



**Federal Aviation Administration  
Office of the Deputy Administrator  
ADA-1**

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Date: 4/19 Pages (including cover): 12

To: John Azzarello Organization: \_\_\_\_\_

Subject: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

From: Shirley Miller Organization: \_\_\_\_\_

Comments: Material from Administrator's Briefing  
Book for Congressional Hearings.

09/18/01  
5:30 PMNOTIFICATION CHRONOLOGYAAL 11

- 0824:57 Probable time flight was known to be in distress. (A partly unintelligible radio transmission from an unknown origin is heard telling passengers: "nobody move everything will be ok if you try to make any moves you'll endanger yourself and the airplane just stay quiet." This is the second suspicious radio transmission from an unknown origin after the secondary radar return (transponder) for AAL 11 has been lost).
- 0825:00 Boston Center begins notifications within FAA that a suspected hijack is in progress. New England Regional Operations Center is notified.
- 0826:00 AAL 11 begins southbound turn.
- 0833:59 Another suspicious radio transmission is heard.
- 0834:00 Boston Center asks Cape TRACON to notify the military at Otis Air Force Base, (where Cape TRACON is located.) Cape TRACON notifies the military and is advised that authorization to scramble must come from the North East Air Defense Sector.
- 0840:00 North East Air Defense Sector logs indicate that Boston Center notified them regarding AAL 11.
- 0841:00 Military Command (VA Capes) issues scramble order on AAL 11.
- 0846:35 Impact at World Trade Center.

09/18/01  
5:30 PMUAL 175

- 0851:43 Probable time flight was known to be in distress. (UAL has failed to respond to several calls and is observed turning off course.
- 0855:00 New York Center controller is busy trying to turn other aircraft away from the aircraft believed to be UAL 175.
- 0905:00 North East Air Defense Sector logs show Boston Center notifying the military.
- 0905:00 Newark Airport Traffic Control Tower notifies New York TRACON of a second aircraft striking the World Trade Center. (Impact believed to have occurred at 0903:14).

09/18/01  
5:30 PMAAL 77

- 0856:19 Probable time flight was known to be in distress. (Loss of radar return information after aircraft turned south without air traffic authorization).
- 0856:32- Indianapolis Center makes several attempts to contact AAL 77 without  
0858:14 receiving any acknowledgement. Indianapolis Center also tries to communicate with AAL 77 through American Airlines company dispatch.
- 0859:00 Indianapolis Center controllers coordinate with other controllers to protect the airspace and altitude of AAL 77's filed route of flight.
- 0909:00 Indianapolis Center notifies Great Lakes Regional Operations Center of possible aircraft accident. AAL 77 is presumed to have crashed due to simultaneous loss of radio communication and radar identification.
- 0924:00 North East Air Defense Sector logs show FAA notifying the military.
- 0925:00 Between 0925:00 and 0930:00 (time is approximate based on personnel statements) – Several controllers at Dulles TRACON observe a primary radar target (unidentified but later confirmed to be AAL 77).
- 0933:00 (Time is approximate based on personnel statements) – Dulles TRACON advises White House Office of the U.S. Secret Service of an unknown aircraft heading in the direction of the White House. Ronald Reagan Washington National Airport Traffic Control Tower also notifies Secret Service.
- 0936:00 Washington National Tower issues traffic advisories on the unknown aircraft to a military C130 aircraft that had departed Andrews Air Force Base.
- 0938:00 The C130 military aircraft reports that AAL 77 crashed into the Pentagon.

09/18/01  
5:30 PMUAL 93

- 0931:00 Probable time flight was known to be in distress. (UAL 93 is unresponsive to calls from the controller. Additionally, there are three mostly unintelligible transmissions from an unknown origin indicating a possible struggle aboard an aircraft).
- 0939:59 Cleveland Center notifies Great Lakes Regional Operations Center.
- 0944:31 Cleveland Center notifies Pittsburgh TRACON of unauthorized turn by UAL 93 towards Pittsburgh, loss of transponder, and lack of radio communications.
- 1004:00 UAL 93's primary target terminates in the vicinity of Somerset, Pennsylvania. (This time is approximate and is now believed to be the time of the crash.)

Note: A specific time for FAA notification of the military is not available. However, FAA and the North East Air Defense Sector had established a line of open communication discussing AAL 77 and it is believed that UAL 93 was also discussed.

**Initial Ground Stop Decisions/Traffic in the NAS  
9/11/01**

Time		Airborne Traffic
0904am	Departures stopped from all airports within Boston Center jurisdiction – (internal restriction by Boston Center)	
9:06am	Departures stopped from all airports within New York, Washington, Cleveland, Boston Center airspace that would travel to/through New York Center airspace – by New York Center	4,873
9:08am	Departures stopped nationwide for all traffic flying to/through New York Center airspace	4,876
9:26am	The Air Traffic System Command Center stops all departures nationwide, regardless of destination	5,083
9:29am	The Air Traffic System Command Center issues Advisory 031 for the departure stop	5,102
9:45am	The Air Traffic System Command Center issues direction for all airborne aircraft to land at the nearest destination or as soon as practical	4,546
10:39am	A Notice to Airmen issued closing all operations at all airports.	1,693
11:06am	The Air Traffic System Command Center issues Advisory 036 for the suspension of all operations in the National Airspace System	1,305
12:16pm	Airspace is clear of traffic – (with the exception of a small number of law enforcement/emergency operations aircraft)	

Jim Slate 267-3666

AAT

09/17/01

3:55 PM

### **Air Traffic Procedures for Handling Hijack Situations**

**Issue:** When conditions do not allow pilots to inform air traffic controllers of a hijack situation, they are trained to change their transponder code to 7500, whenever possible. An air traffic controller then observes the aircraft's transponder code change. This code will cause the aircraft information to "blink" on all controllers' displays in the area, and continue to alert controllers along the route of flight. In addition, the military monitors for this code. The controller's supervisor is notified, who in turn reports this activity to the Regional Operations Center. From this point on, control instructions are only issued if controllers have previously been in communication with the aircraft. Controllers are aware that intercept or escort aircraft may be dispatched.

**Note:** The transponder is an electronic device onboard aircraft that transmits a four-digit number authorized by FAA for each flight. This enables FAA radar to display an aircraft's flight number, its aircraft type, speed, altitude, and other important information used by controllers. Without a transponder, radar automation is not always able to continue to present this information to controllers, and positive identification may be lost.

#### **Major Points:**

- Concerning September 11, none of the 4 aircraft set their transponders to the hijack code. In fact, three transponders were turned off during the flights and the other switched to an unassigned code. These actions prevented controllers from ensuring positive identification of the aircraft, as well as the ability to know aircraft speed and altitude.
- Following the events of Tuesday, FAA has directed all air traffic controllers to treat any of the following as a potential hijack event, and immediately alert their supervisor: when there is a loss of communications; or a loss of transponder code; or an unexplained change in the direction of flight.
- Additionally, all air traffic control supervisors and managers were directed to review related hijack/bomb threat/unlawful interference procedural orders.

John McGraw (202) 267-7157  
AIR-100  
9/18/2001  
10:30 AM

## TRANSPONDERS

**ISSUE:** Is there a way to prevent the shutdown of transponders?

**MAJOR POINTS:** There are three basic reasons why the transponder is designed to be able to be turned off.

- The transponder, like any electrical system, has some inherent risks. There is a potential that the system will suffer a short, which could result in smoke and/or fire. In that case, the crew needs to be able to shut the system off.
- At times, the box "drifts" off the frequency assigned. To reestablish which aircraft is being tracked, air traffic control will ask the pilot to turn the transponder off. In this way, the controller can match the target and the appropriate alphanumeric block.
- On the ground, if all transponders were in operation there would be a substantial amount of ground clutter created. Air traffic controllers would not be able to differentiate among hundreds of transponders that could be in operation at one time.

## AIRCRAFT OPTIONS:

- Install an additional transponder, which could be activated by the pilot through an emergency switch. Once activated, the primary transponder would be deactivated, and the additional transponder would not be able to be turned off. The additional transponder would be programmed to "squawk" a hijack code, thus alerting air traffic control to the emergency. The transponder box would cost about \$1,000 and there would be additional costs for the installation of wiring. Rulemaking would be needed to require the installation of the additional transponder.
- Rewire the existing transponder to run it through an additional switch. The new switch would be a one-way switch to prevent the transponder from being turned off. It could be activated in the event of an emergency. If the new switch were thrown the transponder could operate on a backup battery, bypassing the circuit breakers. There would be costs for rewiring the transponder and a rule would be needed to require the change.

**GROUND BASED OPTIONS**

- As part of the STARS program, FAA will have the ability to track an aircraft in terminal airspace even if the transponder fails or is turned off. STARS will be implemented in the terminal environment in 2002-2007.
- As a part of Safe Flight 21, FAA has a research and development project underway to address the problems created by transponder operation on the ground. It may be possible to expedite that project.

Jim Slate 267-3666

AAT

09/18/01

10:37 AM

## Status of the National Airspace System

**Issue:** Immediately following the four aircraft accidents on September 11, all air traffic operations were suspended. FAA is working diligently to incrementally return the system to previous operational levels consistent with national security.

### Major Points:

- **Current Status – The following Operations have been Authorized:**
  - U.S. registered Air Carrier and Cargo operations between secure airports
  - Foreign Air Carriers may depart from any secured U.S. airport; they may enter the U.S. when their FAA principal security inspector confirms they have implemented additional security provisions of the FAA amendment
  - U.S. Air Carrier Cargo operations in accordance with operators' approved security plans.
  - U.S. Air Taxi/Commuter operations in accordance with operators' approved security plans.
  - U. S. registered General Aviation operations on the U.S. mainland, Hawaii, and U.S. territories, on Instrument Flight Rules (IFR) flight plans (This allows them to be under direct air traffic control, and on an individually assigned transponder code).
  - U. S. registered General Aviation operations to and from Japan, Canada, Mexico, Bahamas, Scotland, Wales, and Northern Ireland – IFR only with required inspection by U.S. Customs and Immigration at the airports of entry.
  - U. S. registered General Aviation operations under IFR and visual flight rules (VFR), only within the state of Alaska.
  - Agricultural/Crop dusters
- **Flight Restrictions**
  - General Aviation operations are not allowed within a 25 mile radius of Washington, D.C. and New York City. Air Taxi/Commuter flights limited to arrivals and departures – no local flights allowed to remain within the area
  - No General Aviation VFR authorized on U.S. mainland, Hawaii, or the U.S. territories.

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09/18/01

10:37 AM

- Washington Reagan National Airport (DCA):
  - This is the only U.S. major airport temporarily closed.
  - Timeframes were established to allow aircraft owners and operators to reposition their aircraft at other locations, daily from September 16-18. These steps were coordinated with the Department of Defense, and the National Security Council.
  - In addition, we are developing options, that would alter the procedures used for air traffic operations into National, and address security concerns in the DC area.
  
- Chicago-Midway Airport limited to air carrier operations only (restriction imposed by the airport sponsor for security reasons)
  
- Washington Dulles/New York Airports (i.e. Teterboro, JFK, LaGuardia, Newark, Farmingdale):
  - These airports are currently allowing Air Carrier, Air Carrier Cargo and Air Taxi/Commuter operations.
  - Plans similar to those used at Washington Reagan National Airport are being implemented to allow General Aviation aircraft owners and operators to relocate their aircraft to other locations on September 16-18.
  
- Additional Local Flight Restrictions:
  - Expanded area around Camp David
  - Area around the Pentagon, national security
  - Mervin Beck, Oregon, national security
  - Bremerton, Washington, national security
  - Bangor, Washington, national security
  - Everett, Washington, national security
  - Saint Marys, Georgia, national security
  - Chicago, Illinois, national security
  - Whiteman Air Force Base, national security
  
- FAA Advisories have been issued for:
  - Prohibiting U.S. registered flights over Afghanistan
  - Alerting pilots in U.S. airspace they are subject to intercept operations
  
- There was a loss of telecommunications redundancy associated with the attack on the World Trade Center complex. WorldCom reported the loss of eight T-1 high capacity telecommunications lines that provided backup communication capability among ATC facilities in the New York-New Jersey metropolitan area.
  
- WorldCom has completed rerouting efforts for the lost T-1 high capacity telecommunications lines and redundancy has been restored.

AAT, 267-3666  
September 22, 2001  
1:00 PM

### Status of Flight Operations

**Issue:** What flight operations are not now permitted?

#### Major Points: Operations That Are Not Allowed

1. General Aviation aircraft operations within a 25 mile radius of Washington, D.C. (DCA) and New York City (JFK) or within 20 miles of Boston, including the relocation of aircraft from satellite airports within those areas (*NOTE: This has resulted in the closure of more than 20 general aviation airports*);
2. General Aviation aircraft operations within Temporary Flight Restrictions (TFRs), established in support of military bases or near sporting events/large public assembly of people;
3. VFR operations in the 30 enhanced Class B areas except for certain VFR flight training operations. Enhanced Class B airspace extends from the surface to 18,000 feet (*NOTE: This has resulted in the shutdown of VFR flight at approximately 400 suburban airports nationwide and threatens the existence of thousands of small businesses on those airports*);
4. IFR Training in aircraft weighing over 12,500 pounds take-off gross weight;
5. Trans-border General Aviation Part 91 VFR operations of U.S./Canadian register aircraft;
6. Foreign registered General Aviation over-flights of aircraft 95,000 pounds or more gross take-off weight;
7. Foreign registered General Aviation aircraft arrivals into the U.S.;
8. Foreign registered General Aviation VFR operations;
9. VFR Civil Banner Towing;
10. VFR Traffic Watch Flights;
11. VFR Airship/Blimp Operations;
12. VFR News Reporting Flights;
13. Overflights of the sovereign territory of the United States except as approved by the FAA;
14. Domestic or Foreign Air Transport and Cargo Operators from non-extraordinary locations to enter the U.S., except as authorized by the FAA on a station-by-station basis;
15. Agricultural aircraft operations, except fire fighting, are prohibited until 12:05am Tuesday, September 25, 2001;
16. Unmanned rockets

Tab 7