

Pilot ~ Controller (mis?) Communications

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Aeronautical Information Manual AIM

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Federal Aviation Administration Aeronautical Information

Manual Official Guide to
Basic Flight Information and ATC
Procedures

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- Informational in Nature
- Not regulatory

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Chapter 4. Air Traffic Control

Section 2. Radio Communications Phraseology and Techniques

4-2-1. General

a. Radio communications are a critical link in the ATC system. The link can be a strong bond between pilot and controller or it can be broken with surprising speed and disastrous results. Discussion herein provides basic procedures for new pilots and also highlights safe operating concepts for all pilots.

b. The single, most important thought in pilot-controller communications is understanding. It is essential, therefore, that pilots acknowledge each radio communication with ATC by using the appropriate aircraft call sign. Brevity is important, and contacts should be kept as brief as possible, but controllers must know what you want to do before they can properly carry out their control duties. And you, the pilot, must know exactly what the controller wants you to do. Since concise phraseology may not always be adequate, use whatever words are necessary to get your message across. Pilots are to maintain vigilance in monitoring air traffic control radio communications frequencies for potential traffic conflicts with their aircraft especially when operating on an active runway and/or when conducting a final approach to landing.

The single, most important thought in pilot-controller communications is understanding.



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4-2-1. General

c. All pilots will find the Pilot/Controller Glossary very helpful in learning what certain words or phrases mean. Good phraseology enhances safety and is the mark of a professional pilot. ***Jargon, chatter, and "CB" slang have no place in ATC communications.*** The Pilot/Controller Glossary is the same glossary used in FAA Order JO 7110.65, Air Traffic Control. We recommend that it be studied and reviewed from time to time to sharpen your communication skills.

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4-2-2. Radio Technique

a. Listen before you transmit. Many times you can get the information you want through ATIS or by monitoring the frequency. Except for a few situations where some frequency overlap occurs, if you hear someone else talking, the keying of your transmitter will be futile and you will probably jam their receivers causing them to repeat their call. If you have just changed frequencies, pause, listen, and make sure the frequency is clear.

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Section 2. Radio Communications Phraseology and Techniques

b. Think before keying your transmitter. Know what you want to say and if it is lengthy; e.g., a flight plan or IFR position report, jot it down.

c. The microphone should be very close to your lips and after pressing the mike button, a slight **pause** may be necessary to be sure the first word is transmitted. Speak in a normal, conversational tone.

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4-2-3. Contact Procedures

a. Initial Contact.

1. The terms *initial contact* or *initial callup* means the first radio call you make to a given facility or the first call to a different controller or FSS specialist within a facility. Use the following format:

(a) Name of the facility being called;

(b) Your *full* aircraft identification as filed in the flight plan or as discussed in paragraph 4-2-4, Aircraft Call Signs;

(c) When operating on an airport surface, state your position.

(d) The type of message to follow or your request if it is short; and

(e) The word "Over" if required.

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Section 2. Radio Communications Phraseology and Techniques

4-2-4. Aircraft Call Signs

a. Precautions in the Use of Call Signs.

1. Improper use of call signs can result in pilots executing a clearance intended for another aircraft. Call signs should *never be abbreviated on an initial contact or at any time when other aircraft call signs have similar numbers/sounds or identical letters/number*; e.g., Cessna 6132F, Cessna 1622F, Baron 123F, Cherokee 7732F, etc.

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Section 2. Radio Communications Phraseology and Techniques

4-2-4. Aircraft Call Signs

a. Precautions in the Use of Call Signs.

EXAMPLE-

Assume that a controller issues an approach clearance to an aircraft at the bottom of a holding stack and an aircraft with a similar call sign (at the top of the stack) acknowledges the clearance with the last two or three numbers of the aircraft's call sign. If the aircraft at the bottom of the stack did not hear the clearance and intervene, flight safety would be affected, and there would be no reason for either the controller or pilot to suspect that anything is wrong. This kind of "human factors" error can strike swiftly and is extremely difficult to rectify.

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Section 2. Radio Communications Phraseology and Techniques

4-2-4. Aircraft Call Signs

a. Precautions in the Use of Call Signs.

2. Pilots, therefore, must be certain that aircraft identification is complete and clearly identified before taking action on an ATC clearance. ATC specialists will not abbreviate call signs of air carrier or other civil aircraft having authorized call signs. ATC specialists may initiate abbreviated call signs of other aircraft by using the *prefix and the last three digits/letters* of the aircraft identification after communications are established. The pilot may use the abbreviated call sign in subsequent contacts with the ATC specialist. When aware of similar/identical call signs, ATC specialists will take action to minimize errors by emphasizing certain numbers/letters, by repeating the entire call sign, by repeating the prefix, or by asking pilots to use a different call sign temporarily. Pilots should use the phrase "VERIFY CLEARANCE FOR (your complete call sign)" if doubt exists concerning proper identity.

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Chapter 4. Air Traffic Control

Section 4. ATC Clearances and Aircraft Separation

4-4-7 Pilot Responsibility Upon Clearance Issuance

b. ATC Clearance/Instruction Readback. Pilots of airborne aircraft should read back *those parts* of ATC clearances and instructions containing altitude assignments or vectors as a means of mutual verification. The read-back of the "numbers" serves as a double check between pilots and controllers and reduces the kinds of communications errors that occur when a number is either "misheard" or is incorrect.

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Section 4. ATC Clearances and Aircraft Separation

4-4-7 Pilot Responsibility Upon Clearance Issuance

B) 1. Include the aircraft identification in all read-backs and acknowledgments. This aids controllers in determining that the correct aircraft received the clearance or instruction. The requirement to include aircraft identification in all read-backs and acknowledgements becomes more important as frequency congestion increases and when aircraft with similar call signs are on the same frequency.

EXAMPLE-

"Climbing to Flight Level three three zero, United Twelve" or "November Five Charlie Tango, roger, cleared to land."

2. Read back altitudes, altitude restrictions, and vectors in the same sequence as they are given in the clearance or instruction.

3. Altitudes contained in charted procedures, such as DPs, instrument approaches, etc., should not be read back unless they are specifically stated by the controller.

c. It is the responsibility of the pilot to accept or refuse the clearance issued.

Hear-Back / Read-Back Errors

- ASH7236 was issued FL250, readback FL240

Hear-Back / Read-Back Errors

- NWA843 issued “Amended” clearance to FL320. Aircraft was in level flight at FL360.

Hear-Back / Read-Back Errors

- SWA 1227 read back 17,000' instead of the issued descent clearance of 15,000' with a request to expedite thru 17,000'.

Hear-Back / Read-Back Errors

- AAL360 issued amended clearance to maintain FL290. AAL360 never read it back.
- AAL360 issued traffic at FL300, and to expect “higher” when “clear”.
- AWI4075 issued traffic (AAL360)