

US Airways Express Ground Deicing Manual

CHAPTER FOUR

DEICING TRAINING FOR WINTER OPERATIONS

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1. INTRODUCTION

The US Airways Express Deicing Manual includes this training module to ensure standardized deicing training throughout the express route structure. By ensuring a common training program for all carriers, safety is increased through selecting the “best practices” of various programs, and creating a single program for operator compliance.

The training program for carriers and contractors is structured for standardization and compliance with both the letter and intent of the “rule.”

For deicing at Canadian locations, US Airways Express has accepted the training and procedures as outlined in the International De/Anti-Icing Manual with respect to international ground deicing provisions of Part 121 operator-approved programs. The International De/Anti-Icing Manual can be found at www.usairways-express.com.

No person involved in a deicing/anti-icing operation shall perform their duties, unless that person has completed an annual and, as appropriate, differences deicing/anti-icing training program including but not limited to classroom, deicing equipment operation (hands-on if necessary), fluid mixtures and checks, etc. Deicing equipment hands-on operation training will be required for all new-hire employees or other employees (i.e., transfer employees) that have not previously operated similar deicing equipment for that carrier. This training must include instruction and performance observations. All training shall be documented on the appropriate training record. All personnel utilizing the approved deicing program must have current year deicing/anti-icing procedures training in order to participate IN ANY CAPACITY in the deicing of US Airways Express aircraft. Training will be valid until November 15th of the following year unless the training is completed after December 31st in which case the expiration will be November 15th of the same year.

Vendor personnel at US Airways/US Airways Express stations that have not been trained on US/USE procedures may perform de/anti-icing procedures. To accomplish this, an authorized person who has been trained in the US/USE procedures must supervise the vendor. The person supervising this operation must ensure that all required de/anti-icing information is reported to the flight crew and the US-0289 completed including supervising agent's/supervisor's signature.

Advisory Circular 120-60B states “Ground personnel trained and qualified to apply deicing and anti-icing fluid, in accordance with a certificate holder's AC 120-60 (current edition) program, do not require additional training and qualification to deice and anti-ice similar aircraft operated by another certificate holder with a deicing and anti-icing program also approved in accordance with the current edition of AC 120-60.”

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Acceptance of Training:

Air Carrier/Contract Vendors:

Any FAA approved deicing program of another carrier must be reviewed by the affected carrier(s) to determine the differences and be approved by their Certificate Management Team. Training of differences is required, and must be accomplished and documented before deicing/anti-icing any US Airways Express aircraft.

Forms and Documentation:

An employee who is trained by another carrier's deicing program that falls under the guidelines of AC 120-60B (as revised) may have their training recorded on a US Airways Express form. An equivalent form may be used, provided that it includes the information required by the US Airways Express form.

The approval process shall be initiated by the deicing vendor/contractor and facilitated by the Manager, US Airways Express Customer Service Quality Assurance. The Manager, US Airways Express Quality Assurance will forward the deicing program to all affected carriers with a deadline of no more than 7 business days for response. No response will indicate acceptance of the deicing program.

Comments and recommendations concerning the program should be forwarded to the US Airways Express Training Department at (704) 359-2884 or dialnet 359-2884.

2. WINTERIZATION TRAINING

A. Station Managers

Station Managers will coordinate annual winterization training at their station for all personnel assigned deicing/anti-icing responsibilities. The Station Winterization Trainers will conduct annual training and he/she must complete mandatory Winterization/Deicing Training prior to any instruction of local station personnel.

B. Station Winterization Trainer(s):

(1) The Station Manager is responsible for seeing that the Station Winterization Trainer(s) accomplish the training for their station:

- a. The Station Winterization Trainer(s) must attend the annual Deicing/Anti-Icing Train the Trainer session in order to train individuals at their station. If the Station Winterization Trainer does not attend this session he/she will not be qualified to conduct Winter Operations Training.
- b. The roster of individuals that have qualified as Station Winterization Trainers will be maintained at:

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US Airways Express Training Department
P.O. Box 19388
Charlotte, NC 28219-9388
(704) 359-2884 fax: (704) 359-2657

- c. The primary responsibilities of the Station Winterization Trainer are:
- (i) Train station personnel at their station who have not received current classroom and/or practical training from the information received in the Train the Trainer session.
 - (ii) Ensure that current year winterization procedures are followed by observations of deicing/anti-icing.
 - (iii) Ensure that deicing/anti-icing personnel conserve fluid by using proper spray angles and nozzle settings.
 - (iv) Ensure compliance with FAR 121.629.
 - (v) Annual deicing training will include a comprehensive learning assessment.
 - (vi) All personnel attending in-house training must sign the class roster. The original roster will be maintained by the station for US Airways Express employees and by the contractor or vendor where contract deicing is performed. Rosters for US Airways employees will be forwarded to Maintenance Training – PIT/SSB-TST.
 - (vii) Ensure local deicing training is accomplished. This training will be valid for one year.

C. Training Documentation

Ensure that one of the following are available at all times:

- (1) Paper training roster
- (2) iLearning training roster

The original of the training class roster must be retained until all information has been entered into iLearning. The paper document may then be discarded.

Example of iLearning roster for 2009-2010 Express Deicing Training:

Line #	Last Name	First Name	Badge	Course	Completed	Status	Score	Time	City
1	ABRON	KEION	225113	2009-2010 Express Deicing Training	02-SEP-09	Complete	0	0	PHL Express
2	BLUMER	MARK	288137	2009-2010 Express Deicing Training	04-SEP-09	Complete	0	0	PHL Express
3	BYRNS	JASON	262707	2009-2010 Express Deicing Training	04-SEP-09	Complete	0	0	PHL Express
4	DAVIS	WILLIAM	254972	2009-2010 Express Deicing Training	03-SEP-09	Complete	0	0	PHL Express
5	FREEMAN	AUTRESS	260877	2009-2010 Express Deicing Training	02-SEP-09	Complete	0	0	PHL Express

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3. GENERAL

Personnel involved in operations and deicing of US Airways Express aircraft must:

A. US Airways Express personnel

(1) Attend required training session

- a. Annual (as outlined on page 4-1-2)
- b. Evaluation process with a required score of 75% corrected to 100%. A score of less than 75% will require the employee to complete Annual training again

B. US Airways personnel

(1) Attend required training session

- a. Part 121 carrier with differences training as outlined in the US Airways Winterization Manual

C. Contract Deicers

(1) Meet US Airways Express standards

(2) Non-Air Carrier Contract Deicer

- a. Annual /Differences Training (as outlined on page 4-1-2)
- b. Evaluation Process with a required score of 75% corrected to 100%. A score of less than 75% will require the employee to complete Initial or Differences training again.

NOTE

When US Airways mainline personnel deice/anti-ice a US Airways Express aircraft, US Airways mainline procedures will be followed as outlined in the Winterization Manual. This includes the differences addressed in the Express tab of the US Airways Winterization Manual. These differences will be adhered to by all mainline personnel when deicing/anti-icing Express aircraft.

This agreement will be reviewed annually at the US Airways Express / Mainline Joint Deicing Committee meeting and the US Airways Express Ground Deicing Task force meeting for continued acceptance. These reviews will be accomplished to ensure any/all changes to either the US Airways Winterization Manual and the US Airways Express Ground Deicing Manual remain compatible. No changes may be made to this section without the review and approval of the US Airways Express Ground Deicing Task Force.

- D. Employees, including Management, who have the responsibility for the deicing program must attend training. These include the Director of Customer Service, Express Station Manager, Winter Operations Coordinator, Ground Deicing Supervisors, Ground Deicing Personnel.

In addition, each Station Manager/Director must attend an initial Train-the-Trainer session yearly.

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4. TRAINING OUTLINE (FAR 121.629)

A. Clean Aircraft Policy

(1) Effects of frost, ice, snow and slush on aircraft surfaces

- a. Loss of lift
- b. Increased drag and weight
- c. Decreased control
- d. Aircraft specific areas (engine FOD potential, Ram-air intakes, Instrument pick-up points)

(2) Duties and Responsibilities

- a. Station Manager
- b. Winter Operations Coordinator (WOC)
- c. Flight Crews
- d. Person accomplishing deicing
- e. Person accepting glycol shipments

(3) Techniques for Determining Contamination

- a. Fluid Failure
- b. Clear Ice
- c. Visual vs. Tactile Inspection

(4) Icing Conditions

- a. Frozen precipitation
- b. Frost
- c. Freezing fog
- d. Snow
- e. Freezing rain/drizzle
- f. Rain or high humidity

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(5) Determination of Icing Conditions

- a. WOC (US Airways Express Stations only)
- b. Non-US Airways/US Airways Express station
 - (i) By another airline
 - (ii) By agreement at that particular airport
- c. Conditions
 - (i) Freezing rain
 - (ii) Freezing fog
 - (iii) Frost
 - Continuing to adhere to the aircraft
 - (iv) Snow
- d. More conservative opinion
- e. Once declared, all aircraft will participate
 - (i) Not necessarily be deiced provided aircraft meets all criteria for the “Clean Aircraft Policy”
- f. Terminated by WOC or other authority

(6) Deicing Event Notification Requirements

- a. All local station personnel
- b. Deicing vendor (if applicable)
- c. Specific Carrier Flight Dispatch/Flight Following Center Supervisor (phone and field condition report)
- d. Local ATC facility
- e. Airport Manager, if local rules apply
- f. All immediately affected flight crews

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5. DEICING/ANTI-ICING FLUIDS

A. GENERAL INFORMATION

- (1) Composition and appearance
- (2) Health precautions
- (3) Environmental considerations
- (4) Definition of deicing/anti-icing
- (5) Differences between Type I and IV deicing/anti-icing fluids

B. TYPE I

- (1) Storage and Handling of fluids
- (2) Approved Type I fluids for US Airways Express aircraft
- (3) Minimum temperature of 140°F when heated.

C. TYPE III

- (1) Storage and handling of fluids
- (2) Used as a one-step process for deicing and anti-icing
- (3) Has a longer holdover time than Type I
- (4) Fluid can be applied using pumps used for spraying Type I fluid

D. TYPE IV

- (1) Storage and Handling of fluids
- (2) Has a thickener system – shear resistant
- (3) Remains on the aircraft until the takeoff roll
 - a. Shears off beginning at 30 knots
 - b. Clean wing by 80 knots

6. DEICING PROCEDURES

- A. One (1) step
- B. Two (2) step
- C. Brooming
- D. Fluid Application

- (1) On the Aircraft
 - a. Maintain 10 foot distance with the truck/unit
 - b. Maintain 5 foot distance with the basket/cab

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(2) Critical Areas to Spray

- a. Tail and elevator area
- b. Leading edge and all wing areas
- c. Propellers and spinners – when not running
- d. Landing gear and doors
- e. Aileron area

(3) Areas of Caution (Avoid Direct Spray)

- a. Engine intake
- b. Static ports and pitot tubes
- c. Main landing gear
- d. Fresh air vents
- e. Air conditioning inlets
- f. APU inlet and exhaust
- g. Engine/exhaust areas
- h. All doors and emergency exits
- i. Refueling panels
- j. All windows

(4) Routing around the Aircraft

- a. Follow the sequence described under Deicing Spraying Sequence
- b. The last section to be deiced will be the tail section

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7. COMMUNICATION TO THE FLIGHT CREW

A. Communication

- (1) Pre-Deicing communication-Cockpit to Ground
- (2) Engine idling, feathered, or shut down
- (3) Deice or deice/anti-ice
- (4) Deice/anti-ice fluid type(s)
- (5) Clearance for deicing or deicing/anti-icing
- (6) Start time of the final deice/anti-ice application
- (7) Post deicing/anti-icing report

B. Post Deicing communication-Ground to Cockpit

In the event preliminary pre-de/anti-icing radio communication is not possible, determine if the Flight Crew is on board the aircraft. If the Crew is on board proceed as indicated with normal communications. If the Crew is not on board, complete the required US- 0371.

- (1) Final fluid type
- (2) Final mixture ratio for Type III & Type IV fluid only
- (3) the start time of the final deice/anti-ice application and the current time
- (4) verification that the post application check has been completed, and that the aircraft is “clean and ready” for departure.

C. Remote location

- (1) Aircraft and location specific coordination
- (2) Safety precautions
- (3) Proper coordination with other carriers/vendors

8. HOLDOVER AWARENESS

A. Definition

B. Calculation

- (1) Flight crew responsibility

9. DEICING EQUIPMENT

A. Discussion on

- (1) Operation
- (2) Type I, III & IV fluids
- (3) Qualifications for operation

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B. Deicing/anti-icing equipment

- (1) One step and two step
- (2) Safety requirements and emergency procedures
- (3) Procedures to be followed prior to aircraft arrival

10. INSPECTIONS

A. Pre-Flight Inspection-deicing/anti-icing requirements

- (1) RON as required
- (2) Taxi to gate
- (3) Crew request
- (4) After routine crew pre-flight with changing weather or ATC delays

B. Post-Deice/Anti-Ice Inspection

- (1) Critical surfaces
- (2) Free and clear of contaminants

C. Pre-Takeoff Contamination Inspection – **This procedure will not be conducted by ground personnel on US Airways Express aircraft.**

D. Inspection Required If Not On The Deicing program

- (1) Elevated equipment
- (2) Wings, Tail, and Control Surfaces
- (3) Engine inlets
- (4) Air conditioning inlets, exhausts
- (5) Landing gear and landing gear doors
- (6) Fuel tank vents
- (7) Fuselage
- (8) Flight control check if necessary

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11. OVERNIGHT AIRCRAFT

- A. Deice upon reporting
- B. Station call

12. THROUGH OR TURNAROUND AIRCRAFT

- A. Consult with the Captain

DURING A DEICING EVENT, ALL AIRCRAFT WILL BE DEICED ACCORDING TO THE “CLEAN AIRCRAFT POLICY”. DURING A NON-EVENT, SHOULD THE CAPTAIN REQUEST DEICING, HE/SHE IS THE FINAL AUTHORITY. SHOULD THERE BE A DISAGREEMENT WITH THE GROUND DEICING CREW, THE CARRIER’S DISPATCH OFFICE MUST BE NOTIFIED.

REVIEW AND EXAM.