(3), (b)(6) CAPT CPRW-2 COMMODORE,; Lorge, Patrick RDML NDW Commandant, N00; Mahr, Randolph RDML; Eastburg, Steven R RADM NAVAIR, AIR-09
Cc: (b)(3), (b)(6) CAPT, XO NAS Patuxent River, N01; (b)(6) CIV NAS Patuxent River, N00; (b)(6) CIV NAVAIR PEO(U&W) PMA-262A DPM; (b)(3), (b)(6) CPT 96th SBDE CL V OIC; (b)(3), (b)(6) CDR CTP VX-20, 5.1.3; (b)(3), (b)(6) CAPT NAVFAC, Washington; (b)(3), (b)(6) CDR NAVFAC Washington; (b)(6) CIV NDW WNYD, N01; (b)(6) CIV NAS Patuxent River, N3
Subject: Mishap site cleanup and closing

Gentlemen,
BLUF: The contracted site cleanup crew has concluded their work at the BAMS-D site on the Eastern Shore. I am securing the on-station watch.

Amplification: (b)(6) has delivered a load of wreckage to NAS Patuxent River that is independent of that recovered by the AMB. I am securing this material in a storage site on base. The remaining unrecoverable material has been moved into the crash hole below the waterline. After a few weeks of swamp growth the remaining material will be invisible and inaccessible. Fortunately, the environmental impact has been minimal. Coast Guard, EPA, and Maryland Department of the Environment were consulted and are satisfied with the effort.

V/R
CAPT H.E. Mills, USN
Commanding Officer
NAS Patuxent River
(b)(6)

(b)(6)

ENCLOSURE (65)

(b)(3), (b)(6) **LCDR CPRW-2, N7**

From: (b)(3), (b)(6) LT, CPRW-2, BAMS-D
Sent: Friday, July 06, 2012 12:02 PM
To: (b)(3), (b)(6) LCDR CPRW-2, N7
Subject: EI Results
Attachments: JAG EI evidence.docx
Signed By: (b)(3), (b)(6) @navy.mil

LCDR(b)(3), (b)(6),

Updated non-privileged EI results are below and attached.

Hope it helps.

V/R,
LT (b)(3), (b)(6)

EI failure investigation of the ruddervator actuator responsible for the mishap has determined:

1. The actuator power card that converts aircraft supplied 28VDC to a regulated 12VDC for the actuator had an intermittent failure. This intermittent failure increased in severity and frequency with heat (heat being a temperature that is within operation spec and seen in normal operation). It will eventually fail the actuator hard but after the actuator cools it will begin operating nominally.
2. The failure is due to a random component failure, not a manufacturing, design, test, etc issue.
3. It would not be possible to inspect or test for a power card for the observed intermittent failure.
4. Root cause appears to be a combination of two bad components on the power card, the C12 capacitor and the transformer. It cannot be determined which was the original failure (did the leaking capacitor cause the transformer noise or did a noisy transformer eventually cause capacitor leakage?) It took both components together, with heat to reproduce the intermittent behavior.

NORTHROP GRUMMAN

Data Review Summary for flight 2010-278
(REFERENCE:)

DOCUMENT DATE	06-15-2012	NO.	N/A
		REV	N/A

SUPERSEDING N/A

Table 1: Flight 2010-278 Fault Timeline [redacted]

LogTime	Status	Cmd Hdg	Rpt Hdg	BaroAlt	Pitch	Roll	CalAS	Grd Spd	Description
163:16:47:40	Takeoff Commanded								
163:16:48:11	Airborne								
163:16:50:03	Climbing	-15.1	151.111	4518	3.4	17.1	148	152	
163:16:50:05	[redacted]	-15.8	153.792	4524	-2.9	7.7	149	152	Right Inboard Rudderevator Not within 3V (6 deg) model prediction
163:16:50:06		-17.8	156.984	4506	-2.2	4.7	151	154	
163:16:50:07	[redacted]	-21.0	159.131	4496	-1.4	1.6	153	154	Airspeed is > 50 knots & Surface Ail or Rudd is within 1 degree of cmd limit
163:16:50:08		-23.1	161.027	4478	2.5	-6.3	154	154	
163:16:50:10	GNC fault clears	-8.6	141.850	4508	6.8	-12.7	146	150	
163:16:58:25	Yellow GNC A Fault	-2.2	68.005	24370	9.7	-1.9	146	224	Turbulence Fault
163:17:02:04	Yellow GNC B Fault	-0.5	28.389	20832	-4.0	0.3	149	214	Turbulence Fault
163:17:02:05	[redacted]	-3.4	30.966	20802	-4.2	1.1	150	214	Airspeed is > 50 knots & Surface Ail or Rudd is within 1 degree of cmd limit
163:17:02:10		-12.5	39.452	20724	-2.7	-0.2	156	215	
163:17:02:12	[redacted]	-16.4	43.440	20752	-3.7	-0.7	158	215	Air Data Bad Dynamic Pressure. CSC Failure
163:17:02:12	[redacted]	-21.4	48.406	20684	-10.1	-3.2	157	213	Air Data Both Dynamic Pressures Bad
163:17:02:12	[redacted]	-30.9	57.914	20722	-25.3	-11.8	157	205	Structural Load Factor
163:17:02:14	Yellow AIR 15	-44.3	71.274	20348	-35.5	-21.1	158	185	Local Baro Altitude Differs From Other Baro Altitude
163:17:02:14	ENG 2	-57.0	84.007	20756	-58.0	-17.1	156	164	Switch indicates low oil pressure
163:17:02:16		-22.3	93.752	20526	-74.8	-11.1	160	96	
163:17:02:23	[redacted]	-24.3	51.334	17902	-71.6	-167.9	44	27	Control Bank Angle
163:17:02:23	GNC 10	-261.5	288.490	17924	-84.0	-53.5	0	29	Structural Airspeed
163:17:02:25	[redacted]	-36.0	63.029	17056	-57.7	-155.4	0	40	Right Outer/ Inner RDV Difference failure. Surface response not matching model
163:17:02:25	AIR 5, 15	-77.6	104.590	16082	-14.9	-165.8	0	62	Air Data Bad Static Pressure CSC / Local Baro Altitude Differs From Other Baro
163:17:02:27	[redacted]	-97.3	124.327	16064	-33.3	98.0	0	71	Control Load Factor
163:17:02:27	[redacted]	-119.1	146.080	15626	-36.9	161.6	0	86	Many Faults Occur Until Last Data Transmission
163:17:02:39		-44.2	71.186	14672	-18.8	73.9	70	71	
163:17:03:36		-320.6	347.591	734	-54.6	175.4	102	36	Last Data Transmission