FAA STANDARD PHRASEOLOGY GUIDE

VERSION 2.0

This manual is meant to serve as a phraseology reference for both Virtual pilots and air traffic controllers

This manual is for flight simulation only usage on the
International Virtual Aviation Organisation (IVAO)
North America Region
IVAOXA.ORG

Revisions

DATE	CHAPTER	PARAGRAPH	CHANGES
1 JUN 14	-	-	Initial Version
16 AUG 14	1	1.1.1 & 1.1.2	Added 'Climb via the SID' item
	1	1.2	Merged paragraphs
	4	4.1.1 & 4.1.2	Added 'Climb via the SID' item
	4	4.2	Updated phraseology
	5		Chapters 5 and 9 updated Pilot Phraseology part added
	9	9.4.10	Merged paragraphs
	9	9.4.3	Phraseology updated
28 AUG 14	ALL	ALL	Added pilot phraseology
8 SEP 14	10	ALL	Added APPREQ Moved 'Hand-off' to CH10
19 SEP 14	11	ALL	Added Helicopter Section
3 MAR 18	ALL	ALL	Complete Update

1. Clearance Delivery

1.1. IFR Clearances (FAA 7110.65_ Chapter 4-3)

1.1.1. IFR Clearance Standby

Pilot: Clearance Delivery good day, American Five-Ninety with information Hotel, request IFR clearance to Atlanta International airport.

ATC: American Five-Ninety, Tampa Clearance Delivery, Clearance on request, number two, standby.

1.1.2. Departure Procedures (No SID)

(*No Approach Controller on-line*)

Pilot: Clearance Delivery, good day, this is American Five-Ninety with information Hotel, request IFR clearance to Atlanta International airport.

ATC: American Five-Ninety, Tampa clearance Delivery, Cleared to Atlanta International airport as filed, maintain 6000, expect fl220 one zero minutes after departure, Departure frequency 126.05, Squawk 5523.

(*Approach Controller on-line*)

Pilot: Clearance Delivery, good day, this is American Five-Ninety with information Hotel, request IFR clearance to Atlanta International airport.

ATC: American Five-Ninety, Tampa clearance Delivery, Cleared to Atlanta International airport via radar vectors to Cross City VORTAC, then as filed, maintain 6,000, expect fl220 one zero minutes after departure, Departure frequency 126.05, Squawk 5523.

1.1.3. Climb via SID (No Altitude Restriction) (FAA 7110.65_ Para4-3-2. d.4. (a))

Pilot: Clearance Delivery, good day, this is American Five-Ninety with information Hotel, request IFR clearance to Atlanta International airport.

ATC: American Five-Ninety, Fort Lauderdale clearance delivery, Cleared to Atlanta International Airport, ARKES1 Departure, climb via the SID, expect FL 320 one zero minutes after departure, Departure frequency 126.05, Squawk 5523.

1.1.4. Climb via SID (Altitude Restriction) (FAA 7110.65_ Para4-3-2.d.4.(b))

Pilot: Clearance Delivery, good day, this is American Five-Ninety with information Hotel, request IFR clearance to Atlanta International airport.

ATC: American Five-Ninety, Fort Lauderdale clearance delivery, Cleared to Atlanta International Airport, ARKES1 Departure, climb via the SID, except maintain 9,000, expect FL 320 one zero minutes after departure, Departure frequency 126.05, Squawk 5523.

1.1.5. Radar Vectored Departure (FAA 7110.65_ Para4-3-2.d.5.)

Pilot: Clearance Delivery, good day, this is American Five-Ninety with information Hotel, request IFR clearance to Atlanta International airport.

ATC: American Five-Ninety, Kennedy clearance delivery, Cleared to Atlanta International Airport, KENNEDY4 Departure, Radar Vectors Robbinsville VORTAC, maintain 5,000, expect FL 320 one zero minutes after departure, Departure frequency 135.9, Squawk 5523.

1.1.5. Radar Vectored Departure with published Climb Procedures (FAA 7110.65_ Para4-3-2.d.5.)

Pilot: Clearance Delivery, good day, this is American Five-Ninety with information Hotel, request IFR clearance to Atlanta International airport.

ATC: American Five-Ninety, Kennedy clearance delivery, Cleared to Atlanta International Airport, KENNEDY Departure, Canarsie Climb, Radar Vectors WHITE, maintain 5,000, expect FL 320 one zero minutes after departure, Departure frequency 135.9, Squawk 5523.

1.2. Transfer Control and Communications (FAA 7110.65_ 8-2-2.)

ATC: Delta three twenty-five, Contact Kennedy Ground on 121.9, good day.

2. Ground Control (FAA 7110.65_ Chapter 3-7)

2.1. Taxi out (FAA 7110.65_ 3-7-2.b.)

Pilot: Fort Lauderdale ground, American Five-Ninety, with information Juliet, ready to taxi.
ATC: American Five-Ninety, Fort Lauderdale ground, runway 10L taxi via Tango and Charlie.

2.2. Taxi in (FAA 7110.65_ 3-7-2.b.)

Pilot: Fort Lauderdale ground, American Five-Ninety, clear of the runway on Bravo.
ATC: American Five-Ninety, Fort Lauderdale ground, Terminal 4, taxi via Bravo, Sierra, Delta and Tango.

2.3. Airport movement

2.3.1 Give Way (FAA 7110.65_ 3-7-2.b.)

ATC: American Five-Ninety, hold short of Whisky, give way to Boeing 737 crossing left to right.
ATC: American Five-Ninety, runway 10L, taxi via Papa and Bravo, give way to the Cessna Caravan at Bravo.

2.3.2. Follow (FAA 7110.65_ 3-7-2.d)

ATC: American Five-Ninety, Fort Lauderdale Ground, runway 10R taxi via Tango, follow the A320 off your right side.
ATC: American Five-Ninety, Fort Lauderdale Ground, runway 10R follow company aircraft Boeing 737.

2.3.3 Progressive Taxi (Pilot/Controller Glossary P-4)

Pilot: Fort Lauderdale ground, American Five-Ninety, with information DELTA, ready and requesting progressive taxi.
ATC: American Five-Ninety, Fort Lauderdale ground, runway 10R taxi via the first left turn, then proceed straight ahead
ATC: American Five-Ninety, turn next left onto Quebec then proceed straight ahead
ATC: American Five-Ninety, turn next right onto Juliet then proceed straight ahead
ATC: American Five-Ninety, turn next left onto Juliet One then hold.

2.3.4. Runway Crossing (FAA 7110.75_ 3-7-2.c.)

Pilot: Kennedy ground, American Five-Ninety, holding short runway 4L at Juliet .
ATC: American Five-Ninety, Kennedy ground, cross runway 4L at Juliet and continue taxi.

2.3.5. Intersection Departure (FAA 7110.65_ 3-2-1.d.)

ATC: American Five-Ninety, Kennedy Ground, Runway 31L at Mike Bravo, intersection departure, 6,932 feet remaining .

2.3.6. Helicopter

2.3.5.1. Ground Taxi (FAA 7110.65_ 3-11-1.a.)

Pilot: Newark Ground, Coast Guard 24J request taxi to parking.
ATC: Coast Guard 24J, Newark Ground, General Aviation, taxi via Quebec, Zulu, Zulu 4.

2.3.5.2. Hover Taxi (FAA 7110.65_ 3-11-1.b.)

Pilot: Newark ground, Coast Guard 21J, requesting repositioning to Echo Alpha helipad.
ATC: Coast Guard 21J, Newark Ground, Hover taxi to the Echo Alpha helipad via Quebec, Delta and Bravo.

2.3.5.3. Air Taxi (FAA 7110.65_ 3-11-1.c.)

Pilot: Newark ground, Coast Guard 27J, request air taxi to intersection Alpha at November.
ATC: Coast Guard 27J, Newark Ground, air taxi to intersection Alpha at November via Sierra and Alpha and cross runway 9.

2.4. Transfer Control and Communications (FAA 7110.65_ 8-2-2.)

ATC: Delta three twenty-five, Contact Kennedy Tower on 119.1, good day.

3. Tower (FAA 7110.65_ Chapter 3-9_

3.1 Takeoff

3.1.1. Line Up and Wait (FAA 7110.65_ 3-9-4.b.)

Pilot: Kennedy Tower, Delta three twenty-five, holding short runway 31L at Kilo.
ATC: Delta three twenty-five, Kennedy Tower, runway 31L, Line up and wait.

3.1.2. Takeoff Clearance (FAA 7110.65_ 3-9-10.a.)

Pilot: Kennedy Tower, Delta three twenty-five, holding short runway 31L at Kilo.
ATC: Delta three twenty-five, Kennedy Tower, winds 295 at 8, runway 31L, cleared for takeoff.

3.1.3. IntersectionTakeoff (FAA 7110.65_ 3-9-10.b.)

Pilot: Kennedy Tower, Delta three twenty-five, holding short runway 31L at Mike.
ATC: Delta three twenty-five, Kennedy Tower, winds 295 at 8, runway 31L, at Mike cleared for takeoff.

3.1.4. Advisory takeoff clearance

Land and Hold Short Operations (LAHSO)

Pilot: Kennedy Tower, Delta three twenty-five, holding short runway 22R at Echo.
ATC: Delta three twenty-five, Kennedy Tower, Boeing 737 landing runway 13L, will hold short of your runway, winds 240 at 8, runway 22R, cleared for takeoff.

3.1.5. Departure clearance (FAA 7110.65_ 4-3-2.c.4.)

Pilot: Kennedy Tower, Delta three twenty-five, holding short runway 31l at Kilo.
ATC: Delta three twenty-five, Kennedy Tower, on departure turn left, fly the Canarsie Climb, winds 295 at 8, runway 31L, cleared for takeoff.

3.1.7. Helicopter Operations

See VFR Traffic Operations

3.2. Landing

3.2.1. Landing Clearance (FAA 7110.65_ 3-10-5.a.)

Pilot: Kennedy Tower, Delta three twenty-five, ILS runway 31R.
ATC: Delta three twenty-five, Kennedy Tower, winds 290 at 8 runway 31R, cleared to land.

3.2.2. Traffic Advisory (FAA 7110.65_ 2-1-21.)

Pilot: Atlanta Tower, American five ninety, final runway 10L.
ATC: American five ninety, Atlanta Tower, number two following a Boeing 737 three miles ahead, wind 070 at 8, runway 10L cleared to land.

Pilot: Atlanta Tower, American five ninety, final runway 10L.
ATC: American five ninety, Atlanta Tower, number two following a Boeing 747 on a five mile final, Caution wake turbulence, wind 070 at 8, runway 10L cleared to land.

Pilot: Atlanta Tower, American five ninety, final runway 10L.
ATC: American five ninety, Atlanta Tower, number two following a Boeing 747 on a five mile final, Caution wake turbulence, wind 070 at 8, runway 10L cleared to land.

Pilot: Atlanta Tower, American five ninety, visual for 10L.
ATC: American five ninety, Atlanta Tower, traffic traffic will depart prior to your arrival, wind 070 At 6, runway 10L cleared to land.
or
ATC: American five ninety, Atlanta Tower, heavy Boeing 767 departing parallel runway, caution wake turbulence, wind 070 at 8, runway 10L cleared to land.

3.2.3. Weather Advisory

Wind Shear (FAA 7110.65_ 3-1-8.)

Pilot: Atlanta Tower, American five ninety, visual for 10L.
ATC: American five ninety, Atlanta Tower, Wind shear alert, gain of 15 knots at 800 feet, wind 070 At 6, runway 10L cleared to land.
or
ATC: American five ninety, Atlanta Tower, Wind shear alert, gain and loss of 20 knots between 800 and 200 feet, wind 070 at 6, runway 10L cleared to land.

Runway Visual Range (RVR) (FAA 7110.65_ 2-8.)

Pilot: Atlanta Tower, American five ninety, visual for 10L.
ATC: American five ninety, Atlanta Tower, Runway 10L RVR two thousand five hundred, wind 070 At 6, runway 10L cleared to land.

3.2.4. Land and Hold Short

Pilot: Kennedy Tower, Delta three twenty-five, Visual for runway 13L.
ATC: Delta three twenty-five, Kennedy Tower, hold short of runway 22R, winds 290 at 8 runway 13L, cleared to land.

3.2.5. Missed Approach Procedures (FAA 7110.65_ 4-8-9./5-10-11.)

Pilot: Kennedy Tower, Delta three twenty-five, executing missed approach.
ATC: Delta three twenty-five, Kennedy Tower, Climb to 500 then climbing left turn to 3,000 Intercepting Kennedy VORDME Radial 190 to CHANT Intersection and hold. Contact Departure on 128.125.
or

Pilot: Kennedy Tower, Delta three twenty-five, executing missed approach.
ATC: Delta three twenty-five, Kennedy Tower, fly the missed approach procedure as published, Contact Departure on 128.125.

3.2.6. Go Around (FAA 7110.65_ 4-8-12.)

Pilot: Kennedy Tower, Delta three twenty-five, executing missed approach.
ATC: Delta three twenty-five, Kennedy Tower, Climb to 500 then climbing left turn to 3,000 Intercepting Kennedy VORDME Radial 190 to CHANT Intersection and hold. Contact Departure on 128.125.
or

Pilot: Kennedy Tower, Delta three twenty-five, executing missed approach.
ATC: Delta three twenty-five, Kennedy Tower, fly the missed approach procedure as published, Contact Departure on 128.125.

3.3. Transfer Control and Communications (FAA 7110.65_ 8-2-2.)

ATC: Delta three twenty-five, Contact Departure, good day.

4. Departure (FAA 7110.65_ 4-3-2.)

4.1.1. Climb via the SID

Pilot: Miami Departure, Delta three twenty-five, passing 3,000, climbing via the ARKES1 Departure.
ATC: Delta three twenty-five, Miami Departure, radar contact passing 3,000.

4.1.2. SID with altitude restriction

Pilot: Miami Departure, Delta three twenty-five, passing 3,000, climbing via the ARKES1 Departure.
ATC: Delta three twenty-five, Miami Departure, radar contact passing 3,000, climb and maintain FL210.

4.1.3. Vectored Departure

Pilot: Miami Departure, Delta three twenty-five, passing 1,200.
ATC: Delta three twenty-five, Miami Departure, radar contact passing 1,100, turn left heading 355, climb and maintain 11,000.

4.1.4. Transfer of Control and Communications (FAA 7110.65_ 8-2-2.)

ATC: Delta three twenty-five, Miami Departure, Contact Miami Center on 126.325, good day.

4.1.5. Missed Approach (FAA 7110.65_ 4-8-9/5-10-11)

Pilot: Miami Departure, Delta three twenty-five, on missed approach runway 9.
ATC: Delta three twenty-five, Miami Departure, turn left heading 270, maintain 3,000, contact Miami Approach on 120.50.
or
Pilot: Miami Departure, Delta three twenty-five, on missed approach runway 9.
ATC: Delta three twenty-five, Miami Departure, continue missed approach procedures and hold as published, expect further clearance at 1530 zulu, time is not 1515 zulu.

3.2. Transfer Control and Communications (FAA 7110.65_ 8-2-2.)

ATC: Delta three twenty-five, Contact Miami Center on 126.325, good day.

5. Approach (FAA 7110.65_ Chapters 4, 5, 6, 7)

5-1. Arrival Instructions

5.1.1. Descend Via STAR (FAA 7110.65_ 4-7-1.)

Pilot: Atlanta Approach, American Five Ninety, with you at 15,000.
ATC: American Five Ninety, Atlanta Approach, descend via the canuk1 arrival, expect ILS runway 9R approach.

5.1.2. Radar Vectors to Final Approach Course (FAA 7110.65_ 4-7-1.b./5-9-1.)

Pilot: Atlanta Approach, American Five Ninety, with you at 15,000.
ATC: American Five Ninety, Atlanta Approach, descend and maintain 13,000, expect radar vectors ILS runway 9R approach.

5.2 Holding Instructions (FAA 7110.65_ Chapter 4-6)

5.2.1. Published Holding Procedures (FAA 7110.65_ 4-6-1.b.)

ATC: American Five Ninety, cleared to SCARR, hold south, as published. Expect further clearance 1535 zulu, current time 1525 zulu.
Pilot: Hold at SCARR as published, expecting further clearance at 1535 zulu, American Five Ninety.

5.2.2 Unpublished Holding Instructions (FAA 7110.65_ 4-6-4.)

ATC: American Five Ninety, hold east of BOWLN on 090 radial, 2 mile leg, left turn.
ATC: American Five Ninety, cleared direct BOWLN, hold east heading 270, 5 mile leg, left turn.
ATC: American Five Ninety, direct CARMN, hold north on bearing 041, 1 minute leg.

5.3. Approach Clearance Procedures (FAA 7110.65_ Chapter 4-8)

P – Position (aircraft position relative to fix/VOR)
T – Turn (heading)
A – Altitude (Altitude to maintain or descend to)
C – Clearance (Approach Clearance)

5.3.1. ILS or LOC Approaches Clearance (FAA 7110.65_ 4-8-1.a./5-9-2.)

ATC: American Five Ninety, 5 miles from BURNY, fly heading 070, maintain 2,700 until established on localizer, cleared ILS runway 8R approach.
Pilot: Maintain 2,700 until established, cleared ILS runway 8R, American Five Ninety.

5.3.2. VOR or VORDME Approaches Clearance (FAA 7110.65_ 5-8-1.b.)

ATC: American Five Ninety, 5 miles from PANOL, maintain 2,500 until established on final approach course, cleared VORDME runway 8R approach.
Pilot: Maintain 2,500 until established, cleared VORDME runway 8R, American Five Ninety.
or
ATC: American Five Ninety, 5 miles from PANOL, turn left heading 290 to join the final approach course, maintain 2,500 until established, cleared VOR runway 27L approach.
Pilot: Heading 290, 2,500 until established, cleared VOR runway 27L, American Five Ninety.
or
ATC: JetBlue 325, cross the Spokane VOR, at or above 5,000, cleared VOR runway 3 approach.
Pilot: Crossing Spokane VOR at or above 5,000, cleared VOR runway 3 approach, JetBlue 325.

5.3.3. Visual Approaches Clearance (FAA 7110.65_ 7-4-3.)

ATC: American Five Ninety, fly heading 080, vector for visual approach to runway 10L.
or
ATC: American Five Ninety, airport 11 o'clock 3 miles, report in sight.
Pilot: Have the runway, American Five Ninety.
ATC: American Five Ninety, cleared visual approach runway 10L.

5.3.4. RNAV Approaches Clearance (FAA 7110.65_ 4-8-1.h.)

ATC: American Five Ninety, cleared direct CENTR, maintain at or above 3,000 until CENTR, cleared straight in RNAV runway 18 approach.
Pilot: Direct CENTR, cleared straight in RNAV runway 18, American Five Ninety.

5.3.5. Circling Approach (Circle to Land) (FAA 7110.65_ 4-8-6.)

ATC: American Five Ninety, 2 miles from HELZR, fly heading 140, maintain 4,000 until established on localizer, cleared ILS runway 16L approach, circle east for a right downwind to runway 34R.
Pilot: Cleared ILS runway 16L circle east, right downwind runway 34R, American Five Ninety.

5.3.6. Side Step Approach (FAA 7110.65_ 4-8-7.)

ATC: American Five Ninety, 2 miles from LARII, fly heading 070, maintain 5,000 until established on localizer, cleared ILS runway 8L approach, Sidestep to runway 8R.
Pilot: Cleared ILS runway 8L sidestep runway 8R, American Five Ninety.

5.3.6. Speed Adjustment (FAA 7110.65_ 5-7.)

ATC: American Five Ninety, increase speed 20 knots.
ATC: American Five Ninety, reduce speed 20 knots.
ATC: American Five Ninety, reduce to final approach speed.
ATC: American Five Ninety, maintain present speed until outer marker.

5.4. Transfer Control and Communications (FAA 7110.65_ 8-2-2.)

ATC: Delta three twenty-five, Contact Miami Tower on 118.3, good day.

6. En Route (FAA 7110.65_ Chapters 4, 5, 6)

6.1 Aircraft Identification

6.1.1. Handoff aircraft (already Radar Identified) (FAA 7110.65_ 5-4.)

Pilot: Atlanta Center, American Five Ninety with you FL220.
ATC: American Five Ninety, Atlanta Center, Proceed on course.

6.1.2. Unidentified aircraft (no previous already Radar Identification) (FAA 7110.65_ 5-4.)

Pilot: Atlanta Center, American Five Ninety with you FL220.
ATC: American Five Ninety, Atlanta Center, Squawk 5632 and ident.
ATC: American Five Ninety, Atlanta Center, radar contact 5 miles north of Pecan VOR FL220. Proceed on course.

6.2. Arrival procedures (FAA 7110.65_ 5-4.)

6.2.1. Descend Via STAR (FAA 7110.65_ 4-7-1.)

ATC: American Five Ninety, descend via the canuk1 arrival, Atlanta landing west, altimeter 30.12.

6.2.2. Descend Via STAR with altitude restriction (FAA 7110.65_ 4-7-1.)

ATC: American Five Ninety, descend via the canuk1 arrival, except maintain 10,000 at dirty, Atlanta landing west, Atlanta altimeter 30.12.

6.3. Speed Adjustments (FAA 7110.65_ 5-7.)

ATC: American Five Ninety, say MACH number.
ATC: American Five Ninety, say airspeed number.
ATC: American Five Ninety, maintain .84 MACH.
ATC: American Five Ninety, maintain present speed.
ATC: American Five Ninety, do not exceed 250 knots.
ATC: American Five Ninety, maintain maximum forward speed.
ATC: American Five Ninety, maintain slowest practical speed.
ATC: American Five Ninety, increase speed to 350 knots.
ATC: American Five Ninety, reduce speed to .75 MACH.
ATC: American Five Ninety, say airspeed number.

6.4. VFR to IFR Flights (FAA 7110.65_ 4-2-8./4-2-9./10-2-7./10-2-9.)

Pilot: Miami Center, N167JA, request IFR pickup, currently 10 miles north west of Key West VOR, 2,500, intend to land at Tamiami airport.
ATC: N176JA, cleared to Tamiami airport, fly heading 045, maintain 2,500, squawk 0305.

Pilot: Miami Center, N167JA, unable to maintain VFR, request IFR pickup at Marathon NDB, currently 3 miles east of Marathon NDB, 2,500, intend to land at Tamiami airport.
ATC: N176JA, cleared to Tamiami airport, fly heading 030, maintain 3,500, squawk 0306.

6.5. IFR Cancellation (FAA 7110.65_ 4-2-10.)

Pilot: Miami Center, N167JA, would like to cancel IFR.
ATC: N176JA, IFR cancellation received, Squawk VFR, change to advisory frequency approved.

7. Oceanic/Offshore (Non-Radar) (FAA 7110.65_ Chapters 5/AIM Chapter 5-3)

7.1. Oceanic Clearance (FAA7110.65) 8-1)

Pilot: Good evening New York Radio, Cactus 801.
ATC: Cactus 801, New York Radio, Good evening, go ahead.
Pilot: Requesting clearance to Charlotte via LETON L451 OLDEY, FL400, Mach .83, estimating LETON at 0913 zulu, Cactus 801.
ATC: Cactus 801, cleared to destination via LETON L451 OLDEY, expect FL400, Mach 9.3 cross LETON latest 0923 zulu.
Pilot: Cleared to destination via LETON L451 OLDEY, expect FL400, Mach 9.3 cross LETON latest 0923 zulu, Cactus 801.
ATC: Cactus 801, your read back is correct, return approved, goodbye.

7.2. Position Reports (AIM 5-3-2.c.4./AIM 5-3-2.d.)

Pilot: Good evening New York Radio, American 215 with a position report.
ATC: American 215, New York Radio, go ahead.
Pilot: Reporting 47North 50West at 0246 Zulu, FL380, Mach .83, estimating 49North 40West at 0329Z, next is 51North 30West, American 215.
ATC: American 215, New York Radio checked 47North 50West at 0246 Zulu, FL380, Mach .83, estimating 49North 40West at 0329Z, next is 51North 30West
Pilot: Read back is correct, American 215.

7.3. Level Changes

Pilot: New York Radio, American 215 with a request.
ATC: American 215, New York Radio, go ahead.
Pilot: Requesting FL400, American 215
ATC: American 215, unable due to traffic separation minima.
or
ATC: American 215, climb to reach FL400 by 47North 50West, report reaching.
or
ATC: American 215, climb to reach FL400 by 1540 zulu, report reaching.

7.4. SELCAL

Pilot: New York Radio, American 215 request SELCAL check for ABCD.
ATC: American 215, SELCAL check coming up for ABCD.
ATC: American 215, New York (Confirmation it was sent by ATC).
Pilot: SELCAL received, American 215

8. Emergency Operations (FAA 7110.65_ Chapters 10)

8.1. Conditions

A pilot who encounters a Distress condition should declare an emergency by beginning the initial communication with the phrase “MAYDAY, MAYDAY, MAYDAY”.

A pilot who encounters an Urgency condition should declare with the phrase “PAN-PAN, PAN-PAN, PAN-PAN”.

8.2. Procedures

Because of the infinite variety of possible emergency situations, specific procedures cannot be prescribed. However, when you believe an emergency exists or is imminent, select and pursue a course of action as appropriate under the circumstances.

8.3. A.S.S.I.S.T.

Acknowledge the call, get the squawk
Separate the aircraft from other traffic. Give it room to maneuver.
Silence on the frequency. Provide separate frequency when possible to reduce clutter.
Inform those who need to know and those who can help. Inform others as appropriate.
Support the pilots in any way possible. Start to think of alternative airports or routings.
Time - Give the pilots time to collect their thoughts, do not harass them for information.

Bird Strike

Anticipated Impact on Crew

If a flight has experienced a bird strike, the controller may anticipate:

1. Rejected take-off
2. Immediate return to land
3. Landing at the next suitable aerodrome
4. Restricted visibility from the flight deck
5. Impaired aircraft control during the landing roll (for example landing gear or brakes malfunction)

Suggested Controller's Actions (in real world)

In case of a bird strike occurring on take-off or landing, the runway must be checked to ensure it is clean from any debris and/or bird remains. Bird remains should be kept, to help in any subsequent investigation and, if necessary, passed to an appropriate authority for identification. When able, get the appropriate information and intentions.

Brake Problems

Anticipated Impact on Crew

A wide range of practical problems could arise following brake related problems:

1. High level of stress and increased workload - caused by directional control and deceleration problems resulting from brake failure during landing, or during high speed rejected take off (RTO).

2. Lack of awareness - Crew might be not aware of fire, tire burst or deflation that could result from heavy braking upon landing, RTO, or of smoke coming from the undercarriage,
3. Request fire and rescue services- hot brake incidents could be considered by the crew a reason to request attendance of fire and rescue,
4. Decision for emergency evacuation - the cockpit crew could take the decision for emergency evacuation if fire is detected following a high energy brake application

What to Expect

As a controller, expect:

1. Pilots (if aware prior landing of the brake problem) to request:
   a. the longest runway available.
   b. the widest runway available whenever directional control problems on the ground are anticipated.
   c. to execute holding procedures to burn fuel and minimize weight.
   d to divert to alternate aerodrome if any condition such as poor braking action, runway contamination or adverse weather is present at the destination aerodrome or if any other conditions exist that could result in higher ground speed on touchdown or are unfavorable for taxi.
   e. to divert to alternate aerodrome depending on availability of maintenance personnel and respective technical facilities should the airplane need repair.
2. Aircraft overrunning runway threshold at far end (stop end).
3. Aircraft swerving off the runway.
4. Tire burst [1] and associated damage to the aircraft - inform the aircraft crew and the airport fire rescue services if a burst tire was observed.
5. Blocked runway after landing - plan ahead regarding pending departures and arrivals, possibly sequencing them for other runways if available.

Communication Failure

Anticipated Impact on Crew

A wide range of practical problems could arise following RCF:

1. Crew may not be immediately aware of the communication loss.
2. Increased workload in the cockpit - crew must determine the time the RCF occurred and act accordingly, by:
   a. attempting to establish radio telephony (RT) contact on the last frequency and other radio frequencies established for the flight route.
   b. attempting to establish RT contact with other aeronautical stations or aircraft or attempting to establish communication with the relevant ATC unit by any alternate available means.
   c. if RT contact cannot be established with the responsible ATC, the crew will follow procedures for RCF failure as described by their operational manual and all other applicable documents.
   d. adherence to the appropriate RCF emergency procedures depending on the flight conditions – VMC or IMC.

What to Expect

The aircraft shall comply with the voice communication failure. An aircraft equipped with an SSR transponder is expected to operate the transponder on Mode A Code 7600 to indicate that it has experienced air-ground communication failure.

Electrical Failure

Anticipated Impact on Crew

1. A wide range of practical problems could arise following onboard electrical failure(s). Depending on the type of failure(s), whether it includes loss of all generators (alternators) and battery power only available (power supply reduced to emergency level), some possible effects on crew are:
   a. Increased workload. Crew determining the nature and the severity of the problem.
   b. Turning off non-critical electrical items (such as second radio, passenger cabin lighting and recirculation fans and other non-essential electrical systems) in order to isolate and identify the source of the problem and / or to reduce the electrical load.
2. A decision to land at the nearest/most suitable airport.

The worst case related scenario is an on-board fire in flight which is caused by an electrical fault and cannot be contained readily by the crew.

What to Expect

1. Navigation problems. Commercial aircraft are equipped with stand by instruments which are either mechanical or independently powered. In general, these instruments provide attitude, altitude and airspeed information and have limited or no navigation capability.
2. Communication loss if the malfunctions affect the radio equipment.
3. Loss of Transponder temporarily or completely if it is necessary to reduce electrical load or a failure has occurred on the channel powering the in-use transponder.
4. Limited readback. Expect crews to minimize the readbacks and possibly to acknowledge ATC instructions by keying the microphone.
5. Level changes to maintain VMC.
6. Manual gear extension.
7. Approach and landing without landing lights

Emergency Descent

Anticipated Impact on Crew

1. A wide range of practical problems could arise in the cockpit following the decision to initiate an emergency descent:

a. Increased workload in the cockpit- During the initiation of an emergency descent, the workload becomes intense as the crew try to resolve the problem with the aircraft, fly the aircraft safely, and plan for the descent.

b. Emergency descent procedure- Descent is initiated in accordance with the operator's emergency procedures and associated training.

c. Situational awareness issues- The crew may struggle to maintain full situational awareness.

d. Communication problems- Several problems connected with air-ground communications could arise including late communication, poor message quality due to donning of oxygen masks, and non-standard phraseology.

What to Expect

1. Descent without warning- Pilots are trained to announce any emergency descent promptly and to subsequently advise ATC of their intentions as soon as practicable. However, during the early stages of an emergency descent, the workload is high, and controllers should expect to hear little more than the announcement of the descent in the first few minutes.
2. Delay in emergency squawk- the setting the 7700-emergency squawk may be delayed because,

although this action is included in most pilot memory drills for emergency descent, it is often the final item.

3. Poor quality RTF- poor communication quality, due to changes in the sound of speech including a distorted sound spectrum, because of the effect which the donning of oxygen masks may have on the clarity of transmissions.
4. Interruption to RTF- if oxygen masks are donned, the procedure to do so will cause a temporary interruption to both transmit and receive functions. Such temporary interruptions may also occur due to the need for the non-handling pilot to communicate with the cabin crew on the crew interphone using a channel selector which temporarily replaces the ATC frequency at a time when the other pilot may be too busy to substitute attention to ATC if the intention to descend has already been broadcast.

Engine Failure

Anticipated Impact on Crew

1. A wide range of practical problems could arise in the cockpit following an engine failure associated with:
   a. Heavy workload in the cockpit- the crew must assess the situation and the workload might become intense
   b. Announcing the problem- the crew will communicate the problem to ATC. Emergency communication protocols (MAYDAY or PAN PAN) should be used but non-standard phraseology ("We've lost No.2", "Engine No.2 is gone/dead", "We've got no thrust/power in No.2" etc.) often occurs.
   c. Seeking information and deciding on course of action- the crew will need any information available regarding adjacent aerodromes and weather conditions if the they elect to proceed to and land at the nearest suitable aerodrome
   d. Seeking optimal glide- in case of engine failure on single engine aircraft or multiple engine failure on multi-engine aircraft, the crew will seek the best glide ratio in order to attempt restart of the engine(s) and/or to reach next suitable aerodrome/airfield or place suitable for emergency landing.

What to Expect

1. Deviation from SID- if the engine failure occurs at take-off or after rotation, the crew may follow an Emergency Turn routing and not follow the published SID and any associated noise abatement procedures
2. Intermediate level-off- if the engine failure occurs during climb out or descent, the crew might elect to level-off the aircraft in order to assess the situation
3. Descent- the crew may be forced to descend due to an inability to maintain altitude or might decide to descend (gain airspeed and re-start the engine) or to descend due to pressurization problems connected with the engine failure
4. Course deviation- the crew might decide to divert to the next suitable or to the alternate aerodrome
5. Long and high-speed approach and landing- due to performance limitations attributed to the engine failure the approach speed might be higher than prescribed, which could consequently may result in non-stabilized approach, runway excursion and blocked runway
6. Slow turn rates- The turn rate is expected to be slow if it is executed on the inoperative engine side.

Engine/APU Fire

Anticipated Impact on Crew

1. A wide range of practical problems could arise in the cockpit following an engine failure associated with:
   a. High workload- Such scenarios are associated with intense workload; the crew will carry out the appropriate engine on fire drills.
   b. Engine shutdown- Normally the fire drills require shutting down the engine and cutting off fuel and electrical supply to the engine. Following this, extinguishant is fired into the engine and a visual inspection of the affected engine is carried out by a member of the cabin or flight crew (if possible).
      It should be noted that an engine on fire could still produce thrust, it is a critical element to consider when dealing with engine fire emergencies on single engine aircraft. In addition, it should be noted also that historically there have been cases of improper identification of the problematic engine followed by wrong engine shutdown.
   c. Announcing the problem- the crew will communicate the problem to ATC. Non-standard phraseology should be avoided, an emergency (MAYDAY) or urgency (PAN PAN) call should be made.
   d. Seeking information and deciding on course of action- the crew will need any information available regarding adjacent aerodromes and weather conditions if they decide to proceed to and land at the nearest suitable aerodrome.

What to Expect

1. Rejected Take Off - if the fire is identified prior to V1, the crew might abandon the take-off during the take-off roll, this will normally be communicated to ATC at the same time.
2. Emergency landing- if the fire occurs after V1 or during any other airborne phase of the flight, the crew will normally complete the take-off and carry out an emergency landing at the nearest suitable airfield.
3. Engine failure- a malfunction associated with fire could render the engine inoperative. The emergency procedures followed will depend whether the aircraft is single or multi engine. For a single-engine aircraft, an immediate landing will be unavoidable whether or not a suitable airfield is available.
4. Rate of descent- in the event of an en-route engine fire three descent scenarios are possible. If the fire drill is successful, and the fire is out, assuming that there is some distance to the diversion airfield, the crew are most likely to initiate a "drift down" profile resulting in a low rate of descent. If the fire is out and the decision has been made to divert to an en-route airfield or continue to the planned destination, the descent rate will be more or less normal for the aircraft type. If the fire is uncontrollable, the flight crew are likely to initiate a high speed/maximum rate descent and divert to nearest airfield.
5. Smoke in the Cockpit- possible intrusion of smoke into the cockpit or the cabin, due to bleed air system contamination, with the associated communication problems due to sound distortion caused by donning of oxygen masks.
6. Pressurization problems- due to the engine fire/engine shutdown, the aircraft might not be able to stay pressurized. In this scenario, depressurization is likely to be gradual but depending upon the aircraft type and any collateral damage caused by the fire, the depressurization could be rapid.

Fuel Emergency

Controllers should consider that:

1. Low fuel quantity will limit the range and endurance of the aircraft.
2. A fuel leak will result in a continually worsening situation.

3. Expected route or arrival delays (e.g. due to weather) may result in a diversion decision (rarely an option) from the pilot before critical fuel levels are reached.
4. Fuel problems, such as a leak, fuel contamination or fuel depletion, could result in engine failure or forced landing

Hydraulic

Anticipated Impact on Crew

1. The crew that experiences problems with hydraulics might face the following:
   a. Downgraded flight characteristics- the crew could have difficulties controlling the aircraft that might vary from light to severe if all hydraulic systems are not present,
   b. Increased stress in the cockpit- the crew would need to perform some preliminary checks to estimate the extent of reduction of the normal characteristics of the aircraft,
   c. Increased time allowance- additional time might be needed in order to check the status of the problem and to initiate the required mitigations. It should be noted that some of the situations are present in SOPs or other documents with proper check-lists, but others may necessitate an ad hoc solution,
   d. Manual flying- major damage of hydraulics would usually affect the auto-pilot functions,
   e. Immediate landing- after assessing the situation, the crew could decide to carry out an immediate landing at the nearest (suitable) airport.

Controller might expect the following:

1. Larger margins of adherence to cleared flight level,
2. Nonstandard phraseology used by the flight crew to describe the problem, e.g. we lost green (yellow, blue) hydraulics, or we lost 1 (2, standby) hydraulics etc., depending on the aircraft manufacturers labeling system,
3. Sudden descent or climb,
4. Wider radius of turns, with smaller rate of turn,
5. High approach speed,
6. Lack of autopilot (effect on CAT-landings),
7. Partial control over different control surfaces,
8. Reduced braking capability upon landing,
9. Runway excursion/blockage,
10. Post-landing fire, airframe damage.

In Flight Fire

If a crew is experiencing smoke/fire in the cockpit, the Controller should expect:

1. Communication difficulties or even lack of communication at a later stage,
2. Flight crew's decision to immediately divert to nearest suitable aerodrome,
3. Crew requests for information about the chosen diversion airfield,
4. The flight crew could commence descent without receiving ATC descent instructions,
5. The flight crew might need navigational assistance and request vectors for the nearest suitable aerodrome.

In Flight Icing

The Controller might be required to:

1. Take all necessary action to safeguard all aircraft concerned
2. Suggest a heading
3. State the minimum safe altitude
4. Provide separation or issue essential traffic information, as appropriate
5. Make an emergency broadcast

Expect

1. Immediate change of level and/or heading
2. Limitation in rate of climb/descent
3. Higher speed

Landing Gear

Anticipated Impact on Crew

1. In case of a gear problem, the crew bears significant stress. They will need time to fully assess the nature of the problem. Further steps could include crew visual inspection (depending on aircraft design), alternate extension procedures which may include manual emergency landing gear extension, or flight maneuvers designed to force the drop of the landing gear. All these steps require significant preparation.
2. It might be necessary to perform several low pass approaches for qualified technical personnel to inspect visually the landing gear status and position.
3. A landing with confirmed unlocked gear could result in an emergency evacuation of the aircraft and the cabin crew will need to prepare the cabin and passengers for such an event.
4. For further information, see the separate article: "Landing Gear Problems: Guidance for Flight Crews".

The Controller may anticipate:

1. Need for time to resolve the exact nature of the problem,
2. Holding pattern request for preparation and execution of manual extension,
3. The necessity of time and place to perform specific maneuvers with the purpose of full extension,
4. One or multiple low passes for visual inspection,
5. Low speed approach,
6. Need for rescue and fire services to be on standby,
7. Runway blockage after landing,
8. Aircraft Evacuation.

Passenger Medical

1. Acknowledge the situation and clarify whether an emergency is being declared,
2. Obtaining as much information as necessary, e.g. number of sick passengers, the exact nature of the medical problem or, if the medical problem is not determined, the symptoms being manifested plus, any other relevant details of the situation. Determine, as necessary, if the passenger illness is recognized as infectious
3. Clarify the intentions of the flight crew, most likely they will choose to land on the nearest suitable aerodrome,

Assist the flight crew by:

1. Providing a shorter route to the aerodrome chosen,
2. Providing information on the aerodrome chosen (if requested),
3. Giving priority to the aircraft that has declared an emergency (e.g. issuing separation-related instructions to other aircraft),
4. Coordinate appropriate services on arrival,
5. Inform the supervisor. Outsourcing some of the workload (e.g. coordination with the aerodrome) could prove useful, especially in heavy traffic situations.

Pressurization

Anticipated Impact on Crew

1. A wide range of practical problems could arise during decompression and the following emergency descent:
   a. Mask/headset donning & retention- the time of useful consciousness rapidly decreases as altitude increases. The pilots have relatively small amount of time to remove their headset and put on their oxygen masks. Often the surprise introduces a delay in response.
   b. Communications- regardless of the mask model, a significant feature of the design is that it fits quite tightly on the face as to prevent oxygen leaks. Despite built in microphones which attempt to compensate for this, it may lead to changes in the sound of speech including a distorted sound spectrum.
   c. Sick/invalid passengers- The shock and surprise during decompression together with the accompanying formation of mist in the cabin could be quite overwhelming for some passengers. Possible outcomes are cardiac arrest, lost consciousness from improper handling of oxygen masks, and injuries from flying debris.
   d. Not declaring an emergency- Pilots are trained to call ATC as soon as practicable and advise of their intentions. However, during the initiation of an emergency descent, the workload becomes briefly intense and Controllers should not expect immediate information about the situation. The crew may begin the descent without requesting clearance or warning ATC.
   e. Heat from oxygen generators - as the chemical reaction in PSU oxygen generators produces their 15-20 min supply, their containers can reach a temperature of up to 260 degrees Celsius. This heat, and the associated fumes or smoke, can be expected to cause a degree of anxiety and perhaps panic in the passenger cabin.
   f. Issues with the control of the aircraft- During decompression the aircraft could suffer damage to aircraft systems, for example the hydraulic system, or structural damage affecting the aerodynamic characteristics of the aircraft.
   g. Emergency Descent procedure- descent procedure should be executed in accordance with the company emergency procedures and associated training. Descent will be rapid unless the crew suspect structural integrity, in which event a much less aggressive response can be expected with less airspeed and the avoidance of high maneuvering loads.

Loss of Orientation by a VFR Flight

Effects on the Pilot

1. If a pilot becomes unaware of their exact position, common outcomes are airspace infringement, loss of separation and controlled flight into terrain (CFIT).
2. In mountainous terrain, or in deteriorating weather conditions, the pilot may get into a situation where they do not have the aircraft performance or skills to avoid impact with terrain.
3. If, because of stress and/or loss of visual cues, the pilot becomes spatially disorientated, a condition which occurs when a pilot is unable to correctly interpret aircraft attitude, altitude or airspeed, then the outcome may be loss of control and CFIT.

What to expect

1. High level of stress in the cockpit – particularly for pilots who are less experienced with instrument flying techniques,
2. Non-standard phraseology – the pilot might revert to non-standard phraseology when explaining the current situation, last known location or even might be reluctant to admit that visual orientation is lost.
3. Random combination of maneuvers– the pilot might start maneuvering in order to gain visual contact with terrain regardless of unsafe proximity to terrain, to adjacent TMAs, danger areas and reserved airspace areas.

Suggested Controller's Actions

(Best practice, as embedded in the ASSIST principle, could be followed: (A- Acknowledge, S - Separate, S - Silence, I - Inform, S - Support, T - Time) The loss of orientation might not be immediately obvious. Clarify with the pilot the actual status, especially when there is a doubtful, vague or non-standard RTF used to inform the loss of orientation.)

1. Advise the aircraft to climb to the minimum safe altitude while maintaining the flight in VMC. Prevention of CFIT has a priority but the Controller shall avoid giving advice/clearances that will take the VFR flight into IMC for which the pilot may not be licensed. As a rule of thumb, ask the pilot if able to climb at the safe altitude and maintain the flight into VMC.
2. If it is reported that visual contact with terrain is lost and it cannot be re-established without descending and that there is a risk of collision with terrain, instruct the aircraft crew to climb as necessary, underline the need for urgent action (climb due low altitude/due terrain etc.).
3. Consult the minimum sector altitude chart and provide information to the pilot about the minimum safe altitudes. Exercise extra caution if the flight is conducted above mountainous terrain and there is a risk of severe turbulence,
4. Clear all other aircraft in the vicinity of the aircraft in the abnormal situation, providing space for maneuvers,
5. Instruct the pilot to squawk 7700,
6. Provide a separate frequency to the aircraft if the main operational frequency is busy,
7. Inform the pilot as necessary about the distance to the nearest suitable aerodrome(s) and landing conditions,
8. Provide time for the crew to decide on what course of action will be the safest, give time to assess all viable options such as fuel endurance, possibility to return back to the departure aerodrome or to deviate to the most suitable one,
9. Provide navigational assistance to the crew as necessary by informing of magnetic track and distance to the aerodrome or specific geographical location,

10. Assist the crew to identify a certain runway as necessary – provide runway magnetic orientation and/or coordinate increase of the runway lights intensity to help the visual acquisition,
11. In case visual acquisition of the runway is not achieved and it is apparent that the pilot will continue the approach in IFR and/or marginal VMC:
12. Inform the airport emergency services and all concerned parties according to local procedures,
    a. Ask if dangerous goods are on board,
    b. Ask for number of Persons on Board (POB),
    c. Clear RWY according to local instructions,
    d. Keep safety strip clear.

Volcanic Ash

Flight crews:

1. Expect aircraft to take the shortest way out of the cloud, usually by descent and possibly by making a descending 180 degree turn
2. Aircraft affected by engine malfunction may not be able to maintain height.

Controllers

1. Clear airspace around the aircraft
2. If appropriate, advise the crew of Minimum Safe Altitude
3. Warn other aircraft in the vicinity of the location of the ash cloud

9. VFR Traffic Operations (FAA JO7110.65 Chapter 7)

9.1 Class Bravo Airspace

9.1.1. Departures

Pilot: Seattle Clearance, N167JA, cessna 172, VFR, requesting departure to the north.
ATC: N167JA, Seattle Clearance, cleared into the Seattle class bravo airspace, departure to the north, maintain VFR 1,500 to 2,000, squawk 0302.
Pilot: Cleared into the Class Bravo, departure to the North, maintaining VFR 1,500 to 2,000, squawk 0302, N167JA.
ATC: N167JA, read back is correct, contact ground on 121.9 when ready to taxi.

9.1.2. VFR Arrivals/ Inbounds

9.1.2.1. Authorized (FAA 7110.65_ 7-9-2.)

Pilot: Miami Tower, N167JA, Cessna 172, would like to enter class bravo airspace for landing at Miami Intl airport, currently at 2500 and about 20 miles south of the airport.
ATC: N167JA, squawk 0301 and ident.
Pilot: Squawk 0301 and ident, N167JA.
ATC: N167JA, radar contact 9 miles south of the airport. Cleared into the Miami class bravo airspace, maintain VFR at 1000, cross the field northbound then join right downwind runway 26R and report midfield.
or
ATC: N167JA, cleared into the Miami class bravo airspace, maintain VFR at or below 1,000.
ATC: N167JA, cleared into the Miami class bravo airspace, fly heading 180 and maintain 1,000.
ATC: N167JA, cleared into the Miami class bravo airspace, maintain VFR southbound at or above 1,000, expect runway 8L.

9.1.2.2. Not Authorized (FAA 7110.65_ 7-9-2.)

Pilot: Miami Tower, N167JA, Cessna 172, would like to enter class bravo airspace for landing at Miami Intl airport, currently at 2,500 and about 20 miles south of the airport.
ATC: N167JA, squawk 0301 and ident.
Pilot: Squawk 0301 and ident, N167JA
ATC: N167JA, remain clear of the Bravo until further advised.
ATC: N167JA, remain east of the New York class bravo airspace until further advised.

9.1.3 Local traffic pattern (FAA 7110.65_ 3-10-11./7-9-2.)

Pilot: Miami Clearance, N167JA, cessna 172, with information Hotel, parked at Landmark, for local traffic pattern.

ATC: N167JA, cleared into the Miami class bravo, pattern altitude is 1,000, squawk 0302. Contact Ground on 121.9 when ready to taxi.
Pilot: Miami Ground, N167JA, cessna 172, with information Hotel, parked at Landmark, ready to taxi for local traffic pattern.
ATC: N167JA, runway 8L taxi via KILO, KILO ONE, Miami altimeter 2998, Contact Tower 118.3 when holding short.
Pilot: Miami Tower, N167JA, Holding short runway 8L at KILO ONE with information Hotel, local traffic pattern.
ATC: N167JA, Miami Tower, left closed traffic approved, report midfield downwind with intentions, winds 075 at 11, runway 8L cleared for takeoff.

9.1.4. Transition flights

Pilot: Miami Tower, N167JA, Cessna 172, would like to transition class bravo airspace to the north, currently at 2,500 and about 20 miles south of the airport.
ATC: N167JA, Miami Tower, squawk 0301 and ident.
Pilot: Squawk 0301 and ident, N167JA
ATC: N167JA, radar contact 2,500 - 18 miles south of the field. Cleared through the Miami class bravo airspace, maintain VFR at or below 500 along the beach.
Pilot: Cleared through Miami Class bravo VFR at or below 500 along the beach, N167JA.

9.2 Class Charlie Airspace (FAA 7110.65_ Chapter 7-8)

9.2.1 Departures

Pilot: Seattle Ground, N167JA, cessna 172, VFR, requesting departure to the north.
ATC: N167JA, Seattle Ground, approved as requested, maintain VFR northbound at or below 1,500, squawk 0302.

9.2.2 Inbound

Pilot: Ft Lauderdale Tower, N167JA, Cessna 172 at 2,500, 15 miles north for landing at Ft Lauderdale Intl airport.
ATC: N167JA, squawk 0301 and ident.
Pilot: Squawk 0301 and ident, N167JA.
ATC: Radar contact, 15 miles north of the airport, join left base 10L.

9.2.3 Local traffic pattern (FAA 7110.65_ 3-10-11.)

Pilot: Islip Ground, N167JA, cessna 172, with information Hotel, parked at Sheltair, ready to taxi for local traffic pattern.
ATC: N167JA, Islip Ground, runway 33L taxi via SIERRA, BRAVO FOUR, Squawk 0302, Islip altimeter 2998, Contact Tower 119.3 when holding short.
Pilot: Islip Tower, N167JA, Holding short runway 33L at BRAVO FOUR with information Hotel, local traffic

pattern.

ATC: N167JA, Miami Tower, right closed traffic approved, report midfield downwind runway 33R with intentions, winds 310 at 11, runway 33L cleared for takeoff.

9.2.4 Transition

Pilot: Islip Tower, N167JA, Cessna 172, would like to transition to the north, currently at 2,500 and about 10 miles south of the airport.

ATC: N167JA, squawk 0301 and ident.

Pilot: 0301 and ident, 7JA.

ATC: N167JA, radar contact, 10 miles south of the airport, maintain VFR and transition at 1,500, traffic at 2 o'clock is a cessna on final runway 23, doing pattern work, maintain visual separation.

Pilot: Maintaining visual separation from the cessna, transitioning VFR at 1,500. 7JA.

9.3 Class Delta Airspace

9.3.1 Outbound

Pilot: Seattle Ground, N167JA, cessna 172, VFR, requesting departure to the north.

ATC: N167JA, maintain VFR northbound at or below 1,500, runway 13L taxi via A and B, local altimeter 2998.

9.3.2 Inbound

Pilot: Pompano Tower, N167JA, Cessna 172 at 2,500, 15 miles north for landing at Pompano airport.

ATC: N167JA, join left base runway 15, local altimeter 2991.

9.3.4 Local traffic pattern.

Pilot: Islip Ground, N167JA, cessna 172, with information Hotel, ready to taxi for local traffic pattern.

ATC: N167JA, expect left turn pattern at 1,000, advise when ready to taxi.

9.3.5 Transition

Pilot: Boca Raton Tower, N167JA, Cessna 172, would like to transition to the north, currently at 2,500 and about 10 miles south of the airport.

ATC: N167JA, approved as requested, maintain VFR at 1,500, traffic at 2 o'clock is a cessna on final runway 23, doing pattern work, maintain visual separation. Squawk 0301, Local altimeter 2995.

Pilot: Traffic insight, maintaining VFR at 1,500, altimeter 2995. 7JA.

9.4 General VFR Pattern Work (all airspaces) (FAA 7110.65_ Chapter 7/AIM 4-3)

9.4.1 Pattern Entry

ATC: N167JA, enter left downwind runway 23.

ATC: N167JA, make straight in runway 31.

9.4.2 Position Reports

ATC: N167JA, report five miles north of the airport.
ATC: N167JA, enter left downwind runway 16, report midfield.
ATC: N167JA, report two mile final runway 10.
ATC: N167JA, report midfield downwind with intentions.

9.4.3 Landing Sequence Advisory

ATC: N167JA, you are number 2 behind the Cessna 172 on short final for runway 23.
Pilot: Number 2, N167JA.

9.4.4 Follow Instructions

ATC: N167JA, follow the twin Cessna at your twelve o'clock 3 miles.
Pilot: Roger, following the cessna, N167JA.

9.4.5 Traffic Point Outs

ATC: N167JA, enter and report left base for runway 35, number 2 for the airport, traffic is a Cessna on a quarter mile final runway 10.
Pilot: Joining and reporting left base runway 35, number 2 behind the cessna, N167JA.

9.4.6 Extending

ATC: N167JA, extend downwind 1 mile to give room for a departure.
ATC: N167JA, extend upwind to the lake.
ATC: N167JA, extend downwind, turn 8 mile final.

9.4.7 Short Approaches

ATC: N167JA, make short approach runway 17L.

9.4.8 Turns

ATC: N167JA, make a right three sixty.
ATC: N167JA, make a left two seventy to base.
ATC: N167JA, make S turns for spacing.
ATC: N167JA, square your base to final.

9.4.9 Go Arounds

ATC: N167JA, go around, fly heading 230, climb and maintain three thousand.

ATC: N167JA, go around, enter left base for runway 25.
Pilot: Going around, (readback). N167JA.

9.4.10 Touch and Go / low approach / stop and go / full stop

Pilot: On final runway 26. N167JA.
ATC: N167JA, wind 250 at 7, runway 26, cleared for touch and go.

9.4.11 The Option

Pilot: Left downwind runway 10, N167JA.
ATC: N167JA, runway 17, cleared for the option.

10. General

10.1. Hand off (transfer of Control) (FAA 7110.65_ 5-4-1./8-2-1.)

ATC: American 506, contact New York Approach on 124.7
Pilot: New York Approach on 124.7, American 506.

10.2 Coordination (FAA 7110.65_ 3-1-2./4-3-8.)

Tower: Approach, Tower, Emergency, American Five Ninety on missed approach, Bird Strike, Left Engine shut down, will remain my frequency. HN
Approach: Roger, WD

Tower: Approach, Tower, Runway change 22R closed aircraft with blown tire, runway 31R now for landing. HN
Approach: Roger, 2 more aircraft for 31R, WD

Tower: Approach, Tower, Runway change 22R now active for landing, 22L for departure.
Approach: Roger, 2 more aircraft for 31R, WD

Tower: Departure, Tower, request release American Five Ninety taxiing to runway 31L. HN
Departure: American Five Ninety, released. WD