

What Does *That* Mean?

A Practical IFR Lexicon

A Cranium Rectum Extractus Publication

Introduction

Effective communication between pilots and controllers is essential if the air traffic control system is to operate efficiently. In an effort to accommodate participants with varied experience levels and lingual backgrounds, the pilot-controller glossary has been developed. An examination of the glossary, which can be found near the end of the Aeronautical Information Manual in most commercially-available texts, will reveal it to be extensive, comprehensive, and overwhelmingly confusing to the new instrument pilot.

Air traffic controllers are trained exhaustively in the use of the terms found in the pilot-controller glossary, and they are required by regulation to adhere strictly to that format. The new instrument pilot's experience with the air traffic control system is typically limited to a few hours during the required IFR cross-country instructional flight. At the issuance of the instrument rating, these pilots are legally entitled and expected to immediately interface with an overloaded system that is ill-prepared to accommodate their inexperience.

This lexicon is written to provide the new instrument pilot with a working understanding of the portions of the pilot-controller glossary pertinent to basic IFR operations. The terms presented here are explained thoroughly, with examples, so that they are not only defined, but their deeper meanings may be understood. The ultimate goal, hopefully, will be instrument pilots who will immediately be able to operate effectively in the air traffic system while minimizing the burden of their inexperience.

“Advise when you have received the weather for . . .”

When you hear it:

Prior to beginning the approach segment of an IFR flight.

What it means:

The beginning of the approach segment of the flight is imminent, and the air traffic controller is providing you the opportunity to acquire the current surface conditions before the increased workload of approach execution renders acquisition of that information problematic.

What you are expected to do:

Listen to the appropriate ATIS, ASOS, or AWOS information on a *standby* radio while still monitoring the approach control frequency. (If a standby radio is unavailable, ask the air traffic controller for permission to switch frequencies. Then, after you have copied the weather information, switch back to the approach control frequency and inform the controller that you are back on that frequency.) Contact the controller and *confirm verbally* that you have received the information.

Example:

ATC: “Advise when you have the current weather at San Marcos.”

Your response: “Roger. I will advise.”

Your action: Acquire the ATIS, ASOS, or AWOS information (and copy it, if desired), while continuing to monitor the approach control frequency for ATC instructions issued to you during this process.

Your response: “Austin Approach, Cessna Zero One Sierra Echo has received the San Marcos weather.”

“Clearance on request”

When you hear it:

After contacting ATC on a clearance delivery frequency and asking for an IFR clearance.

What it means:

The controller who is providing the clearance delivery function has submitted your clearance request to the appropriate approach control facility, and is awaiting a response. IFR workload is heavy enough to cause delay in the clearance delivery process.

What you are expected to do:

Wait for the clearance delivery controller to contact you and provide you with your IFR clearance. Do not be confused about the nature of the “request.” This phrase does not mean that your clearance is available when you are ready to copy it.

Example:

Your initial contact: “Clearance delivery, November Zero One Sierra Echo, IFR to Denver.”

Clearance delivery: “November Zero One Sierra Echo, clearance on request.”

Your action: Stand by the clearance delivery frequency and wait for the controller to contact you

Clearance delivery (later): “November Zero One Sierra Echo, I have your clearance when you are ready to copy.”

“Cleared for the approach”

When you hear it:

At the end of the enroute segment of an IFR flight.

What it means:

This is a fundamental shift in control authority. When you hear this clearance, the air traffic controller is releasing you from ATC control and directing you to follow the approach procedure printed on your approach plate.

What you are expected to do:

Establish yourself on a published segment of the approach and fly the assigned approach procedure as published. Maintain the altitudes printed on the approach plate. Once you have acknowledged this clearance, do not ask the controller for a further descent clearance. That will serve only to increase the communications workload and demonstrate your ignorance of the nature of this clearance. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

ATC: “November Zero One Sierra Echo, cleared for the approach.”

Your response: “One Sierra Echo, cleared for the approach.”

Your action: Refer to the appropriate approach plate and observe the altitude and heading instructions on it to execute the approach properly.

“Cleared direct”

When you hear it:

During the enroute segment of an IFR flight, either at the completion of a radar vector or while established on a published airway.

What it means:

The controller has determined that no traffic conflict will result from expediting your flight by direct routing.

What you are expected to do:

Fly a straight-line route from your present position to the fix or navaid mentioned in the clearance. If you have been vectored off your original course or airway (for traffic, for instance), and you are then “cleared direct” to a fix, do not attempt to intercept that original route. The direct clearance has superseded your original clearance. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

You are established inbound on Victor 69 (Panel **A, Figure 1**).

ATC: “November Zero One Sierra Echo, fly heading three six zero for traffic.”

Your response: “Three six zero, One Sierras Echo.” (Panel **B, Figure 1**)

ATC: (Once the conflict is resolved) “November Zero One Sierra Echo, cleared direct to Industry.”

Your response: “One Sierra Echo, direct to Industry.”

Your action: Tune the Industry VOR, turn the OBS until the CDI centers and the ambiguity meter displays a TO indication, and fly a heading that maintains that course from your present position to the VOR (Panel **C, Figure 1**).

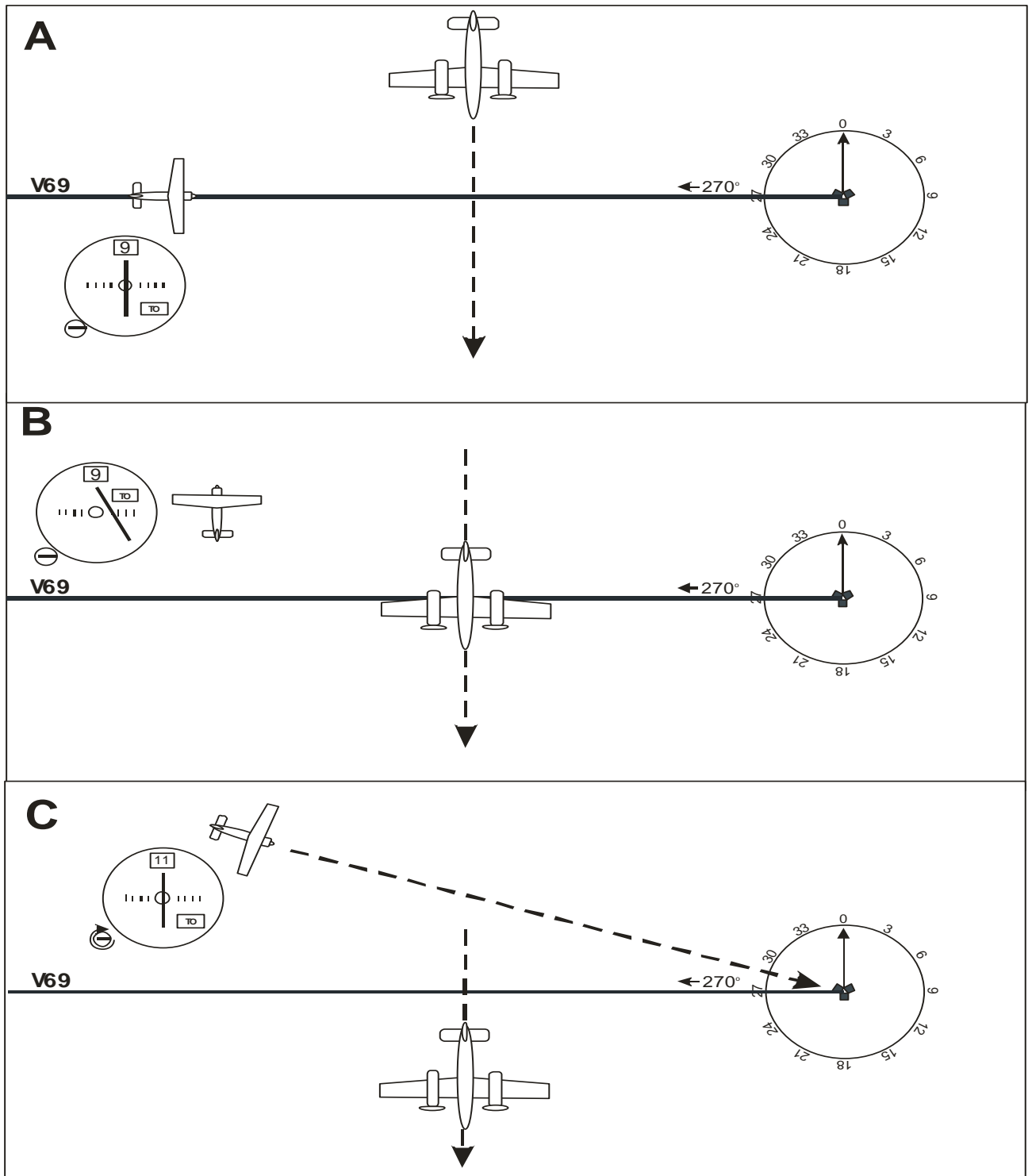


Figure 1

“Cleared for the option”

When you hear it:

During the final approach segment of an instrument approach to a tower-controlled field.

What it means:

Traffic is light enough to offer the pilot the choice of a landing, a touch-and-go, or a missed approach at the conclusion of the approach. This clearance is commonly issued during the execution of a practice instrument approach.

What you are expected to do:

Complete the approach, terminating it in your choice of a landing, a go-around, or a missed approach procedure. No further clarification should be required from the tower controller.

Example:

Tower: “November Zero One Sierra Echo, cleared for the option.”

Your response: “One Sierra Echo, cleared for the option.”

Your action: Upon getting the field in sight, choose one of these options, and execute it.

“Cleared for the Visual Approach”

When you hear it:

At the end of the enroute segment of an IFR flight, and when Visual Meteorological Conditions (VMC) exist at the destination airport.

What it means:

Although you are in VMC, your IFR flight plan remains active and must be cancelled either by yourself or the destination tower controller.

What you are expected to do:

Proceed visually to the destination airport and land. Once you have acknowledged this clearance, do not ask the controller for a further descent clearance. That will serve only to increase the communications workload and demonstrate your ignorance of the nature of this clearance. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

ATC: “November Zero One Sierra Echo, cleared for the visual approach to West Houston.”

Your response: “One Sierra Echo, cleared for the visual.”

Your action: Proceed to West Houston Airport, keeping the airport in sight, descending as necessary, and execute a landing.

“Direct when able”

When you hear it:

During the enroute segment of an IFR flight, either at the completion of a radar vector or while established on a published airway.

What it means:

The controller is attempting to expedite your routing, but does not expect you to be able to receive reliable navigation information at this time.

What you are expected to do:

Fly your last vector or assigned routing until you are receiving reliable navigation signals that will enable you to navigate to the fix mentioned in the clearance, then proceed direct to that fix using those navigation signals. You are expected to follow this procedure to the clearance limit without requesting further permission from the controller. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

ATC: “November Zero One Sierra Echo, fly heading zero-three-zero, direct Lufkin when able”

Your response: “One Sierra Echo, zero-three-zero, direct Lufkin when able.”

Your action: Fly the assigned heading (Lower aircraft, **Figure 2**). Tune the Lufkin VOR. When the Lufkin VOR is unflagged and displays reliable navigation information, turn the OBS until the CDI centers and the ambiguity meter displays a TO indication, and fly a heading that maintains that course from your present position to the VOR (Upper aircraft, **Figure 2**).

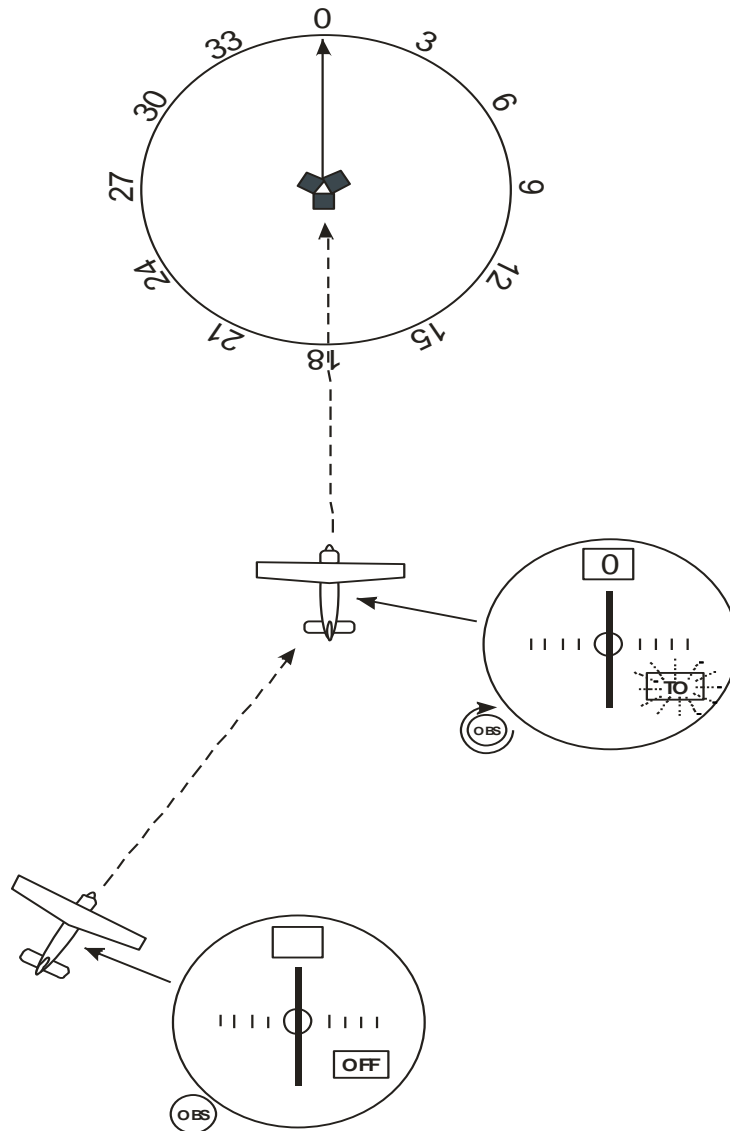


Figure 2

“Enter controlled airspace heading.....”

When you hear it:

Before takeoff, after receiving a departure release from Clearance Delivery, usually at an airport without an operating control tower.

What it means:

ATC philosophy assumes that every IFR flight will succumb to radio communication failure. This ATC clearance serves to begin your flight into the IFR environment on a heading that will minimize your impact on the IFR system if this happens. “Controlled airspace” is the previous name for the airspace now known as Class E. Since Class E Airspace rules guarantee separation of IFR traffic from VFR traffic, this

clearance will place you in this protected airspace on a heading that will route you away from high-density IFR traffic (such as Class B or Class C airspace), or away from an inbound instrument approach course.

What you are expected to do:

Read back the departure clearance, switch to “advisory frequency” (CTAF), take off, and fly your departure in such a way that you will be flying on the assigned heading when you climb into Class E Airspace.

Example:

Clearance Delivery: “November Zero One Sierra Echo is cleared to Corpus Christi as filed, climb and maintain three thousand, expect six thousand ten minutes after departure, departure frequency will be one one niner point seven, squawk four two four four.”

Your response: “Cleared to Corpus Christi as filed, climb and maintain three thousand, expect six thousand ten minutes after departure, departure frequency will be one one niner point seven, squawk four two four four.”

Clearance Delivery: “November Zero One Sierra Echo, readback correct. Hold for release, report number one, ready for departure.”

Your response (after completion of Before Takeoff checklist): “Clearance Delivery, November Zero One Sierra Echo is number one, ready for departure at Runway one three at Beaumont.”

Clearance Delivery: “November Zero One Sierra Echo, you are released, enter controlled airspace heading two seven zero, contact departure when clear of the traffic pattern, change to advisory frequency approved.”

Your response: “Enter controlled airspace heading two seven zero, contact departure when clear of the traffic pattern, change to advisory frequency approved.”

Your action: Change to CTAF, announce your departure (optional), depart from the assigned runway, turn to the assigned heading at the soonest practical opportunity, enter Class E Airspace on that heading, and contact Departure Control (See **Figure 3** below {depicted in Sectional Chart format}).

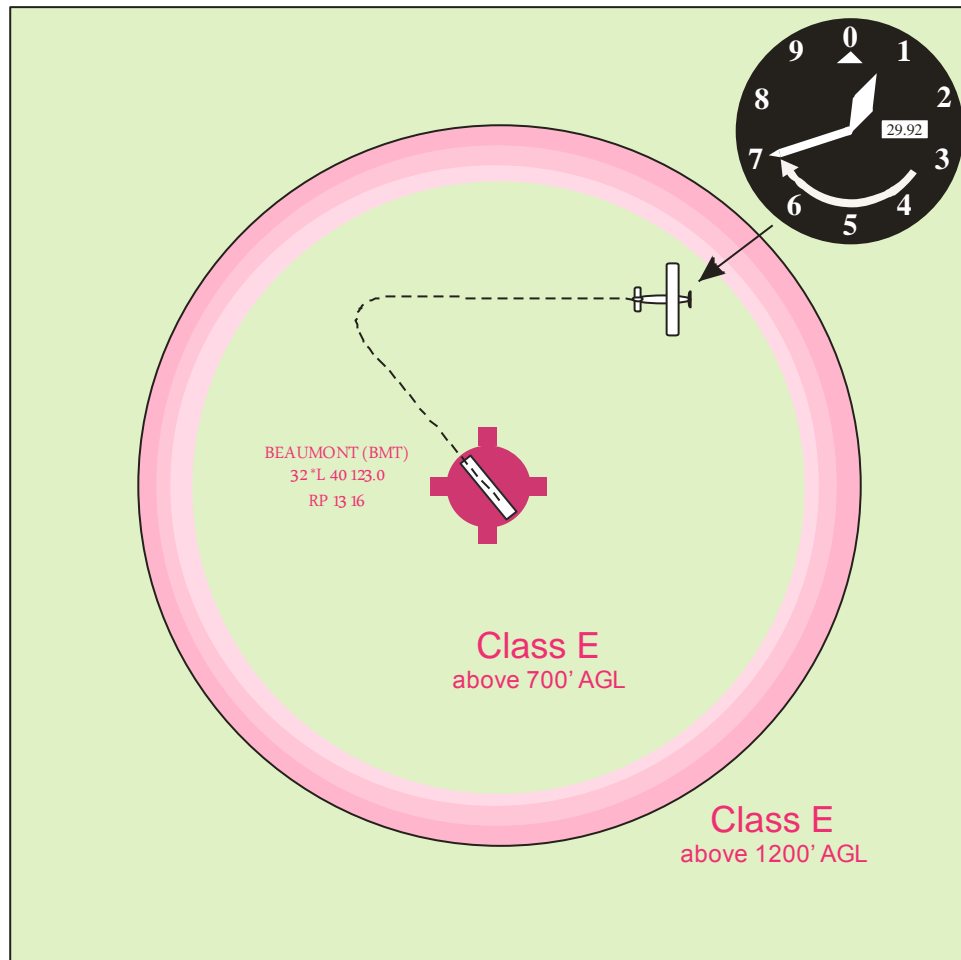


Figure 3

“Expedite descent (or climb)”

When you hear it:

During the departure, enroute, or approach segment of an IFR flight, either before receiving, or after receiving a clearance to climb or descend.

What it means:

The controller anticipates a traffic conflict if you maintain a normal IFR climb or descent rate.

What you are expected to do:

If the instruction is to expedite climb, you are expected to increase your climb rate to the maximum that is within the capabilities of your airplane. If the instruction is to expedite descent, you are expected to increase your rate of descent to the maximum safe rate. If you follow this instruction promptly and efficiently, you may avoid a costly, time consuming, and irritating radar vector for spacing off your desired course. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

ATC: “November Zero One Sierra Echo, expedite descent through five thousand.”

Your response: “One Sierra Echo, expedite through five thousand.”

Your action: Increase your rate of descent to the maximum safe rate. Upon reaching five thousand feet, resume the normal mandated IFR descent rate.

“Fly heading . . . to intercept”

When you hear it:

During the departure, enroute, or approach segment of an IFR flight.

What it means:

The controller is preparing to transfer control of your flight from verbal instruction to a published procedure.

What you are expected to do:

Fly the assigned heading contained in the vector. Upon intercepting the radial, bearing, localizer or procedure mentioned in the instruction, abandon the original heading and follow that procedure without further instructions from the controller. Do not ask for permission to make this change. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

ATC: “November Zero One Sierra Echo, fly heading zero-niner-zero to intercept the one-two right localizer.” (Left aircraft, **Figure 3**)

Your response: “One Sierra Echo, zero-niner-zero, intercept the one-two localizer.”

Your action: Fly a heading of 090. As the CDI centers, adjust your heading to track the localizer course (Right aircraft, **Figure 3**).

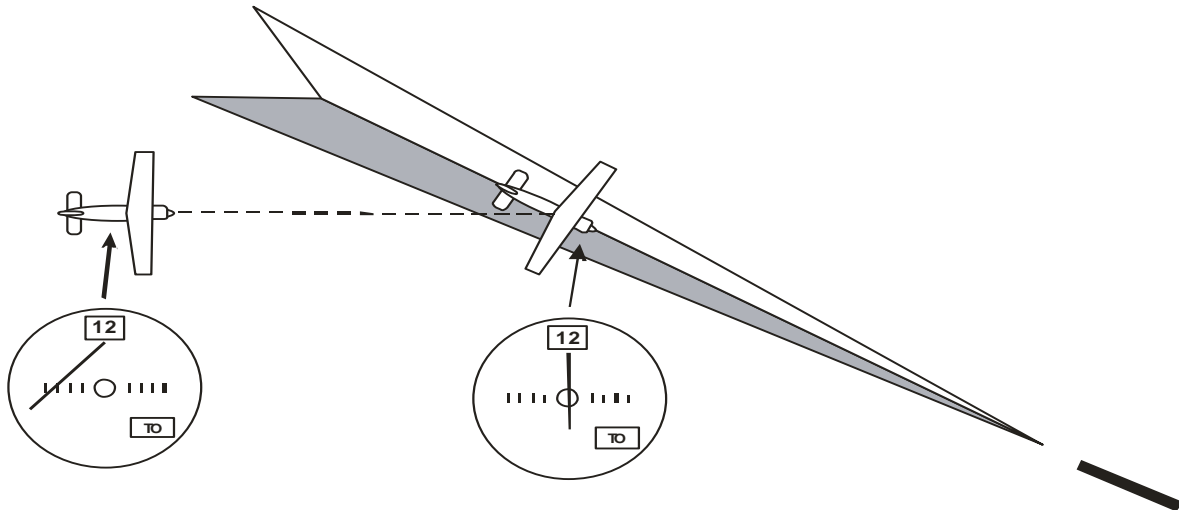


Figure 4

“Hold for release”

When you hear it:

After having received an IFR clearance from a controller on a clearance delivery frequency at an airport without an operating control tower.

What it means:

Your clearance has been issued to you, but a space has not necessarily been made for you in the air traffic control system. This phrase indicates that your IFR clearance is NOT to be executed until you receive specific permission to do so.

What you are expected to do:

Advise the controller working the clearance delivery frequency when you are number one for takeoff. Remain on the taxiway side of the hold line until the clearance delivery controller specifically releases you to execute your IFR clearance.

Example:

Clearance delivery: “November Zero One Sierra Echo, hold for release, advise when you are number one for takeoff.”

Your response: “November Zero One Sierra Echo, hold for release.”

Your action: Move your aircraft to the hold line, inform the clearance delivery controller when you are at the hold line and in a position to take the runway for takeoff, and wait for the controller to release you to execute your IFR clearance.

“Ident”

When you hear it:

During the departure, enroute, or approach segment of an IFR flight, especially at first radar contact or at reestablishment of contact following a period of lost radar contact.

What it means:

The controller handling your flight expects you to be in radar contact and needs to identify your radar return immediately. Engaging the IDENT function of your transponder causes a portion of your radar return to flash temporarily on the controller’s display, distinguishing your return from all others on that display. The ability to identify your position immediately enables the controller to issue any traffic alerts necessary for traffic separation. This feature may also allow the controller to expedite your flight by directing you on course sooner. You may hear this IDENT instruction when first entering the radar environment, when reestablishing radar contact after a period of lost radar contact, when reentering the radar environment after a missed approach, or after a simple handoff during periods of high traffic volume.

What you are expected to do:

Push the IDENT button when you are instructed to do so, and only when instructed to do so. Engaging the IDENT function unnecessarily may result in multiple flashing returns on the controller’s display, defeating the usefulness of feature.

Example:

ATC: “November Zero One Sierra Echo, ident.”

Your response: “One Sierra Echo, ident.”

Your action: Press the IDENT button once and wait for confirmation of contact.

ATC (later): “November Zero One Sierra Echo, radar contact, turn left heading zero niner zero, climb and maintain five thousand, when able direct Daisetta.” (In this case, an expedited routing was the goal of the IDENT instruction).

“Maintain 3000 until established on the approach”

When you hear it:

At the end of the enroute segment of an IFR flight.

What it means:

The controller is assigning you a safe intermediate altitude that will transition you to the initial approach altitude.

What it means:

Fly the altitude contained in the clearance, descending if appropriate, until you are established on a segment of the approach, then fly the altitude contained in the terminal procedure. Do not ask the controller if you can begin your descent. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

ATC: “November Zero One Sierra Echo, maintain 3000 until established on the approach, cleared for the ILS one-four at Conroe.”

Your response: “One Sierra Echo, 3000 until established, cleared for the ILS at Conroe.”

Your action: Descend to, or maintain, 3000 feet (depending on your original enroute altitude). Once you are established on a segment of the approach, descend to the initial approach altitude, as depicted on your approach plate, and execute the approach procedure.

“Pilot’s discretion”

When you hear it:

During the departure, enroute, or approach segment of an IFR flight, especially referring to a change in altitude.

What it means:

The controller anticipates no traffic conflict when assigning you a climb or, more commonly, a descent.

What you are expected to do:

You are expected to execute the altitude change indicated in the clearance, but you may climb or descend at any reasonable rate you wish. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

ATC: "November Zero One Sierra Echo, descend and maintain 3000, pilot's discretion."

Your response: "One Sierra Echo, pilot's discretion down to 3000."

Your action: Execute a descent to 3000 feet, maintaining a descent rate that will maximize passenger and crew comfort.

"Radar service terminated"

When you hear it:

At the beginning of the final approach segment.

What it means:

The controller has no further verbal input in the approach process. You are now on your own resources to execute the published approach to the missed approach point. This instruction, issued alone, is not a cancellation of IFR, nor is it an instruction to change transponder codes.

What you are expected to do:

Execute the published approach procedure. Switch communication frequencies as instructed. Remain on your assigned transponder code (If the approach is terminated in a missed approach, you will need that squawk).

Example:

ATC: "November Zero One Sierra Echo, radar service terminated, contact Easterwood tower, 118.50."

Your response: "Contact Easterwood tower, One Sierra Echo."

Your action: Contact the tower, adhering to any instructions or clearances issued by the tower controller. Execute the terminal approach procedure, proceed to the missed approach point.

"Resume own navigation"

When you hear it:

During the enroute segment of an IFR flight, especially after a flying a vector for traffic or weather.

What it means:

The controller has vectored you to resolve a routing problem. That problem no longer exists, and responsibility for navigation is being returned to you.

What you are expected to do:

Assume responsibility for your own navigation to execute your IFR clearance. If you cannot comply, inform the controller at this time, and you will receive additional radar vectors. As always, if you are unsure that you have copied the original clearance correctly, you should ask for the clearance to be repeated for confirmation.

Example:

ATC: "November Zero One Sierra Echo, resume own navigation."

Your response: "One Sierra Echo, own navigation."

Your action: Stop flying your last vector. Utilize the radio navigation equipment in your aircraft to proceed to your clearance limit as cleared. This may involve flying a heading that will allow interception of an airway or radial mentioned in your original or preceding clearance.

"Say altitude (leaving)"

When you hear it:

During the departure, enroute, or approach segment of an IFR flight, at first radar contact, at reestablishment of contact following a period of lost radar contact, or upon establishing communications with an ATC entity following a handoff.

What it means:

The controller is requesting verbal confirmation of your altitude (or the altitude you are leaving) so that it can be compared to your Mode C readout on the radar display. This allows the controller to determine the accuracy of your Mode C transponder and the ATC radar equipment, as required.

What you are expected to do:

Respond with your indicated altitude.

Example:

ATC: “November Zero One Sierra Echo, say altitude.”

Your response: “One Sierra Echo, level at three thousand.”

ATC: “November Zero One Sierra Echo, radar contact, Beaumont altimeter three zero one two.”

Your action: Reset your altimeter to the barometric pressure provided by the controller, and fly your assigned altitude.

Note: You can streamline the ATC process by providing the controller your altitude when you are handed off to a new ATC entity. You have to say *something* when you check on the new frequency, and this eliminates two transmissions (a distinct advantage when operating in an especially busy IFR environment).

Example:

ATC (Houston Center): “November Zero One Sierra Echo, contact Beaumont Approach on one two one point three.”

Your response: “Contact Beaumont Approach, one two one point three.”

Your action: Set your transceiver to frequency 121.3

Your transmission: “Beaumont Approach, November Zero One Sierra Echo, level at three thousand.”

ATC (Beaumont Approach): “November Zero One Sierra Echo, Beaumont altimeter two niner niner niner.”

“Upon leaving 2000, cleared direct.....”

When you hear it:

Normally during the departure segment of an IFR flight after initial contact with Departure Control.

What it means:

ATC is keeping you in unoccupied airspace until your altitude is sufficient for radar contact, after which positive IFR separation can be provided while you are navigating on your own.

What you are expected to do:

Fly the last assigned heading until you reach the altitude specified by ATC, then comply with the further clearance.

Example:

ATC (Houston Center): “November Zero One Sierra Echo, fly heading two eight zero. Upon leaving two thousand, cleared direct Navasota.”

Your response: “Two eight zero until two thousand, then direct Navasota.”

Your action: Fly a heading of 280 until reaching and altitude of 2000 feet, then navigate directly to the Navasota VOR.

Afterword

This lexicon is deliberately limited in scope to provide the new instrument pilot with the communication tools to operate competently in situations encountered in the normal, everyday IFR environment. It is not intended to address the more obscure and unusual IFR scenarios.

If, after completing this lexicon, you feel that additional terms would be valuable (given the above scope limitation), please e-mail me at gary@westwingsinc.com with suggestions and comments.