



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
AVIATION APPLIED TECHNOLOGY DIRECTORATE  
US ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND  
FORT EUSTIS, VIRGINIA 23604-5577

AMSRD-AMR-AA

30 March 2009

MEMORANDUM FOR: Chief, Platform Technology Division, ATTN (b) (6), (b) (3) 10 USC 130b

SUBJECT: Flight Release for A160T Flight Operations at Victorville, CA

1. References:

- a. AMSAM-CG, 21 November 2008, subject: Delegation of Limited Airworthiness Authority to the Aviation Applied Technology Directorate (AATD).
- b. AATD Memo 70-62, 7 October 08, *Airworthiness Flight Release Process for Aircraft Systems*.
- c. FAA Memorandum, "Federal Aviation Administration (FAA) Certificate of Authorization (COA) for A160 Unmanned Aircraft System (UAS) in the National Airspace System (NAS) outside of restricted/warning area airspace", COA 2008-WSA-7.
- d. Boeing Report AUS08D0385, A160T Unmanned Aerial System (UAS) Airworthiness Substantiation Documentation, 6 March 2009

2. This memorandum constitutes a Flight Release in accordance with (IAW) Reference 1b for the purpose of authorization to conduct flight operations within Class D airspace of Southern California Logistics Airport (VCV) and Class G and E airspace between VCV and R-2515. The A160T has not been proven to be airworthy to manned vehicle standards. However, the processes outlined in reference 1b were used to ensure safe operation of the A160T within instructions and limitations identified in this document. This flight release allows flight operation of the vehicle within a specific area where radio communication-line-of-sight has been assessed and strict controls are applied for safe operation with personnel nearby. Strict controls for safe operation include stand off ranges, ground observers, dual redundant communication links and a lost link emergency procedure.

3. Configuration. The A160T and its Ground Control Stations are defined in reference 1d. Any discrepancies with the A160T configuration shall be reported prior to flight to the Safety of Flight Review Board (SOFRB) Chairman (b) (6), (b) (3) 10 USC 130b

4. Operations, Procedures, Limitations, and Restrictions:

- a. The flight envelopes, operating instructions, and limitations for the A160T shall be IAW contractual provided documentation and this document. If there is a conflict between these documents or this flight release, the most restrictive document shall prevail.

b. A weight and balance form must be executed and on file.

c. The following flight limitations apply for flight at VCV, Victorville, CA:

- (1) Maximum gross vehicle weight is 6500 pounds
- (2) Maximum altitude is 13,000 feet MSL
- (3) Maximum vehicle airspeed is 170 knots
- (4) Maximum rate of climb is 1200 fpm
- (5) Maximum rate of descent is 1200 fpm
- (6) Maximum surface wind (sustained plus gusts) will not exceed 30 kts
- (7) Maximum winds aloft (sustained plus gusts) will not exceed 50 kts
- (8) Maximum sideslip limited to +/- 45 kts.
- (9) Main Rotor RPM limited to 240 - 397

d. The minimum stand off distance for all personnel when rotors are turning will not be less than 100 feet.

e. The same geographical conditions used in reference 1c shall be followed.

5. Special Inspections and Instructions:

a. The air vehicle shall be inspected and maintained IAW all applicable maintenance procedures and in accordance with standard aeronautical practices. A visual inspection of the A160T shall be made prior to each flight to verify that no visible structural flaws in the airframe, rotor, or drive-train components exist, and that no other damage to the air vehicle exists. Any visible flaw or damage shall be assessed and reported to the AATD SOFRB prior to further flight.

b. Any inadvertent operations beyond existing A160T limitations, or restrictions defined in this Flight Release shall require termination of flight and notification of the AATD SOFRB through the on-site Government representative. Appropriate documented actions shall be performed prior to next flight. Furthermore, in the event of an accident, incident or malfunction involving the air vehicle or the ground control station, the safety and emergency plans governing local area flight operations shall be utilized. In addition, the Flight Test Director or his designated representative shall immediately notify the following in the order listed:

(1) AATD Aviation Safety Officer (b) (6), (b) (3) 10 USC 130b

(b) (6), (b) (3) 10 USC 130b  
(2) Commander, AATD, (b) (6), (b) (3) 10 USC 130b

c. A logbook shall be maintained as a record of all flight and maintenance actions that occur during the course of all flight-testing covered by this flight release.

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6. This Airworthiness Release is not valid without a current FAA "Certificate of Authorization".
7. This Airworthiness Release is valid until 15 June 2010.

(b) (6), (b) (3) 10 USC 130b



Commanding