ATC PHRASEOLOGY

Quick Reference

Departure Clearance

"Frasca 141, cleared to Mesquite airport, via turn left heading 090, radar vectors to Mesquite airport. Climb and maintain 2,000. Expect 3,000 10 minutes after departure. Departure frequency 124.3, squawk 5270."

Departure Clearance with a Hold

"Frasca 141, cleared to Mesquite radio beacon, via turn left heading 090, radar vectors to Mesquite radio beacon. Climb and maintain 2,000. Expect 3,000 10 minutes after departure. Hold north, as published. Expect further clearance at 1234 zulu. Departure frequency 124.3, squawk 5270."

Departure from an Uncontrolled Field

"Frasca 141, cleared to Mesquite airport, via when entering controlled airspace, fly heading 090, radar vectors to Mesquite airport. Climb and maintain 2,000. Expect 3,000 10 minutes after departure. Departure frequency 124.3, squawk 5270. Frasca 141 released for departure at 1530 zulu, if not off by 1545 zulu, advise Ft. Worth Radio not later than 1600 zulu of intentions. Time 1513 and one quarter."

Takeoff Clearance

"Frasca 141, " (If initial vector not assigned: "turn left heading 090" or "fly runway heading") "runway 15, cleared for takeoff."

At about 0.5 miles past runway end: "Frasca 141, change to departure".

Vectors

"Frasca 141, fly heading ___. (reason)"
"Frasca 141, turn left/right heading ___. (reason)"
"Frasca 141, turn ___ degrees left/right. (reason)"

When you start vectoring, give a reason for the vectors–one of:
"Vector to TRISS intersection." or "Vector to V369."
"Vector to intercept Bonham VOR 195 radial."
"Vector for spacing."
"Vector to ILS 15 final approach course."

When you stop vectoring:
"Frasca 141, (state current position). Resume own navigation."
or "Frasca 141, fly heading 245. When able, proceed direct Maverick VOR."

Speed Restrictions

"Frasca 141, maintain 100 knots." or "Frasca 141, increase speed to 100"
"Frasca 141, maintain 100 knots or greater."
"Frasca 141, maintain maximum forward speed."
"Frasca 141, resume normal speed."

Holding Instructions

"Cleared to TRISS intersection. Hold west, as published. Maintain 2,500. Expect further clearance 1820."

"Cleared to FINGR intersection. Hold south on 011 course, 1 minute leg, left turns. Maintain 2,500. Expect further clearance 1820."

Arrival and Vectors to Final

"Addison runway 15 in use, wind 180 at 15 gusting 20, altimeter 2992, ceiling 800 overcast, visibility 1 mile mist."

If/when you start vectoring to final, you *must* say "vectors to final approach course".

Important: Normally, vector to 3 miles outside of FAF at a ≤30° intercept, below the glide slope, and at or above intermediate segment altitude.

Important: If vectoring across the final approach course, say "Expect vectors across the localizer for spacing."

Approach Clearance

For pilot nav.: "Frasca 141, maintain 2,500 until established. Cleared ILS runway 15 approach. Report final approach fix inbound."

If vectored: "Frasca 141, 3.5 miles from BRONS, turn left heading 180, maintain 2,200 until established. Cleared ILS runway 15 approach."

Near FAF (usually after), say "Frasca 141, contact tower 126.0." or "Change to advisory frequency approved."

Landing Clearance

"Frasca 141, runway 15, cleared to land."

Various Alerts

"Frasca 141, low altitude alert, check your altitude immediately." "The MEA/MVA/MOCA/MIA in your area is 2500." or "The MDA/DH is 893."

Traffic Advisory: "Frasca 141, traffic, 10 o'clock, 2 miles, south-bound, DC-10, 4,500."

Traffic Conflict: "Frasca 141, traffic alert, 10 o'clock. Advise you turn left/right (heading), and/or climb/descend (specific altitude if appropriate) immediately."

Off approach course after 1 mile from FAF: "Frasca 141, 2 miles from the airport, 2 miles right of course, say intentions."

The following pages are excepts from
FAA Order 7110.65N, *Air Traffic Control*

IFR Clearance Items

a. Aircraft identification.

b. Clearance limit.

CLEARED TO (airport/fix) VIA...

c. Instrument departure procedure (DP).

1. Specify direction of takeoff/turn or initial heading/azimuth to be flown after takeoff.

FLY RUNWAY HEADING.

DEPART (direction or runway).

TURN LEFT/RIGHT.

WHEN ENTERING CONTROLLED AIRSPACE (instruction), FLY HEADING (degrees) UNTIL REACHING (altitude, point, or fix) BEFORE PROCEEDING ON COURSE.

FLY A (degree) BEARING/AZIMUTH FROM/TO (fix) UNTIL (time),
- or -
UNTIL REACHING (fix or altitude),

and if required,
BEFORE PROCEEDING ON COURSE.

(DP name and number) DEPARTURE.

(DP name and number) DEPARTURE, (transition name) TRANSITION.

EXAMPLE-
"Stroudsburg One Departure."
"Stroudsburg One Departure, Sparta Transition."
"Stroudsburg One RNAV Departure."

(b) If it is necessary to assign a crossing altitude which differs from the DP altitude, repeat the changed altitude to the pilot for emphasis.

PHRASEOLOGY-
(DP name) DEPARTURE, EXCEPT (revised altitude information). I SAY AGAIN (revised altitude information).

EXAMPLE-
"Stroudsburg One Departure, except cross Quaker at five thousand. I say again, cross Quaker at five thousand."

"Astoria Two RNAV Departure, except cross Astor waypoint at six thousand. I say again, cross Astor waypoint at six thousand."

(c) Specify altitudes when they are not included in the DP.

PHRASEOLOGY-
(DP name) DEPARTURE. CROSS (fix) AT (altitude).

EXAMPLE-
"Stroudsburg One Departure. Cross Jersey intersection at four thousand. Cross Range intersection at six thousand."

"Engle Two RNAV departure. Cross Pilim waypoint at or above five thousand. Cross Engle waypoint at or above seven thousand. Cross Gorge waypoint at niner thousand."

d. Route of flight including PDR/PDAR/PAR when applied.

1. Airway, route, course, heading, azimuth, arc, or vector.

2. The routing a pilot can expect if any part of the route beyond a short range clearance limit differs from that filed.

PHRASEOLOGY-
EXPECT FURTHER CLEARANCE VIA (airways, routes, or fixes.)

e. Altitude data in the order flown.

Assign an altitude, as near as possible to the altitude requested by the pilot, and

(a) Inform the pilot when to expect clearance to the requested altitude unless instructions are contained in the specified DP, or

(b) If the requested altitude is not expected to be available, inform the pilot what altitude can be expected and when/where to expect it.

PHRASEOLOGY-

CLIMB AND MAINTAIN (the altitude as near as possible to the pilot's requested altitude). EXPECT (the requested altitude or an altitude different from the requested altitude) AT (time or fix),

and if applicable,

(pilot's requested altitude) IS NOT AVAILABLE.

EXAMPLE-
"Climb and maintain flight level two three zero. Expect flight level three five zero at Appleton zero five zero radial three five mile fix."
"Climb and maintain five thousand. Expect niner thousand one zero minutes after departure."
"Climb and maintain one three thousand. Expect one five thousand at San Jose. One seven thousand is not available."

h. Holding instructions.

i. Any special information.

j. Frequency and beacon code information.

PHRASEOLOGY-
DEPARTURE FREQUENCY (frequency), SQUAWK (code).

Assign departure restrictions, clearance void times, hold for release, or release times when necessary to separate departures from other traffic or to restrict or regulate the departure flow.

a. Clearance Void Times.

PHRASEOLOGY-
CLEARANCE VOID IF NOT OFF BY (clearance void time), IF NOT OFF BY (clearance void time), ADVISE (facility) NOT LATER THAN (time) OF INTENTIONS. TIME (time in hours, minutes, and the nearest quarter minute).

b. Hold For Release (HFR).

PHRASEOLOGY-
HOLD FOR RELEASE, EXPECT (time in hours and/or minutes) DEPARTURE DELAY.

3. When conditions allow, release the aircraft as soon as possible.

PHRASEOLOGY-
(aircraft identification) RELEASED FOR DEPARTURE.

c. Release Times.

PHRASEOLOGY-
(Aircraft identification) RELEASED FOR DEPARTURE AT (time in hours and/or minutes), IF NOT OFF BY (time), ADVISE (facility) NOT LATER THAN (time) OF INTENTIONS. TIME (time in hours, minutes, and nearest quarter minute).

John's impossible IFR route clearance:
"Tango Cessna fife fower tree alpha foxtrot heavy, cleared to SUNOL, via when entering controlled airspace, fly heading 185 until reaching tree thousand fife hundred before proceeding via Stroudsburg one departure, Sparta transition, except cross Quaker at fife thousand. I say again, cross Quaker at fife thousand. Then via two zero mile arc southwest of Phillipsburg VORTAC, north american route sixty-seven bravo, three four zero bearing from Randolph radio beacon, J five thirty-three, substitute blue eighty-one from Reno to Tahoe, then direct SUNOL. Expect further clearance via victor seven ten. Climb and maintain one fower thousand. expect one fife thousand at Appleton zero five zero radial three fife mile fix. One seven thousand is not available. Hold east of SUNOL on the Tonopah tree one zero radial, two minute leg, left turns. Departure frequency one one seven point tree, squawk one fife tree two. Tango Cessna fife fower tree alpha foxtrot heavy released for departure at one eight fower seven. If not off by one niner zero two, advise Northern California Approach not later than one niner one seven of intentions. Time one eight tree fife and one quarter."

Takeoff Clearance

Before departure, assign the initial heading to be flown if a departing aircraft is to be vectored immediately after takeoff (if both already assigned).

PHRASEOLOGY-
FLY RUNWAY HEADING.
TURN LEFT/RIGHT, HEADING (degrees).

Takeoff clearance

PHRASEOLOGY-
RUNWAY (number), CLEARED FOR TAKEOFF.

EXAMPLE-
"RUNWAY TWO SEVEN, CLEARED FOR TAKEOFF."

After takeoff, when the aircraft is about 1/2 mile beyond the runway end, instruct aircraft to contact departure control, provided further communication with you is not required.

PHRASEOLOGY-
CHANGE TO DEPARTURE.

Vectors

a. Vector aircraft by specifying:

1. Direction of turn, if appropriate, and magnetic heading to be flown, or

PHRASEOLOGY-
TURN LEFT/RIGHT HEADING (degrees).

FLY HEADING (degrees).

FLY PRESENT HEADING.

DEPART (fix) HEADING (degrees).

2. The number of degrees, in group form, to turn and the direction of turn, or

PHRASEOLOGY-
TURN (number of degrees) DEGREES LEFT/RIGHT.

3. For NO-GYRO procedures, the type of vector, direction of turn, and when to stop turn.

PHRASEOLOGY-
THIS WILL BE A NO-GYRO VECTOR,

TURN LEFT/RIGHT.

STOP TURN.

b. When initiating a vector, advise the pilot of the purpose.

PHRASEOLOGY-

VECTOR TO (fix or airway).

VECTOR TO INTERCEPT (name of NAVAID) (specified) RADIAL.

VECTOR FOR SPACING.

VECTOR TO FINAL APPROACH COURSE.

or if the pilot does not have knowledge of the type of approach,

VECTOR TO (approach name) FINAL APPROACH COURSE.

c. Issue with the vector an altitude to maintain and all appropriate altitude restrictions when:

1. The vector will take the aircraft off an assigned procedure which contains altitude instructions, i.e., instrument approach, nonradar DP, FMSP, etc.

2. The previously issued clearance included crossing restrictions.

d. If appropriate, advise the pilot what to expect when the vector is completed.

PHRASEOLOGY-
EXPECT TO RESUME (Route, DP, STAR, FMSP, etc.).

NOTE-
You must ensure that the pilot is made aware if he/she is expected to resume a previously issued route procedure.

e. Provide radar navigational guidance until the aircraft is:

1. Established within the airspace to be protected for the nonradar route to be flown, or

2. On a heading that will, within a reasonable distance, intercept the nonradar route to be flown, and

3. Informed of its position unless the aircraft is RNAV, FMS, or DME equipped and being vectored toward a VORTAC/TACAN or waypoint and within the service volume of the NAVAID.

PHRASEOLOGY-
(Position with respect to course/fix along route), RESUME OWN NAVIGATION,

- or -
FLY HEADING (degrees). WHEN ABLE, PROCEED DIRECT (name of fix),
- or -
RESUME (name/number FMSP/DP/transition/STAR/procedure).

f. Aircraft instructed to resume a procedure which contains restrictions (DP/STAR/FMSP, etc.) shall be issued/reissued all applicable restrictions or shall be advised to comply with those restrictions.

PHRASEOLOGY-
RESUME (name/number FMSP/DP/transition/STAR), COMPLY WITH RESTRICTIONS.

EXAMPLE-
"Resume the Mudde One Arrival, comply with restrictions."
"Cleared direct Luxor, resume the Ksino One arrival, comply with restrictions."

g. Aircraft vectored off an RNAV route shall be recleared to the next waypoint or as requested by the pilot.

h. During stage A operation, update the route of flight in the computer unless an operational advantage is gained and coordination is accomplished.

i. Inform the pilot when a vector will take the aircraft across a previously assigned nonradar route.

PHRASEOLOGY-
EXPECT VECTOR ACROSS (NAVAID radial)(airway/route/course) FOR (purpose).

Speed Restrictions

PHRASEOLOGY-
SAY AIRSPEED.

SAY MACH NUMBER.

MAINTAIN PRESENT SPEED.

MAINTAIN (specific speed) KNOTS.

MAINTAIN (specific speed) KNOTS OR GREATER.

DO NOT EXCEED (speed) KNOTS.

MAINTAIN MAXIMUM FORWARD SPEED.

MAINTAIN SLOWEST PRACTICAL SPEED.

INCREASE/REDUCE SPEED TO (specified speed in knots).

INCREASE/REDUCE SPEED TO MACH (Mach number).

INCREASE/REDUCE SPEED (number of knots) KNOTS.

EXAMPLE-
"Increase speed to Mach point seven two."
"Reduce speed to two five zero."
"Reduce speed twenty knots."
"Maintain two eight zero knots."
"Maintain maximum forward speed."

b. To obtain pilot concurrence for a speed adjustment at or above FL 390, use the following phraseology.

PHRASEOLOGY-
(Speed adjustment), IF UNABLE ADVISE.

EXAMPLE-
"Reduce speed to one niner zero, if unable advise."

d. Specify combined speed/altitude fix crossing restrictions.

PHRASEOLOGY-
CROSS (fix) AT AND MAINTAIN (altitude) AT (specified speed) KNOTS.

EXAMPLE-
"Cross Robinsville at and maintain six thousand at two three zero knots."

Advise aircraft when speed adjustment is no longer needed.

PHRASEOLOGY-
RESUME NORMAL SPEED.

Terrain/Obstruction Alert

PHRASEOLOGY-
(Identification) LOW ALTITUDE ALERT, CHECK YOUR ALTITUDE IMMEDIATELY.

THE (as appropriate) MEA/MVA/MOCA/MIA IN YOUR AREA IS (altitude),
- or -
THE (as appropriate) MDA/DH IS (altitude).

Aircraft Conflict

PHRASEOLOGY-
TRAFFIC ALERT (call sign) (position of aircraft) ADVISE YOU TURN LEFT/RIGHT (heading),
- and/or -
CLIMB/DESCEND (specific altitude if appropriate) IMMEDIATELY.

Traffic Advisories

PHRASEOLOGY-
TRAFFIC, (number) O'CLOCK, (direction) (number) MILES, (direction)-BOUND and/or (relative movement), (type of aircraft and altitude).

If altitude is unknown,
ALTITUDE UNKNOWN.

EXAMPLE-
"Traffic, eleven o'clock, one zero miles, southbound, converging, Boeing Seven Twenty Seven, one seven thousand."
"Traffic, twelve o'clock, one five miles, opposite direction, altitude unknown."
"Traffic, ten o'clock, one two miles, southeast bound, one thousand feet below you."

TRAFFIC NO FACTOR/NO LONGER OBSERVED.
- or -
(number) O'CLOCK TRAFFIC NO FACTOR/NO LONGER OBSERVED.

TRAFFIC, NUMEROUS AIRCRAFT VICINITY (location).

If altitude is unknown,
ALTITUDE UNKNOWN.

EXAMPLE-
"Traffic, one zero miles east of Forsythe V-O-R, Southbound, M-D Eighty, descending to one six thousand."
"Traffic, reported one zero miles west of Downey V-O-R, northbound, Apache, altitude unknown, estimated Joliet V-O-R one three one five."
"Traffic, eight minutes west of Chicago Heights V-O-R, westbound, Mooney, eight thousand, estimated Joliet V-O-R two zero three five."
"Traffic, numerous aircraft, vicinity of Delia airport."

c. For aircraft displaying Mode C, not radar identified, issue indicated altitude.

EXAMPLE-
"Traffic, one o'clock, six miles, eastbound, altitude indicates six thousand five hundred."

Holding Instructions

When issuing holding instructions, specify:

a. Direction of holding from the fix/waypoint.

b. Holding fix or waypoint.

c. Radial, course, bearing, track, azimuth, airway, or route on which the aircraft is to hold.

d. Leg length in miles if DME or RNAV is to be used. Specify leg length in minutes if the pilot requests it or you consider it necessary.

e. Direction of holding pattern turns only if left turns are to be made, the pilot requests it, or you consider it necessary.

PHRASEOLOGY-
HOLD (direction) OF (fix/waypoint) ON (specified radial, course, bearing, track, airway, azimuth(s), or route.)

If leg length is specified,

(number of minutes/miles) MINUTE/MILE LEG.

If direction of turn is specified,

LEFT/RIGHT TURNS.

Arrival Clearance

Clear an arriving aircraft to a clearance limit by specifying the following:

a. Name of fix or airport.

b. Route of flight including a STAR and STAR Transition, if appropriate. Assign a STAR and STAR Transition to any aircraft in lieu of other routes; e.g., airways or Preferential Arrival Routes when the routings are the same. The clearance shall include the name, the current number, and the transition, if necessary, of the STAR to be flown.

PHRASEOLOGY-
(STAR name and number) ARRIVAL.
(STAR name and number) ARRIVAL, (transition name) TRANSITION.

EXAMPLE-
"Rosewood One arrival."
"Rosewood One arrival, Delta transition."

c. Altitude instructions, as follows:

1. Assigned altitude; or

2. Instructions to vertically navigate on the STAR or STAR transition.

EXAMPLE-
"Bayview Three RNAV Arrival, Helen Transition, maintain Flight Level Three Three Zero."
"Descend via the Civit One Arrival."
"Cross JCT at Flight Level Two Four Zero."
"Descend via the Coast Two Arrival."
"Civit One Arrival, Descend and Maintain Flight Level Two Four Zero."

d. Issue holding instructions, EFC, and additional delay information as required.

e. Instructions regarding further communications as appropriate.

Arrival Instructions

Issue all of the following to an aircraft before it reaches the approach gate:

a. Position relative to a fix on the final approach course. If none is portrayed on the radar display or if none is prescribed in the procedure, issue position information relative to the navigation aid which provides final approach guidance or relative to the airport.

b. Vector to intercept the final approach course if required.

c. Approach clearance except when conducting a radar approach. Issue approach clearance only after the aircraft is:

1. Established on a segment of a published route or instrument approach procedure, or

2. Assigned an altitude to maintain until the aircraft is established on a segment of a published route or instrument approach procedure.

d. Instructions to do one of the following:

1. Monitor local control frequency, reporting to the tower when over the approach fix.

2. Contact the tower on local control frequency.

3. Contact the final controller on the appropriate frequency if radar service will be provided on final on a different frequency.

4. When radar is used to establish the final approach fix, inform the pilot that after being advised that he/she is over the fix he/she is to contact the tower on local control frequency.

EXAMPLE-
"Three miles from final approach fix. Turn left heading zero one zero. Maintain two thousand until established on the localizer. Cleared I-L-S runway three six approach. I will advise when over the fix."

"Over final approach fix. Contact tower one one eight point one."

e. Where a Terminal Arrival Area (TAA) has been established to support RNAV approaches, inform the aircraft of its position relative to the appropriate IAF and issue the approach clearance.

Final Approach Course Interception

a. Assign headings that will permit final approach course interception on a track that does not exceed the interception angles specified below:

Approach Course Interception Angle	
< 2 miles	20°
≥ 2 miles	30°

b. If deviations from the final approach course are observed after initial course

interception, apply the following:

1. Outside the approach gate: apply procedures in accordance with subpara a, if necessary, vector the aircraft for another approach.

2. Inside the approach gate: inform the pilot of the aircraft's position and ask intentions.

PHRASEOLOGY-
(Aircraft ident), (distance) MILE(S) FROM THE AIRPORT, (distance) MILE(S) RIGHT/LEFT OF COURSE, SAY INTENTIONS.

Approach Clearance

PHRASEOLOGY-
CLEARED (type) APPROACH.

(For a straight-in-approach- IFR),

CLEARED STRAIGHT-IN (type) APPROACH.

(To authorize a pilot to execute his/her choice of instrument approach),

CLEARED APPROACH.

(Where more than one procedure is published on a single chart and a specific procedure is to be flown),

CLEARED (specific procedure to be flown) APPROACH.

(To authorize a pilot to execute an ILS/MLS approach when the glide slope/glide path is out of service),

CLEARED (type) APPROACH, GLIDE SLOPE/GLIDE PATH UNUSABLE.

EXAMPLE-
"Cleared Approach."
"Cleared V-O-R Approach."
"Cleared V-O-R Runway Three Six Approach."
"Cleared F-M-S Approach."
"Cleared F-M-S Runway Three Six Approach."
"Cleared I-L-S Approach."
"Cleared Localizer Back Course Runway One Three Approach."
"Cleared R-NAV Runway Two Two Approach."
"Cleared GPS Runway Two Approach."
"Cleared BRANCH ONE R-NAV Arrival and R-NAV Runway One Three Approach."
"Cleared I-L-S Runway Three Six Approach, glide slope unusable."
"Cleared M-L-S Approach."
"Cleared M-L-S Runway Three Six Approach."
"Cleared M-L-S Runway Three Six Approach, glide path unusable."

6. Approach name items contained within parenthesis; e.g., RNAV (GPS) Rwy 04, are not included in approach clearance phraseology.

Circling Approach

PHRASEOLOGY-
CIRCLE TO RUNWAY (number),
- or -
CIRCLE (direction using eight cardinal compass points) OF THE AIRPORT/RUNWAY FOR A LEFT/RIGHT BASE/DOWNWIND TO RUNWAY (number).

Sidestep Maneuver

EXAMPLE-
"Cleared I-L-S Runway seven left approach. Sidestep to runway seven right."

Communications Release

If an IFR aircraft intends to land at an airport not served by a tower or FSS, approve a change to the advisory service frequency when you no longer require direct communications.

PHRASEOLOGY-
CHANGE TO ADVISORY FREQUENCY APPROVED.

Landing Information

Provide current landing information, as appropriate, to arriving aircraft. Landing information contained in the ATIS broadcast may be omitted if the pilot states the appropriate ATIS code. Runway, wind, and altimeter may be omitted if a pilot uses the phrase "have numbers." Issue landing information by including the following:

NOTE-
Pilot use of "have numbers" does not indicate receipt of the ATIS broadcast.

a. Specific traffic pattern information (may be omitted if the aircraft is to circle the airport to the left).

PHRASEOLOGY-
ENTER LEFT/RIGHT BASE.
MAKE STRAIGHT-IN.
STRAIGHT-IN APPROVED.
MAKE RIGHT TRAFFIC.
RIGHT TRAFFIC APPROVED. CONTINUE.

b. Runway in use.

c. Surface wind.

d. Altimeter setting.

e. Any supplementary information.

f. Clearance to land.

g. Requests for additional position reports. Use prominent geographical fixes which can be easily recognized from the air, preferably those depicted on sectional charts. This does not preclude the use of the legs of the traffic pattern as reporting points.

h. Ceiling and visibility if either is below basic VFR minima.

i. Low level wind shear advisories when available.

j. Issue braking action for the runway in use as received from pilots or the airport management when Braking Action Advisories are in effect.

Landing Clearance

a. Issue landing clearance. Restate the landing runway whenever more than one runway is active, or an instrument approach is being conducted to a closed runway.

PHRASEOLOGY-
RUNWAY (designator) CLEARED TO LAND.

b. Inform the closest aircraft that is cleared to land, touch-and-go, stop-and-go, or unrestricted low approaches when there is traffic holding on the same runway.

EXAMPLE-
"Delta One, runway one eight, cleared to land. Traffic holding in position."

General

Altitudes. Pronounce each digit in the number of hundreds or thousands followed by the word "hundred" or "thousand" as appropriate.

EXAMPLE-
10,000 "One zero thousand."
11,000 "One one thousand."
17,900 "One seven thousand niner hundred."

Flight levels. The words "flight level" followed by the separate digits of the flight level.

EXAMPLE-
180 "Flight level one eight zero."
275 "Flight level two seven five."

MDA/DH Altitudes. The separate digits of the MDA/DH altitude.

1,320 "Minimum descent altitude, one three two zero."
486 "Decision height, four eight six."

Time. The four separate digits of the hour and minute/s in terms of UTC.

EXAMPLE-
0715 "Zero seven one five."
1915 "One niner one five."

Time check. The word "time" followed by the four separate digits of the hour and minutes, and nearest quarter minute. Fractions of a quarter minute less than eight seconds are stated as the preceding quarter minute; fractions of a quarter minute of eight seconds or more are stated as succeeding quarter minute.

EXAMPLE-
1415:06 "Time, one four one five."
1415:10 "Time, one four one five and one-quarter."

Field elevation. The words "field elevation" followed by the separate digits of the elevation.

EXAMPLE-
817 feet "Field elevation, eight one seven."

Altimeter setting. The word "altimeter" followed by the separate digits of the altimeter setting.

EXAMPLE-
30.01 "Altimeter, three zero zero one."

Surface wind. The word "wind" followed by the separate digits of the indicated wind direction to the nearest 10-degree multiple, the word "at" and the separate digits of the indicated velocity in knots.

EXAMPLE-
"Wind zero three zero at two five."
"Wind two seven zero at one five gusts three five."

Heading. The word "heading" followed by the three separate digits of the number of degrees, omitting the word "degrees." Use heading 360 degrees to indicate a north heading.

EXAMPLE-
5 degrees "Heading zero zero five."
30 degrees "Heading zero three zero."
360 degrees "Heading three six zero."

Radar beacon (transponder) codes. The separate digits of the 4-digit code.

EXAMPLE-
1000 "One zero zero zero."
2100 "Two one zero zero."

Runways. The word "runway," followed by the separate digits of the runway designation. For a parallel runway, state the word "left," "right," or "center" if the letter "L," "R," or "C" is included in the designation.

EXAMPLE-
3 "Runway Three."
8L "Runway Eight Left."
27R "Runway Two Seven Right."

Frequencies.

1. The separate digits of the frequency, inserting the word "point" where the decimal point occurs.
(a) Omit digits after the second digit to the right of the decimal point.
(b) When the frequency is in the L/MF band, include the word "kiloHertz."

EXAMPLE-
126.55 MHz "One two six point five five."
121.5 MHz "One two one point five."
135.275 MHz "One three five point two seven."
302 kHz "Three zero two kiloHertz."

Speeds.

1. The separate digits of the speed followed by "knots" except as required by “Speed Restrictions”.

EXAMPLE-
250 "Two five zero knots."
190 "One niner zero knots."

2. The separate digits of the Mach number preceded by "Mach."

EXAMPLE-
1.5 "Mach one point five."
0.64 "Mach point six four."

Miles. The separate digits of the mileage followed by the word "mile."

EXAMPLE-
"Three zero mile arc east of Nottingham."
"Traffic, one o'clock, two five miles, northbound, D-C Eight, flight level two seven zero."

Airspace classes. Pronounced in the ICAO phonetics for clarification. The term "Class" may be dropped when referring to airspace in pilot/controller communications.

EXAMPLE-
"Cessna 123 Mike Romeo cleared to enter Bravo airspace."
"Sikorsky 123 Tango Sierra cleared to enter New York Bravo airspace."

Airways and Routes

a. VOR/VORTAC/TACAN airways or jet routes. State the word "Victor" or the letter "J" followed by the number of the airway or route in group form. For RNAV routes add the word "Romeo."

EXAMPLE-
"Victor Twelve."
"J Five Thirty-Three."
"Victor Seven Ten Romeo."
"J Eight Thirty Romeo."
"Offset One Zero miles right of J Eight Thirty Romeo."

b. VOR/VORTAC/TACAN alternate airways. State the word "Victor" followed by the number of the airway in group form and the alternate direction.

EXAMPLE-
"Victor Twelve South."

c. Colored/L/MF airways. State the color of the airway followed by the number in group form.

EXAMPLE-
"Blue Eighty-One."

d. Named Routes. State the words "North American Route" or "Bahama Route" followed by the number of the route in group form.

EXAMPLE-
"North American Route Sixty-Seven Bravo."
"Bahama Route Fifty-Five Victor."

e. Air Traffic Service (ATS) routes. State the letter(s) of the route phonetically, followed by the number of the route in group form.

EXAMPLE-
"Romeo Twenty."
"Alfa Fifty."
"Golf Sixty-one."
"Alfa Seven Hundred."

f. Military Training Routes (MTR's). State the letters "I-R" or "V-R" followed by the number of the route in group form.

EXAMPLE-
"I-R Five Thirty-one."
"V-R Fifty-two."

Route Use in Clearances

a. Designated airways and routes.

PHRASEOLOGY-
VIA:

VICTOR (color) (airway number)(the word Romeo when RNAV).
- or -
J (route number) (the word Romeo when RNAV).
- or -
SUBSTITUTE (airway or jet route) FROM (fix) to (fix).
- or -
IR (route number).

CROSS/JOIN VICTOR/(color) (airway number), (number of miles) MILES (direction) OF (fix).

b. Radials, courses, azimuths, or direct to or from NAVAID's.

PHRASEOLOGY-
DIRECT VIA:

(name of NAVAID) (specified) RADIAL/COURSE/AZIMUTH.
- or -
(fix) AND (fix).
- or -
RADIALS OF (airway or route) AND (airway or route).

c. DME arcs of VORTAC, MLS, or TACAN aids.

d. Radials, courses, azimuths, and headings of departure or arrival routes.

e. DP's/STAR's/FMSP's.

f. Vectors.

g. Fixes defined in terms of degree-distance from NAVAID's for special military operations.

h. Courses, azimuths, bearings, quadrants, or radials within a radius of a NAVAID.

PHRASEOLOGY-
CLEARED TO FLY (general direction from NAVAID) OF (NAVAID name and type) BETWEEN (specified) COURSES TO/BEARINGS FROM/RADIALS (NAVAID name when a NDB) WITHIN (number of miles) MILE RADIUS,
- or -
CLEARED TO FLY (specified) QUADRANT OF (NAVAID name and type) WITHIN (number of miles) MILE RADIUS.
- or -
CLEARED TO FLY (general direction from MLS) OF (name or MLS) BETWEEN (specified) AZIMUTHS WITHIN/BETWEEN (number of

miles) MILE RADIUS.

EXAMPLE-
1. "Cleared to fly east of Allentown VORTAC between the zero four five and the one three five radials within four zero mile radius."
2. "Cleared to fly east of Crystal Lake radio beacon between the two two five and the three one five courses to Crystal Lake within three zero mile radius."
3. "Cleared to fly northeast quadrant of Philipsburg VORTAC within four zero mile radius."
"Cleared to fly east of the Montgomery M-L-S runway two eight left between the two seven zero and the two four zero azimuth within a 5 mile radius."

i. Fixes/waypoints defined in terms of:

1. Published name; or

2. Degree-distance from NAVAID's; or

3. Latitude/longitude coordinates; or

4. Offset from published or established routes/airways at a specified distance and direction for random (impromptu) RNAV Routes.

PHRASEOLOGY-
DIRECT (fix/waypoint).

DIRECT TO THE (facility) (radial) (distance) FIX.

OFFSET(distance) RIGHT/LEFT OF (route).

EXAMPLE-
"Direct SUNOL."
"Direct to the Appleton three one zero radial two five mile fix."
"Offset eight miles right of Victor six."

NAVAID Terms

a. VOR/VORTAC/TACAN/MLS/GPS Waypoint. State the name of the NAVAID or GPS Waypoint followed by the separate digits of the radial/azimuth/bearing (omitting the word "degrees") and the word "radial/azimuth/bearing."

EXAMPLE-
"Appleton Zero Five Zero Radial."
"Lindburg Runway Two Seven M-L-S, Two Six Zero Azimuth."

b. Arcs about VOR-DME/VORTAC/TACAN/MLS NAVAID's. State the distance in miles from the NAVAID followed by the words "mile arc," the direction from the NAVAID in terms of the eight principal points of the compass, the word "of," and the name of the NAVAID.

EXAMPLE-
"Two Zero mile arc southwest of O'Hare Runway Two Seven Left M-L-S."

c. Quadrant within a radius of NAVAID. State direction from NAVAID in terms of the quadrant; e.g., NE, SE, SW, NW, followed by the distance in miles from the NAVAID.

EXAMPLE-
"Cleared to fly northeast quadrant of Phillipsburg VORTAC within Four Zero mile radius."

d. Nondirectional beacons. State the course to or the bearing from the radio beacon, omitting the word "degree," followed by the words "course to" or "bearing from," the name of the radio beacon, and the words "radio beacon."

EXAMPLE-
"Three Four Zero bearing from Randolph Radio Beacon."

e. MLS. State the azimuth to or azimuth from the MLS, omitting the word "degree" followed by the words "azimuth to" or "azimuth from," the name of the MLS, and the term MLS.

EXAMPLE-
"Two Six Zero azimuth to Lindbergh Runway Two Seven MLS."

NAVAID Fixes

a. When a fix is not named, state the name of the NAVAID followed by a specified radial/localizer/azimuth, and state the distance in miles followed by the phrase "mile fix."

EXAMPLE-
"Appleton Zero Five Zero radial Three Seven mile fix."
"Reno localizer back course Four mile fix."
"Hobby Runway One Two M-L-S Zero Niner Zero azimuth One Two mile fix."

b. When a fix is charted on a DP, STAR, en route chart, or approach plate, state the name of the fix.

c. Use specific terms to describe a fix. Do not use expressions such as "passing Victor Twelve" or "passing J Eleven."