



BOSTON ARTCC (vZBW) STANDARD OPERATING PROCEDURE

BOSTON CONSOLIDATED TRACON (A90)

<i>RELEASE RECORD</i>			
Version	Date	Author	Notes
1.0	10 Dec 2006		Initial Release
1.1	30 Nov 2007	PB	General/Maintenance update
2.0	01 Feb 2010	DO	Major update, converted to new vZBW SOP format, added new KBOS Departure Procedures, aligned to RW procedures, added procedures for MHT_APP
2.01	15 Mar 2010	DO	Minor clerical update
2.1	01 Jun 2011	DO	Updated A90 Plymouth sector frequency, minor clerical updates

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1.0 Overview

1.1 Welcome

- 1.1.1 Welcome to the big time! Boston Consolidated TRACON is ZBW's largest and most complex airspace, and our only Class B airspace. It is also our only airspace designated as Major.

1.2 Callsign Usage and Frequency Delegation

Position Callsign	Sector/Position Name	Frequency	Vox Channel	Note(s)
BOS_DEL		121.650	BOS_121.650	
BOS_GND		121.900	BOS_121.900	
BOS_R_GND	Ramp/Gate Control	134.050	BOS_134.050	4
BOS_TWR		128.800	BOS_128.800	1
BOS_W_TWR	Local West	128.800	BOS_128.800	4
BOS_E_TWR	Local East	132.220	BOS_132.220	4
BOS_APP		118.250	A90_118.250	1
BOS_N_APP	Rockport	118.250	A90_118.250	
BOS_S_APP	Plymouth	120.600	A90_120.600	2, 4
BOS_B_APP	Bedford	124.400	A90_124.400	4, 5, 6
BOS_L_APP	Lynch	124.100	A90_124.100	4, 5, 6
BOS_F_APP		126.500	A90_126.500	1, 3, 4
BOS_F1_APP	Final One	126.500	A90_126.500	3, 4
BOS_F2_APP	Final Two	119.650	A90_119.650	3, 4
MHT_APP	Fitzy	124.900	A90_124.900	
MHT_W_APP	West	134.750	A90_134.750	4
BOS_DEP	Initial Departure	133.000	A90_133.000	4

Notes:

1. To be used when positions are combined
2. The _S_ callsign designator is typically used for a student. If there is a split and a student is working South, use BOS_SS_APP
3. Final Approach Sector
4. Rarely used except for (major) events
5. Not to be used unless both Rockport and Plymouth are being used, and additional sectorization is still required
6. Often used for satellite airports

1.3 Runway Configurations

1.3.1 Runway Configurations and Selection are at the discretion of the Local controller, and are based primarily on weather conditions. There are no limits on what configuration is to be used; however, safety and operational efficiency must be considered when selecting runways to be used.

1.3.2 The following are the most common runway configurations at KBOS:

1.3.2.1 Land: 4R / 4L, Depart: 9 (KBOS Calm Wind Configuration)

1.3.2.1.1 Taxi jet aircraft to Runway 9. Taxi props to Runway 4L.

1.3.2.1.2 Runway 4R may be used for departures for operational necessity. If an aircraft requests 4R, Ground shall coordinate with the Local controller. If approved, Ground shall taxi such aircraft to Runway 4R to hold at the 4L Approach Hold Point.

1.3.2.1.3 Runway 9 is never used for arrivals.

1.3.2.2 Land: 22L / 27, Depart: 22R

1.3.2.2.1 Taxi all aircraft to Runway 22R for departure.

1.3.2.2.2 If an aircraft requests 22L, Ground control shall taxi such aircraft to Runway 22L to hold short of 22R.

1.3.2.2.3 Landing on Runway 22R is prohibited between 2300 and 0600 Local.

1.3.2.3 Land: 27, Depart: 33L (/27)

1.3.2.3.1 To maximize capacity and efficiency, the normal configuration will be Land 27 / Depart 33L

1.3.2.3.2 When load is lower, Local may choose to depart both 27 and 33L.

1.3.2.3.2.1 Aircraft with a departure gate of GLYDE, NELIE, LUCOS, FRILL, DEDHM, ACK, BOSOX or DRUNK will use Runway 27 for departure.

1.3.2.3.2.2 Aircraft with a departure gate of MHT, LBSTA, PSM or ENE will use Runway 33L for departure.

1.3.2.3.2.3 Exceptions shall be coordinated with Departure.

1.3.2.4 Land: 33L, Depart: 15R (KBOS Nocturnal Procedure Configuration)

1.3.2.4.1 In effect between 0000 and 0600L for noise abatement

1.3.2.4.2 Only used when tailwind component is less than 10 Knots

1.3.3 For Noise Abatement:

- 1.3.3.1 Runway 4L shall not be used for jet departures
- 1.3.3.2 Runway 22R shall not be used for jet arrivals
- 1.3.3.3 Landing on Runway 22R is prohibited between 2300 and 0600L local
- 1.3.3.4 A nocturnal procedure (between 0000 and 0600L) configuration is used (Land 33L, Depart 15R) whenever light traffic conditions exist, and tailwind components will not exceed 10 knots. If a pilot requests another runway more aligned with the wind, traffic permitting, the request must be approved.

1.3.4 Runways 4L/R and 9 are the **calm wind** runways. Calm winds are defined as less than 5 knots at KBOS.

1.3.5 Runway 14/32 shall be used by props and small jets only. Runway 14 shall be used for departures only, and Runway 32 shall be used for arrivals only.

1.3.6 There are no departures on runways 15L/33R. However, VFR closed pattern operations are authorized at the discretion of the Local controller.

1.3.7 Runway 4R is a CAT II and CAT III runway. Runway 33L is a CAT II runway. See 7110.65 3-5-1 for more information on runway selection.

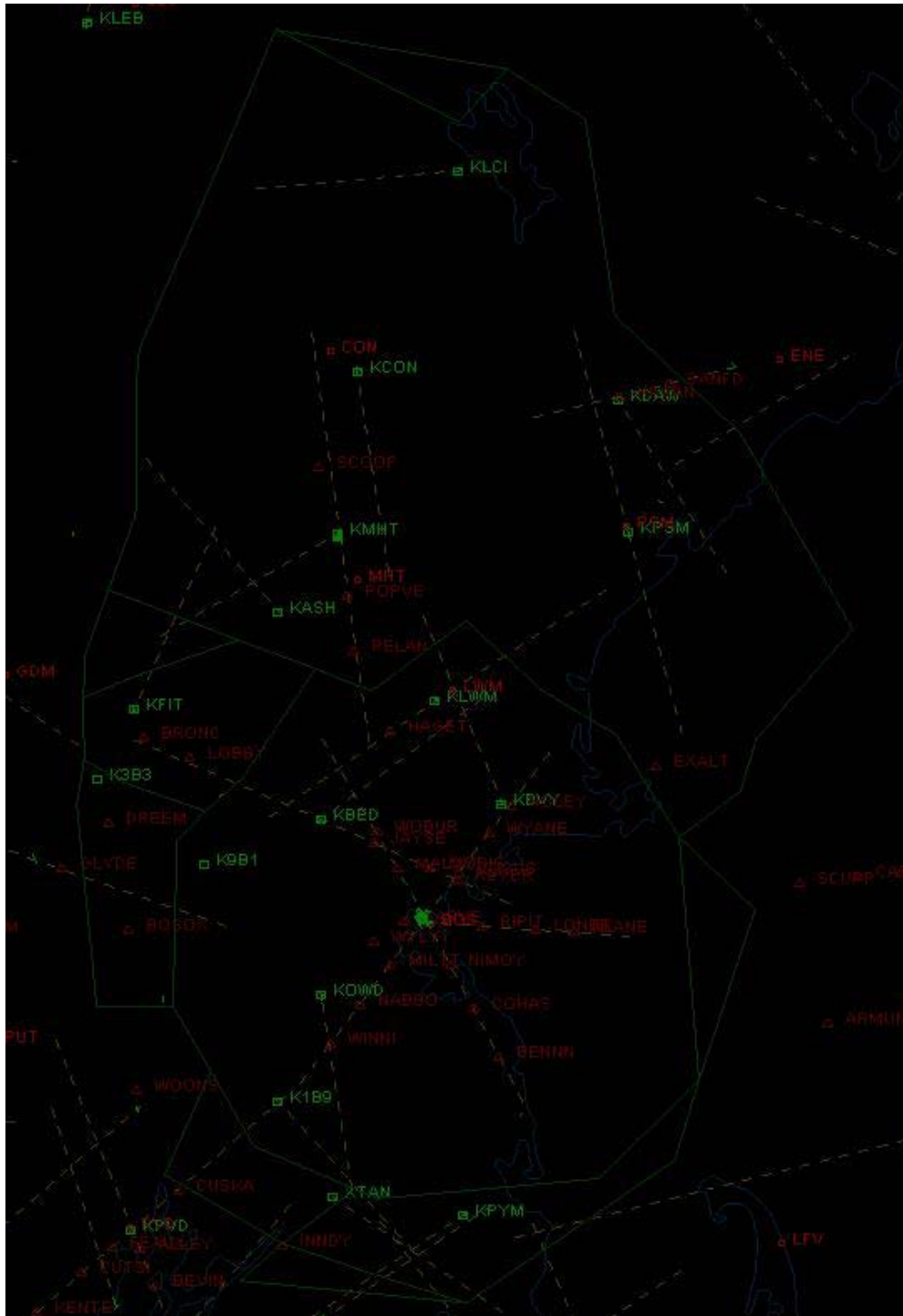
1.4 *Approach and Departure Positions*

1.4.1 In light traffic conditions you may serve as both Departure and Approach (the positions are combined). In moderate traffic Departure and Approach may be staffed independently. Heavier traffic conditions suggest an alternative split into North and South Approach sectors. Additional sectors may be opened as traffic warrants (Final, Satellite North, Satellite South, etc.)

1.4.2 It is **required** that you learn both Departure and Approach well before attempting to run a split Approach scenario, as the work load and vectoring constraints increase dramatically. Further, it is **required** that KBOS have a tower in operation before we allow A90 to operate with a split Approach scenario.

1.5 A90 Airspace

- 1.5.1 A90 airspace is roughly 40nm around BOS VOR to a height of 14,000 feet, plus roughly 20NM around MHT VOR to a height of 10,000 feet.



2.0 Departure Control

2.1 Responsibilities

- 2.1.1 Vectors the aircraft to the appropriate Departure Gate for the filed flight plan route. Knowledge of the initial departure fixes out of KBOS (both high altitude and low altitude) is critical. Aircraft with proper flight plans should be vectored to the particular departure fixes quickly and safely.
- 2.1.2 Conducts departures from the Class C, D, E and G airports within its delegated airspace. Information on A90 airports may be found [HERE](#).

2.2 Radar Contact

- 2.2.1.1 The Departure controller will radar identify each aircraft checking in after departure, inform the pilot he is "radar contact"
- 2.2.1.2 If the pilot neglects to report his altitude on initial contact / check-in, the Departure controller will ask the pilot to confirm his altitude, unless observed in accordance with 7110.65 5-2-16.
- 2.2.1.3 The Departure controller will then issue an altitude for the departure to climb and maintain, and a heading to fly.
- 2.2.1.4 EXAMPLE: "Delta 211, Boston Departure, Radar Contact. Turn right heading 090, climb and maintain 14000."

2.3 Altitude Assignments

- 2.3.1 The Departure controller shall issue a higher altitude immediately, provided it is safe to do so. If there is no other aircraft in the departure's vicinity, then the standard altitude issued to aircraft is to climb and maintain 14000 feet, or the filed altitude (whichever is lower). If it is unsafe to climb a departure directly to 14000 feet because of potential conflicts with other aircraft, the Departure controller must first coordinate with Approach on altitudes in vicinity of the airport. He must then issue a climb instruction that safely separates the aircraft from all others in its vicinity until lateral separation is achieved.
- 2.3.2 An example of potential conflicts amongst arriving and departing aircraft occurs when the 22s are active at KBOS. Arrivals inbound from PVD fly a left downwind to land on runway 22L. Departures off 22R make an immediate left turn to 140 after departure. Unless separated vertically, these aircraft could be in conflict. A simple rule of thumb is to have inbound aircraft cross the extended centerline of 33L at or above 6000 feet on the downwind, and have departing aircraft remain at or below 5000 feet until lateral separation can be achieved and a climb to 14000 feet can be issued. When the other runways are in use, separation of inbound and outbound aircraft is much easier. Proper separation must be adhered to at all times, and teamwork between Departure and Approach is essential for making this work.

2.4 *Handoffs*

- 2.4.1 Automated handoffs to Center are initiated by the Departure controller once the aircraft has been issued a climb to 14000 feet (or the filed cruise altitude, whichever is lower), and should be initiated by the time the aircraft reaches 5000 feet.
 - 2.4.1.1 This ensures that the handoff will be completed before busting the 14000 foot limit on Departure's airspace and before the aircraft would have to stop his climb at 14000 feet.
- 2.4.2 Handoffs to Center should be accomplished once the aircraft is passing at least 9000, unless there is an operational need to do otherwise.
- 2.4.3 Departure controllers are encouraged to turn the aircraft to the relevant departure fix and issue a climb as safely and efficiently as possible. A prompt handoff by Departure to Center will allow the aircraft to maintain a safe, continuous climb, and start the enroute phase of its flight.

2.5 *Noise Abatement*

- 2.5.1 The published departure procedures from KBOS are designed for safe and orderly departures and traffic flows, but with the secondary goal of noise abatement.
- 2.5.2 The LOGAN departure procedure is a radar vectored departure designed for noise abatement purposes.
- 2.5.3 All jet aircraft departing KBOS shall not cross back over the coastline until the aircraft is at or above 6,000 feet. The purpose of this rule is to reduce the noise of departing jets in surrounding communities; we will have the same consideration for our virtual neighbors.

3.0 Approach Control

3.1 Responsibilities

- 3.1.1 Coordinates with DEP (or TWR if no DEP). If A90 is running two approaches, the two coordinate arrival and departure assignments.
- 3.1.2 Coordinates with CENTER to receive handoffs at specified STAR waypoints. Approach airspace is 40nm around the BOS VOR to a height of 14,000 feet.
- 3.1.3 Conducts approaches to the Class C, D, E and G airports within its delegated airspace. Information on these A90 airports may be found [HERE](#).

3.2 Handoffs

- 3.2.1 Aircraft should be handed off to Approach just prior to (within 20NM of) the A90 sector boundary, and at altitudes and/or with descent instructions as depicted on the STARs, unless prior coordination between Center and Approach controllers waives such restrictions.
- 3.2.2 Aircraft not flying a STAR will be handed off just prior to (within 20NM of) the A90 sector boundary.
- 3.2.3 If traffic is light, and there is no immediate concern for safety or separation, speed restrictions can be waived with prior coordination between Center and Approach controllers.

3.3 Initial Contact

- 3.3.1 The Approach controller shall inform the pilot of the following information on initial contact when vectoring aircraft to land in A90 airspace:
 - 3.3.1.1 A specific **Heading** to fly (or Fix to fly to)
 - 3.3.1.2 An **Altitude** to maintain
 - 3.3.1.3 The type of **Approach** the aircraft is to expect (ILS / Visual / VOR etc.)
 - 3.3.1.4 The Boston, or local, **Altimeter** setting

EXAMPLE:

"Delta 211, Boston Approach, good evening. Turn left heading 090, descend and maintain 7000, vectors for the ILS (or visual, etc.) approach, Runway 22L. Boston altimeter 2992."

"Speedbird 224 Heavy, good afternoon, Boston Approach. Depart Providence heading 050, then descend and maintain 6000, vectors for the ILS (or visual, etc.) approach, Runway 4R. Information ALPHA is current, Boston altimeter 2992."

3.4 Noise Abatement

- 3.4.1 As much as possible, Approach controllers will vector/control inbound traffic over the water, to the East side of the city, to aid in noise abatement efforts.

3.5 VFR Coded Routes in Bravo airspace (applicable to Cape Air (KAP) only)

- 3.5.1 The following VFR coded routes may be used by Cape Air aircraft entering the Boston Class B airspace to land at KBOS. No aircraft shall be assigned these routes unless they are initiated through pilot request.
- 3.5.2 VFR arrivals landing KBOS shall contact Boston Consolidated TRACON at least 20 miles from Boston. Aircraft shall request the coded arrival route corresponding to the arrival runway(s) in use for clearance to enter Boston Class B airspace.
- 3.5.3 The Coded VFR Arrival Routes are as follows:
 - 3.5.3.1 **BRAVO 4:** Enter via Norwood Airport (KOWD) at 2500 feet. Cleared through OWD Class "D" airspace. Expect Runway 4L.
 - 3.5.3.2 **BRAVO 15:** Enter via Minot's Light at 1500 feet. Depart Minot's Light heading 360 or as assigned. Expect Runway 15L.
 - 3.5.3.3 **BRAVO 22:** Enter via Minot's Light at 2500 feet. Depart Minot's Light heading 030 or as assigned. Cleared through Beverly Airport (KBVY) Class "D" airspace. Expect Runway 22L.
 - 3.5.3.4 **BRAVO 27:** Enter via Minot's Light at 1500 feet. Depart Minot's Light heading 010 or as assigned. Expect Runway 27.
 - 3.5.3.5 **BRAVO 32:** Enter via overhead the former South Weymouth Naval Air Station (KNZW) at 2500 feet. Expect Runway 32.
 - 3.5.3.6 **BRAVO 33:** Enter via Minot's Light at 1500 feet. Depart Minot's Light via the shoreline direct BOS. Expect Runway 33R.

Notes:

1. 27 arrivals should expect to turn final North and East of Graves Lighthouse. This is necessary for the separation on runway 22L/R departures.
2. 33R arrivals should never overfly the approach end of runway 27.
3. Landing 4L with MVFR or ceilings below 2500 feet: To help facilitate the use of both runways, traffic for 4L will be vectored for the ILS 15R to visually transition via the river bordering the west side of KBOS to runway 4L.
4. Arrivals from the north expect to be cleared into the Bravo with headings and altitudes issued by approach. There are no coded BRAVO arrivals from the North.

3.6 Standard Arrival and Departure Flows

3.6.1 Runway 27 Arrivals

- 3.6.1.1 All arrivals from via PVD shall be vectored over DRUNK intersection, to cross the shoreline at or above 6000 feet, except when utilizing the Runway 27/32 configuration.
- 3.6.1.2 Arrivals via GDM should utilize Runway 27 unless the Runway 27 final will become extended, then Runway 22L LAHSO may be utilized to reduce delays.

3.6.2 Runway 22L Arrivals

- 3.6.2.1 All arrivals from via PVD shall be vectored over DRUNK intersection, to cross the shoreline at or above 6000 feet.

3.6.3 Runway 4L/R Arrivals

- 3.6.3.1 Arrivals should generally be assigned Runway 4R.
- 3.6.3.2 Runway 4L should be used whenever practical to prevent extended finals, delay vectoring and delays for Runway 4R departures.

3.6.4 Standard Flow Diagrams

- 3.6.4.1 Though controllers are allowed to use whatever flow works best for traffic and other conditions/situations, the standard flows generally in use at A90 are:
- 3.6.4.2 [4s](#) / [15R](#) / [22s](#) / [27](#) / [33L](#)

4.0 Manchester Sector

4.1 General

- 4.1.1 The Manchester Approach Control and Boston Approach Control consolidated into Boston Consolidated Tracon (A90) in March, 2004.
- 4.1.2 Under normal conditions, Boston Approach (BOS_APP) will handle all operations formerly handled by Manchester Approach control.
- 4.1.3 In rare circumstances, based on traffic, a separate Manchester Approach control sector will need to be opened. Due to limitations of existing VATSIM tools not expected to be updated (ServInfo, VATSpy, etc.), and to reduce confusion to the pilot community, the MHT_APP callsign and corresponding frequency information will be used.