

FEDERAL AVIATION ADMINISTRATION AIR TRAFFIC BASICS | Lesson 29: Basic Communications

ALL LESSONS FRAME: 1

Basic Communications

NEXT



ATC human factors research has shown that improper communication or lack of communications is the leading cause of operational errors and aircraft accidents.

LEARN MORE

The use of standard phraseology and specific meanings for commonly used words and phrases has minimized the misunderstandings that occur in ATC communications.

The controller must have a good knowledge of basic phraseology to communicate with pilots and other facilities. Confusion and/or misunderstandings could lead to serious situations.

QUESTION: What would happen if all of the above communications were given without following prescribed procedures and phraseology?



Purpose

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This lesson will help you understand the need for good communications. Basic phraseology, communication priorities, ATC communications, and coordination procedures will be discussed, as well as the steps of the position relief briefing.



Objectives

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In this lesson, you will identify:

1. Radio and interphone communications
2. ICAO phonetics
3. Numbers usage
4. Basic phraseology
5. Coordination procedures
6. The purpose and steps of the position relief briefing

You will meet the objectives in accordance with the following references:

- FAA Order JO 7110.65, Air Traffic Control
- Aeronautical Information Manual



AIR TRAFFIC BASICS | Lesson 29: Basic Communications

ALL LESSONS FRAME: 4

Radio and Interphone Communications

BACK NEXT

Typical Air/Ground Panel

LEARN MORE

Radio Frequency Use

Radio frequencies are used only for the specific purpose intended.

- A frequency may be used for more than one function, except:
 - Do not use Ground Control frequency for airborne communication.
- A minimum number of frequencies are used to conduct communications.

Reference: JO 7110.65, Chap. 2



Radio and Interphone Communications

BACK

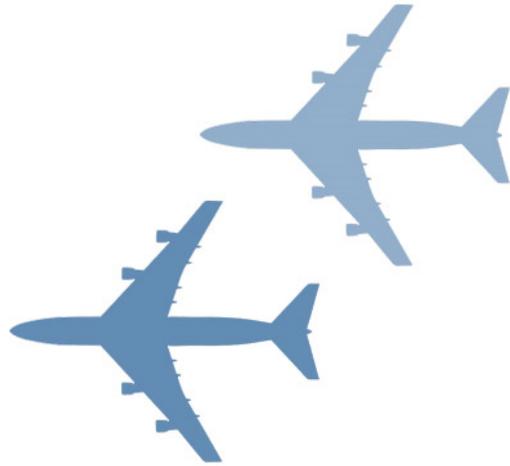
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Monitoring

Interphones and assigned radio frequencies are to be monitored continuously.

- Speaker volumes are kept at a level to enable the controller to hear all transmissions.

JO 7110.65, Chap. 2





Radio and Interphone Communications

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Authorized Transmissions

Authorized transmissions are only those messages necessary for:

- Air traffic control or otherwise contributing to air safety
 - Relay operational information to aircraft or aircraft operators as necessary when time and workload permit.
 - Do not agree to handle such messages on a regular basis.
 - Give the source of any such message you relay.
- Official FAA messages as required

JO 7110.65, Chap. 2





Radio and Interphone Communications

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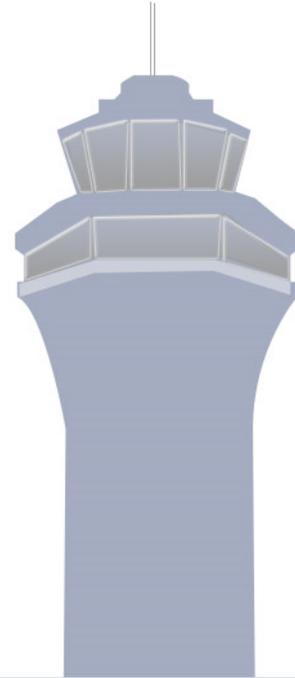
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Authorized Interruptions

As necessary, authorize a pilot to interrupt their communications guard when:

- Requested
- A mutually agreeable time off frequency is established

JO 7110.65, Chap. 2





Standardization

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NEXT

ICAO Phonetics

International Civil Aviation Organization (ICAO) phonetics are used for the pronunciation of numbers and letters.

- Clarifies individual letters
- Prevents misunderstanding

JO 7110.65, Chap. 2





Standardization

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Character	Word	Pronunciation
0	Zero	ZE-RO
1	One	WUN
2	Two	TOO
3	Three	TREE
4	Four	FOW-ER
5	Five	FIFE
6	Six	SIX
7	Seven	SEV-EN
8	Eight	AIT
9	Nine	NIN-ER

Numbers

Pronunciation of numbers may vary with each individual speaker.

- To eliminate these variations and promote standardization, pronunciation tables have been established.

Pronounce numbers as shown in the table above.

JO 7110.65, Chap. 2



Standardization

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Character	Word	Pronunciation	Character	Word	Pronunciation
A	Alpha	AL -FAH	N	November	NO- VEM -BER
B	Bravo	BRAH -VOH	O	Oscar	OSS -CAH
C	Charlie	CHAR -LEE	P	Papa	PAH -PAH
D	Delta	DELL -TAH	Q	Quebec	KEH- BECK
E	Echo	ECK -OH	R	Romeo	ROW -ME-OH
F	Foxtrot	FOKS -TROT	S	Sierra	SEE- AIR -AH
G	Golf	GOLF	T	Tango	TANG -GO
H	Hotel	HOH- TELL	U	Uniform	YOU -NEE-FORM
I	India	IN -DEE-AH	V	Victor	VIK -TAH
J	Juliet	JEW -LEE ETT	W	Whiskey	WISS -KEY
K	Kilo	KEY -LOH	X	X-ray	ECK -SRAY
L	Lima	LEE -MAH	Y	Yankee	YAN -GKEY
M	Mike	MIKE	Z	Zulu	ZOO -LOO

Alphabet

When it is necessary to state individual letters in radiotelephony, use the ICAO pronunciation of the alphabet listed above to prevent confusion.

NOTE: For clarity of communications, the syllables in bold print are to be emphasized when pronounced.

JO 7110.65, Chap. 2



Standardization

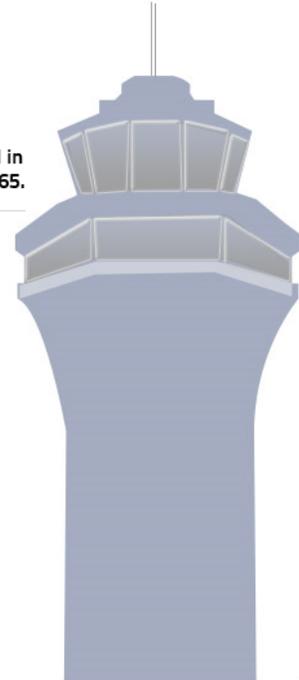
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Words and Phrases

Words and phrases frequently used in pilot/controller communications are printed in ***bold italics*** in the Pilot/Controller Glossary found in the back of FAA Order JO 7110.65.

7110.65, Pilot/Controller Glossary





Standardization

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- **Shall or Must** – A procedure is mandatory.
- **Should** – A procedure is recommended.
- **May or Need Not** – A procedure is optional.
- **Will** – Futurity, not a requirement for the application of a procedure.

Word Meanings

When using FAA Order JO 7110.65 for reference, the words listed above will have the following meanings:

JO 7110.65, Chap. 1



Standardization

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Annotations

When using FAA Order JO 7110.65, the annotations listed below will have the following meanings:

PHRASEOLOGY - denotes the prescribed words and/or phrases to be used in communications

- If needed, after using the prescribed phraseology, a message may be rephrased for better understanding.

EXAMPLE - provides a sample of the way the prescribed phraseology associated with the preceding paragraph(s) will be used.

- If no specific phraseology is shown, the example merely denotes suggested words and/or phrases that may be used, but is not mandatory.
- However, words and/or phrases used are expected, to the extent practical, to approximate those used in the example.
- Always use good judgment when using nonstandard phraseology.

JO 7110.65, Chap. 1





Number Usage

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Number	Stated
11,495	"ONE ONE FOUR NINER FIVE"
20,069	"TWO ZERO ZERO SIX NINER"

Serial Numbers

When communicating a number, state each digit separately and omit any commas.

JO 7110.65, Chap. 2



Number Usage

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Altitudes

Follow each digit in the hundreds or thousands by the word "HUNDRED" or "THOUSAND."

Number	Stated
10,000	"ONE ZERO THOUSAND"
11,000	"ONE ONE THOUSAND"
17,900	"ONE SEVEN THOUSAND NINER HUNDRED"

Number	Stated
10,000	"TEN THOUSAND"
11,000	"ELEVEN THOUSAND"
17,900	"SEVENTEEN THOUSAND NINER HUNDRED"

Altitudes may be restated in group form for clarity.

JO 7110.65, Chap. 2



Number Usage

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Number	Stated
FL180	"FLIGHT LEVEL ONE EIGHT ZERO"
FL275	"FLIGHT LEVEL TWO SEVEN FIVE"

Flight Levels

When stating flight levels, speak the words "FLIGHT LEVEL " followed by the separate digits.

JO 7110.65, Chap. 2



Number Usage

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MDA/DA Altitude	Stated
1,320	"MINIMUM DESCENT ALTITUDE, ONE THREE TWO ZERO"
486	"DECISION ALTITUDE, FOUR, EIGHT, SIX"

Minimum Descent Altitude (MDA)/Decision Altitude (DA)

State the separate digits of the Minimum Descent Altitude (MDA)/Decision Altitude (DA) altitude.

JO 7110.65, Chap. 2



Number Usage

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Time (12 hr.)	Time (24 hr.)	Stated
1:15 a.m.	0115	"ZERO ONE ONE FIVE"
1:15 p.m.	1315	"ONE THREE ONE FIVE"

Time	Stated
2230 (UTC)	"TWO TWO THREE ZERO ZULU"
2:30 p.m.	"ONE FOUR THREE ZERO LOCAL/PACIFIC" or "TWO THIRTY P.M."

Time

The 24-hour clock is used in ATC and is expressed in terms of Coordinated Universal Time (UTC).

- To clarify between UTC and local time:
 - UTC - The word "ZULU" may be spoken after stating the time.
 - Local - When using local time, the word "LOCAL," or the time zone equivalent, shall be spoken after stating the time.

When stating time, use the four separate digits of the hour and minutes based on the 24-hour clock.

- When the hour is a single digit, precede the time with a zero.
- Local time may be stated using "A.M." or "P.M."

JO 7110.65, Chap. 2



Number Usage

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Field Elevation Definition

Field elevation is the highest point of an airport's usable runways measured in feet from Mean Sea Level (MSL).

Also known as airport elevation

JO 7110.65, Pilot/Controller Glossary





Number Usage

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Elevation	Stated
17 feet	"FIELD ELEVATION, ONE SEVEN"
817 feet	"FIELD ELEVATION, EIGHT ONE SEVEN"
2,817 feet	"FIELD ELEVATION, TWO EIGHT ONE SEVEN"

Field Elevation

When stating field elevation, speak the words "FIELD ELEVATION" followed by the separate digits of the elevation.

JO 7110.65, Chap. 2



Number Usage

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Setting	Stated
29.92	"ALTIMETER, TWO NINER NINER TWO"
30.01	"ALTIMETER, THREE ZERO ZERO ONE"

Altimeter Setting

State the word "ALTIMETER" followed by the separate digits of the altimeter setting.

- The word "POINT" is omitted.

JO 7110.65, Chap. 2



Number Usage

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Encoded as	Stated
03025	"WIND ZERO THREE ZERO AT TWO FIVE"
27015G35	"WIND TWO SEVEN ZERO AT ONE FIVE GUSTS THREE FIVE"

Surface Wind

Wind direction is based on 360 degrees and given to the nearest 10 degrees.

State the word "WIND" followed by the separate digits of the indicated wind direction, the word "AT" and the separate digits of the indicated velocity in knots.

- Include gusts when necessary.

JO 7110.65, Chap. 2, AIM Chap. 7



Number Usage

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Heading	Stated
5 degrees	"HEADING ZERO ZERO FIVE"
30 degrees	"HEADING ZERO THREE ZERO"
360/000 degrees	"HEADING THREE SIX ZERO"

Headings

Headings are based on 360 degrees and are stated by saying the word "HEADING," followed by the three separate digits of the number of degrees.

- Omit the word "degrees."
- When the heading is a double digit, precede with "ZERO."
- When the heading is a single digit, precede with "ZERO ZERO."
- Use heading 360 degrees to indicate a north heading.

JO 7110.65, Chap. 2



Number Usage

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Code	Stated
1000	"SQUAWK ONE ZERO ZERO ZERO"
2100	"SQUAWK TWO ONE ZERO ZERO"
0452	"SQUAWK ZERO FOUR FIVE TWO"
3617	"SQUAWK THREE SIX ONE SEVEN"

Radar Beacon Code

Assign codes by stating the separate digits of the 4-digit code, preceded by the word "SQUAWK."

JO 7110.65, Chap. 2

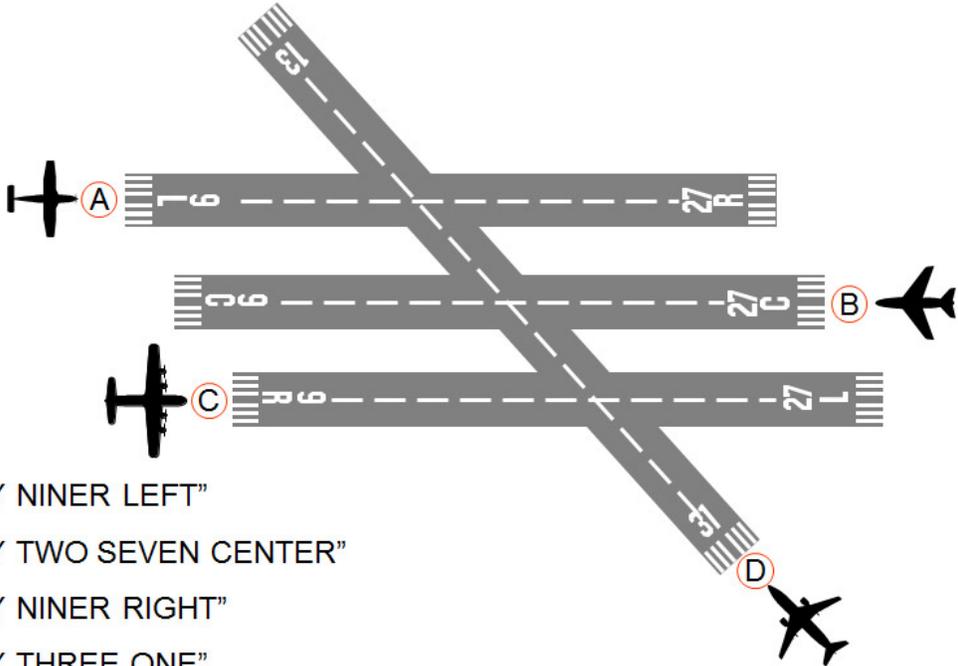
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ALL LESSONS FRAME: 25

Number Usage

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Runways



A. "RUNWAY NINER LEFT"
B. "RUNWAY TWO SEVEN CENTER"
C. "RUNWAY NINER RIGHT"
D. "RUNWAY THREE ONE"

LEARN MORE

State the word "RUNWAY" followed by the separate digits of the runway.

- For a parallel runway, state the word "LEFT," "RIGHT," or "CENTER" if the letter "L," "R," or "C" is included in the runway designation.

Reference: JO 7110.65, Chap. 2



Number Usage

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Frequency	Stated
126.55	"ONE TWO SIX POINT FIVE FIVE"
243.0	"TWO FOUR THREE POINT ZERO"
135.275	"ONE THREE FIVE POINT TWO SEVEN"
302 kHz	"THREE ZERO TWO KILOHERTZ"

Frequency	Stated
275.8 MHz	"LOCAL CHANNEL ONE TWO"

Frequency	Stated
88	"TACAN CHANNEL EIGHT EIGHT"

Frequencies

Identify frequencies by inserting the word "POINT" where the decimal point occurs.

- Omit the third digit to the right of the decimal point.
 - e.g., For 118.675, omit the "5"
- When the frequency is in the L/MF band, include the word "kilohertz."

United States Air Force/United States Navy (USAF/USN) aircraft may use local channel numbers in lieu of frequencies for locally-based aircraft when the local aircraft and ATC use the same channel.

Issue TACAN frequencies by stating the assigned two- or three-digit channel number.

JO 7110.65, Chap. 2



Number Usage

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Speed	Stated
250	"TWO FIVE ZERO KNOTS"
190	"ONE NINER ZERO KNOTS"

Mach Number	Stated
1.5	"MACH ONE POINT FIVE"
0.64	"MACH POINT SIX FOUR"
0.7	"MACH POINT SEVEN"

Speed

State the separate digits of the speed followed by the word "KNOTS."

- Exception: When issuing a speed restriction when present speed is known: "INCREASE/REDUCE SPEED TO (specified speed in knots)."

When using Mach numbers, use the word "MACH" followed by the separate digits of the Mach number.

- Insert the word "POINT" where the decimal appears.

When speed adjustment is no longer needed, advise the pilot:

Phraseology

"RESUME NORMAL SPEED"

JO 7110.65, Chaps. 2 and 5



Number Usage

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Mileage	Stated
30	"THREE ZERO MILES"
45	"FOUR FIVE MILES"

Miles

State the separate digits of the mileage, followed by the word "MILE" or "MILES."

JO 7110.65, Chap. 2



Number Usage

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Mileage	Stated
30	"THREE ZERO MILES"
45	"FOUR FIVE MILES"

Numbers Clarification

If deemed necessary for clarity, and after stating numbers as required, controllers may restate numbers using either group or single-digit form.

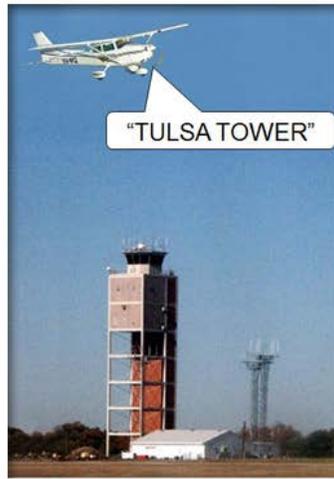
JO 7110.65, Chap. 2



Facility Identification Phraseology

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Tower Identification Phraseology

To identify airport traffic control towers, state:

- Name of the facility followed by
- The word "TOWER"

JO 7110.65, Chap. 2



Facility Identification Phraseology

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Approach Control Phraseology

Approach controls are identified by stating:

- Name of the facility followed by
- The word "APPROACH"

NOTE: Tower and Approach Control are referred to as "terminal facilities."

JO 7110.65, Chap. 2



Facility Identification Phraseology

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"BOSTON DEPARTURE"
"LA GUARDIA CLEARANCE
DELIVERY"
"O'HARE GROUND"

Terminal Facility Position Phraseology

Identify functions within a Terminal facility (Tower or Approach Control) by stating the name of the:

- Facility
- Function

JO 7110.65, Chap. 2



Facility Identification Phraseology

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Military Facilities

Where military and civilian facilities are located in the same general area and have similar names, state:

- Branch of military service followed by
- Name of facility followed by
- Type of facility

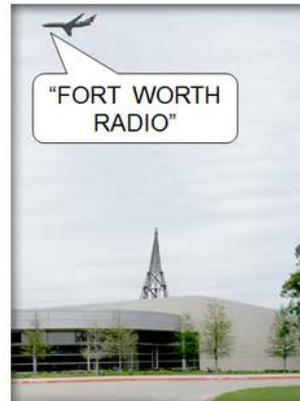
JO 7110.65 Chap. 2



Facility Identification Phraseology

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(Automated) Flight Service Station (A)FSS

Flight Service Stations (FSS/AFSS) are identified by stating:

- Name of the station followed by
- The word "RADIO"

JO 7110.65, Chap. 2



Facility Identification Phraseology

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“OAKLAND CENTER”

“ATLANTA CENTER”

Air Route Traffic Control Center (ARTCC)

Identify ARTCCs by stating:

- Name of the facility followed by
- The word “CENTER”

JO 7110.65, Chap. 2



Facility Identification Phraseology

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Radio Message Format

Use the following format for radio communications with an aircraft on initial radio contact:

- Identification of aircraft
- Identification of ATC unit
- Message (if any)
- The word "over" if required (Omit the word "over" if the message obviously requires a reply)

Subsequent radio transmissions from the same sector/position shall use the same format, except the identification of the ATC unit may be omitted.

JO 7110.65, Chap. 2





Aircraft Identification Phraseology

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Aircraft Identification

When replying to aircraft with similar-sounding identifications, use full identification.

NOTE: Full identification is the use of all numbers and/or letters in the aircraft identification.

Example: N82852 and N62582 are both monitoring the same frequency. To avoid misunderstanding, use the full aircraft identification when communicating with either aircraft.

NOTE: For aircraft with FAA authorized call signs, restate the call sign after the flight number.

Example: AAL 56 and DAL 56 would be stated as "American fifty six American" and "Delta fifty six Delta."

JO 7110.65, Chap. 2





Aircraft Identification Phraseology

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"ACADEMY GROUND, CESSNA ONE THIRTY-SEVEN FRED SIMPSON, TAXI FOR DEPARTURE WITH ALPHA"



"CESSNA ONE THIRTY-SEVEN FRED SIMPSON ACADEMY GROUND, RUNWAY TWO NINER, TAXI VIA BRAVO, CHARLIE "

Responding to Initial Call From Pilot

For other aircraft, you may use the same identification that the pilot used in the initial call-up.

- After communication is established, use the correct identification.

JO 7110.65, Chap. 2



Aircraft Identification Phraseology

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Civil Aircraft

When a controller is establishing initial communications with U.S. registered civil aircraft state the following:

- The prefix "NOVEMBER"
- The ICAO phonetic pronunciation of the numbers/letters of the aircraft registration

On subsequent calls, or if used if used by the pilot on initial call, the controller may state one of the following:

- Aircraft type
- Model name
- Manufacturer's name
- The prefix "NOVEMBER"

Followed by the ICAO pronunciation of the numbers/letters of the aircraft registration.

JO 7110.65, Chap. 2



Aircraft Identification Phraseology

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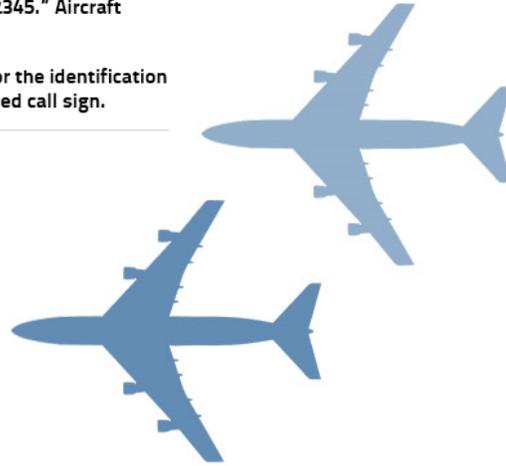
Abbreviated Transmissions

Abbreviated transmissions are used to shorten aircraft identification.

- Transmissions may be abbreviated as follows:
 - Use the identification prefix and the last three digits or letters of the aircraft identification after communications have been established.

Example: Communications have been established with "N12345." Aircraft identification can now be abbreviated to "N345."
 - Do not abbreviate similar-sounding aircraft identifications or the identification of an air carrier or other civil aircraft having an FAA authorized call sign.

JO 7110.65, Chap. 2





Aircraft Identification Phraseology

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AAL52: "AMERICAN FIFTY-TWO"

ASQ100: "ACEY ONE HUNDRED"

AWE570: "CACTUS FIFE SEVENTY"

SWA101: "SOUTHWEST ONE ZERO ONE"

**NWA1725: "NORTHWEST SEVENTEEN
TWENTY-FIFE"**

Air Carrier

For air carrier and other civil aircraft with FAA authorized call signs, state the call sign followed by the flight numbers in group form.

JO 7110.65, Chap. 2



Aircraft Identification Phraseology

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TN152K:
"TANGO NOVEMBER ONE FIFE TWO KILO"

Air Carrier

For air taxi and commercial operators not having FAA authorized call signs, state:

- Prefix "TANGO" on initial contact, if used by the pilot, followed by
- Registration number
- Prefix may be dropped in subsequent communications

JO 7110.65, Chap. 2



Aircraft Identification Phraseology

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TN152K:
"TANGO NOVEMBER ONE FIVE TWO KILO"

LN3010B:
"LIFEGUARD TREE ZERO ONE ZERO BRAVO"

Air Ambulance

For air carrier/air taxi ambulance, state:

- Prefix "LIFEGUARD," if used by the pilot, followed by
- Call sign and flight numbers in group form

NOTE: There will be no indication in the written aircraft identification.

For a civilian air ambulance, state:

- Word "LIFEGUARD" followed by
- Registration numbers and letters

JO 7110.65, Chap. 2



Aircraft Identification Phraseology

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U.S. Military

Military aircraft are identified with prefixes or abbreviations indicating branch of service and/or type of mission.

For military aircraft, state:

- Service name followed by the
- Last five digits of the serial number
- "COPTER" when the aircraft is a helicopter and is not a Presidential or Vice Presidential flight

Examples: A35542 - "AIR FORCE TREE FIVE FIVE FOUR TWO" VV32756 - "NAVY TREE TWO SEVEN FIVE SIX" R36511 - "ARMY COPTER TREE SIX FIVE ONE ONE"

Special military operations are identified by the type of mission and/or special operations call sign.

JO 7110.65, Chap. 2

Special Operations Abbreviations

Prefix	Mission/Special Operation	Example
E	AIR EVAC (Air Evacuation)	E50213
L	LOGAIR (USAF Contract)	L65324
RCH	REACH (Air Mobility Command)	RCH2761
S	SAM (Special Air Mission)	S43214

U.S. Military Abbreviations

Prefix	Service Name	Example
A	Air Force	A35542
C	Coast Guard	C12345
G	Air/Army National Guard	G54672
R	Army	R34617
VM	Marine	VM56734
VV	Navy	VV32756



Aircraft Identification Phraseology

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E50213 – “AIR EVAC FIFE ZERO TWO ONE TREE”
L65324 – “LOGAIR SIX FIFE TREE TWO FOUR”
RCH2761 – “REACH TWO SEVEN SIX ONE”
S43214 – “SAM FOUR TREE TWO ONE FOUR”

“SNOWMAN ONE” = SNOMAN1
“PAT ONE FIFE SEVEN” = PAT157

U.S. Special Military Operations

For special military operations, state:

- Mission/special operation followed by the last five digits of the serial number

U.S. military tactical and training flights are identified by using any pronounceable word of three to six letters followed by a one to five digit number.

JO 7110.65, Chap. 2



Aircraft Identification Phraseology

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Office	Military	Civil
President	"AIR FORCE ONE" "ARMY ONE"	"EXECUTIVE ONE"
President's Family	"EXECUTIVE ONE FOXTROT"	"EXECUTIVE ONE FOXTROT"
Vice President	"AIR FORCE TWO"	"EXECUTIVE TWO"
Vice President's Family	"EXECUTIVE TWO FOXTROT"	"EXECUTIVE TWO FOXTROT"

Presidential Aircraft

When the President is aboard a military aircraft, state:

- The name of the military service followed by
- The word "ONE"

When the President is aboard a civil aircraft, state the words, "EXECUTIVE ONE."

When the President's family is aboard any aircraft, state the words, "EXECUTIVE ONE FOXTROT."

For Vice Presidential aircraft, the same rules apply except use the word "TWO."

When the Vice Presidential family is on any aircraft, state the words, "EXECUTIVE TWO FOXTROT."

JO 7110.65, Chap. 2



Aircraft Identification Phraseology

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Official	Identifier	Call Sign
Secretary of Transportation	DOT1	Transport 1
Deputy Secretary of Transportation	DOT2	Transport 2
Administrator, Federal Aviation Administration	FAA1	Safeair 1
Deputy Administrator, Federal Aviation Administration	FAA2	Safeair 2

FAA and DOT Officials' Identification

Use the identifiers and call signs above for DOT and FAA officials.

JO 7110.65, Chap. 2



Aircraft Identification Phraseology

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Special Flights

For Department of Energy Flights, state the letters "R-A-C" (use phonetic alphabet) followed by the last four separate digits of aircraft registration.

Example: "ROMEO ALFA CHARLIE ONE SIX FIFE TREE"

For aircraft making flight inspections of navigational aids, state the words "FLIGHT CHECK" followed by the digits of the registration number.

Example: "FLIGHT CHECK TREE NINER SIX"

JO 7110.65, Chap. 2





Aircraft Identification Phraseology

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Foreign Registry

For civil aircraft, state:

- Aircraft type or manufacturer's name followed by letters/numbers of aircraft registration
- The letters or digits of aircraft registration or call signs, spoken individually or phonetically.

Examples:

- "Stationair F-L-R-B"
- "C-F-L-R-B"
- "Charlie Foxtrot Lima Romeo Bravo"

For foreign air carrier, state:

- Abbreviated name of operating company followed by letters or digits of registration or call sign.

Example: "Air France F-L-R-L-G"

- The flight number in group form, or you may use separate digits if that is the format used by the pilot.

Examples:

- "Scandinavian Sixty-Eight"
- "Scandinavian Six Eight"





Aircraft Identification Phraseology

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Use of the Word "Heavy"

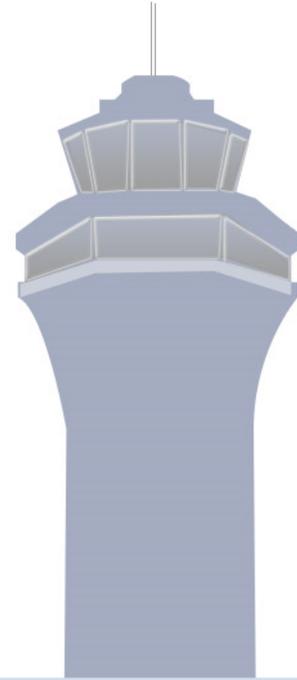
The word "heavy" shall be used as part of the identification of heavy jet aircraft as follows:

- **TERMINAL** - In all communications with or about heavy jet aircraft
- **EN ROUTE** - Use when:
 - Communicating with a Terminal facility
 - Center is providing approach control service
 - Separation is less than 5 miles by approved procedure
 - Issuing traffic advisories

Example: "United Fifty-Eight Heavy"

Do not use the heavy designator with "AirForce One/Two" callsigns.

JO 7110.65 Chap. 2



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Traffic Advisory Phraseology

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*"CACTUS TWO THIRTY-TWO,
TRAFFIC TWELVE O'CLOCK,
TWO ZERO MILES, OPPOSITE
DIRECTION, ALTITUDE
INDICATES ONE ONE
THOUSAND FIFE HUNDRED"*

AWE232
2301085
545 227

20NM

115

Traffic Advisories

Issued to alert pilots to other known or observed traffic which may be in proximity to the position or intended route of flight of their aircraft to warrant their attention.

LEARN MORE

These advisories may be based on:

- Visual observation
- Radar observation
- or
- Verbal reports

Traffic Advisories are an additional service.

Phraseology (for radar identified aircraft):

- Azimuth from aircraft in terms of the 12-hour clock
- Distance from aircraft in miles
- Direction in which traffic is proceeding and/or relative movement of traffic
- If known, type of aircraft and altitude

Examples: "Traffic, tree o'clock, six miles, converging, altitude indicates four thousand five hundred descending."

Reference: JO 7110.65 Chap. 2



Traffic Advisory Phraseology (Cont'd)

BACK

NEXT

"ALASKA EIGHT NINETY ONE,
TRAFFIC ONE O'CLOCK, ONE
FIVE MILES, NORTHWESTBOUND,
ALTITUDE UNKNOWN"

ASA891
050|106
112 205

"U-P-S EIGHT ZERO SEVEN,
TRAFFIC NINE O'CLOCK, EIGHT
MILES, CONVERGING, ALTITUDE
INDICATES FOUR THOUSAND
FIVE HUNDRED."

JO 7110.65 Chap.2



Route and NAVAID Description

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Airway	V12	=	"VICTOR TWELVE"
Jet Route	J35	=	"J THIRTY-FIVE"
IR Route	IR531	=	"I-R FIFE THIRTY-ONE"
VR Route	VR42	=	"V-R FORTY-TWO"
Q Route	Q136	=	"Q ONE THIRTY-SIX"
T Route	T212	=	"TANGO TWO TWELVE"

Airways and Routes

VORs/VORTACs/TACANs:

- For airways, state the word "VICTOR" followed by the airway number in group form.
- For jet routes, state the letter "J" followed by the route number in group form.

Military Training Routes (MTRs):

- State the letters "I R" or "V R" followed by the route number in group form.

Area Navigation (RNAV) routes:

- For high altitude RNAV routes, state the letter "Q" followed by the route number in group form.
- For low altitude RNAV routes, state the word "Tango" followed by the route number in group form.

JO 7110.65, Chap. 2



Route and NAVAID Description

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NAVAID Terms

**“TWO ZERO MILE ARC SOUTH OF TULSA
VORTAC”**

“TULSA TREE ONE ZERO RADIAL”

ARC Phraseology

VOR/VORTAC/TACAN Phraseology

Arcs of VOR-DME/VORTAC/TACAN

- State distance in miles from NAVAID
- “MILE ARC”
- Direction from NAVAID
- “OF”
- Name of NAVAID

JO 7110.65, Chap. 2

Radials of VOR/VORTAC/TACAN

- State name of NAVAID, followed by
- Separate digits of the radial, followed by
- The word “RADIAL”



Fix Phraseology

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APE050037
"APPLETON ZERO FIVE ZERO RADIAL
TREE SEVEN MILE FIX"

"PRYOR INTERSECTION"
"WILL ROGERS VORTAC"
"DAVIS V-O-R"
"BRAVO D-M-E FIX"

NAVAID Terms

When a fix is not named, state the name of the:

- NAVAID, followed by
- Radial and distance from NAVAID, followed by
- The words "MILE FIX"

If the fix is charted on a SID, STAR, en route chart, or approach plate, state the name of the fix.

If clarification is needed, use specific terms to describe a fix.

JO 7110.65, Chap. 2



Coordination

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Coordination

The relay of instructions, unusual situations, and essential information between all affected individuals.

NOTE: Not every circumstance that you will encounter will be covered by an order or a directive, coordination becomes essential to the safe, orderly, and expeditious flow of traffic.

Coordination can be intrafacility or interfacility.

- Intrafacility coordination is the exchange of information between positions within a facility.
 - Occurs in all three options
 - Preferred method is via interphone
 - May be accomplished "in person" (e.g., physically pointing to a radar display)
- Interfacility coordination is the exchange of information between different facilities.

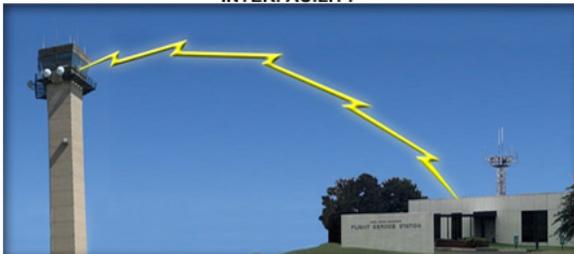
The preferred method for intra and interfacility coordination is via interphone.

JO 7110.65, Chap. 2

INTRAFACILITY



INTERFACILITY



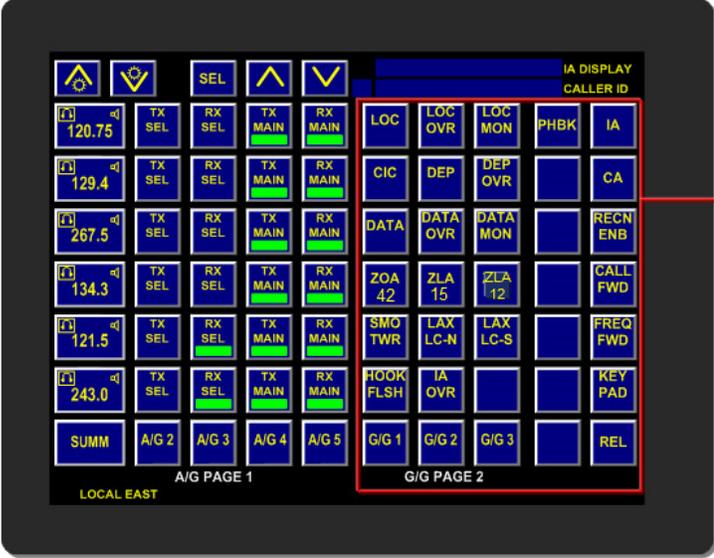


AIR TRAFFIC BASICS | Lesson 29: Basic Communications

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Coordination

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Typical Communications Panel

LEARN MORE

Ground to
Ground (G/G)
Buttons

Interphone Coordination

This refers to the landline communications system, which connects a controller to all facilities/positions necessary to perform coordination.

Ground-to-ground communications systems consist of:

- Override
- Shout Lines
- Trunk (or “party”) lines
- A standard outside dial line



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Priorities

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1. FIRST PRIORITY: EMERGENCIES

2



2. SECOND PRIORITY: CONTROL INSTRUCTIONS

3



3. THIRD PRIORITY: MOVEMENT MESSAGES

4



4. FOURTH PRIORITY: VFR

Message Priority

LEARN MORE

The order of priority during interphone coordination (the transfer of information) is:

1. Emergencies
2. Clearance and control instructions
3. Movement and control messages in the following order:
 - Progress reports
 - Departure and arrival reports
 - Flight plans
4. Movement messages on VFR aircraft

Reference: JO 7110.65, Chap. 2



Coordination

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Interphone Message Format

Use the following format for interphone intra/interfacility communications:

- Both the caller and receiver identify their facility and/or position
- Caller states the type of coordination to be accomplished (examples: "Handoff," "APREQ", or "Point-out")
- Caller states the message
 - The receiver states the response to the caller's message followed by the receiver's operating initials
 - The caller states his or her operating initials

JO 7110.65, Chap. 2





Coordination

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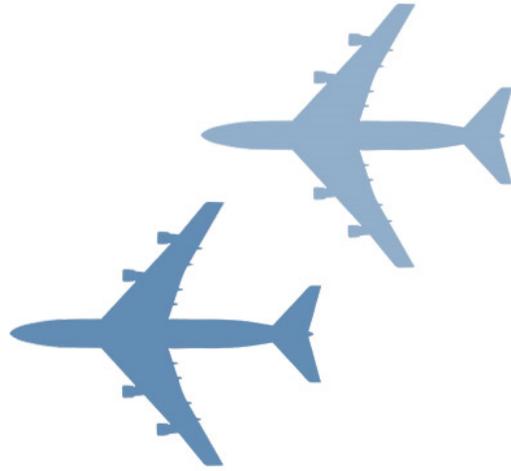
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Priority Interruption

To interrupt lower priority messages when you have a higher priority message to transmit, use the words below:

- Emergency
- Control

JO 7110.65; Chap. 2





Coordination

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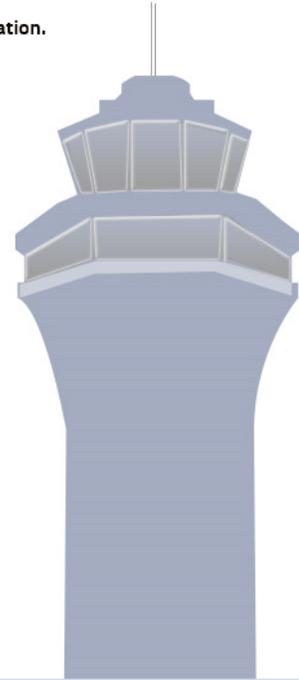
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Types of Coordination

Coordinate anytime it is necessary to relay instructions, unusual situations, and essential information.

The following are examples of coordination:

- Radar handoffs
- Radar point outs
- Transfer of control
- Runway crossings
- Forwarding flight plan information
- Arrival information (i.e., inbounds)
- Clearances and instructions



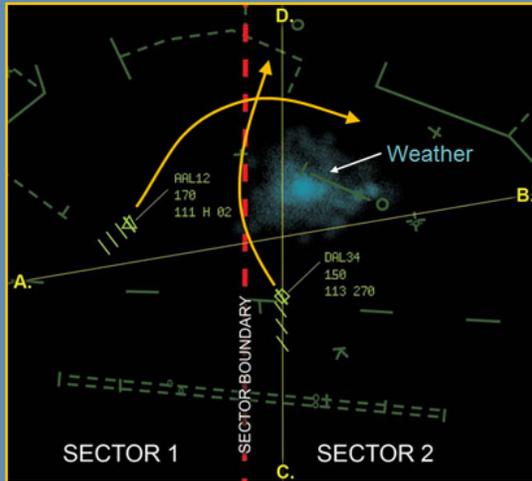


Coordination

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Required Coordination



Radar Handoff and Point Out Definitions

A handoff is an action taken to transfer radar identification of an aircraft from one controller to another when the aircraft will enter the receiving controller's airspace and radio communications will be transferred.

A point out is a physical or automated action to transfer radar identification of an aircraft from one controller to another if the aircraft will or may enter the airspace or protected airspace of another controller, and radio communications will not be transferred.

JO 7110.65, Chap. 5



Coordination

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NEXT

Transfer of Communications

Transfer radio communications before an aircraft enters the receiving controller's area of jurisdiction, and after completion of handoff (if in a radar environment), unless otherwise coordinated or specified by letter of agreement or facility directive.

JO 7110.65, Chaps. 2 and 5

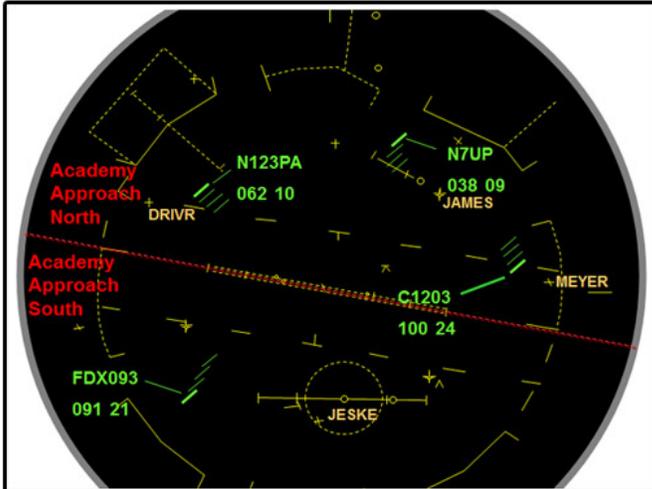




Transfer of Radar Identification

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NEXT



Handoff and Point-out Phraseology

When transferring radar identification via interphone, use the following phraseology:

- The term "HANDOFF" or "POINT-OUT"
- The position of the target
- The aircraft identification or beacon code, as appropriate
- Assigned altitude
- Any other information necessary (e.g., deviating left around weather)

JO 7110.65, Chap. 5



Coordination

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Handoff and Point-out Phraseology

NOTE: N123PA: "Aerocenter, Academy Apch North, Point-out." "Aerocenter." "Point-out, five miles northeast of DRIVR, code 5535, six thousand two hundred descending, downwind into Bartles" "code 5535 Point-out approved, M. M." "T.B."

NOTE: N7UP: "Springfield Approach, Academy Approach North, Point-out" "Springfield Approach." "Point-out eight miles northwest of JAMES, code 6362, three thousand eight hundred climbing to one five thousand direct STL." "Code 6362 point-out approved, D.N." "T.B."

NOTE: FDX093: "Aerocenter, Academy Approach South, Handoff." "Aerocenter." "Handoff, one five miles west of JESKE, FDX093, niner thousand one hundred climbing to one two thousand." "FDX093 radar contact, G.W." "T.S."

NOTE: C1203: "South, North, point-out." "South." "Point-out, five miles northwest of MEYER, Coast Guard one two zero three, one zero thousand, direct McAlester." "Coast Guard one two zero three point-out approved, T.S." "T.B."

JO 7110.65, Chap. 5



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Coordination

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Handoff and Point-out Phraseology

LEARN MORE

NOTE: UAL312: “Sixty seven, Sixty six, Point-out” “Sixty seven.” “Point-out four zero south of Greenville, United three twelve, flight level two one zero direct Memphis.” “United three twelve, point-out approved, R.G.” “C.D.”

NOTE: N39PY: “Jackson approach, Aerocenter sixty six, handoff.” “Jackson approach.” “Handoff one zero miles northwest CLAYS, November tree niner papa yankee, seven thousand.” “November tree niner papa yankee radar contact, J.A.” “C.D.”

NOTE: R37245: “Poe low, Aerocenter sixty six, point-out.” “Poe low.” “Point-out, two fife miles northwest of CREEM, Army tree seven two four fife, six thousand.” “Army tree seven two four fife, point-out approved, F.W.” “C.D.”

Reference: JO 7110.65, Chap. 5



Coordination

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Transfer of Control

[LEARN MORE](#)

Transfer of control is the action whereby the responsibility for separation of an aircraft is transferred from one controller to another.

Transfer of control may be accomplished at:

- A prescribed or coordinated location, time, fix or altitude

NOTE: *Transfer of control is automatic upon entering the receiving controller's area of jurisdiction.*

- The time a radar handoff and frequency change to the receiving controller have been completed and when authorized by a facility directive or letter of agreement which specifies the type and extent of control that is transferred.
 - May be restricted (i.e., turns not to exceed 30 degrees)

Transfer control of an aircraft only after eliminating any potential conflict with other aircraft for which you have separation responsibility.

Reference: JO 7110.65 Chaps. 2 and 5 Pilot/Controller Glossary

FEDERAL AVIATION ADMINISTRATION AIR TRAFFIC BASICS | Lesson 29: Basic Communications

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Coordination

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Runway Crossings

LEARN MORE

Ground Control shall coordinate and obtain approval from Local Control before authorizing an aircraft or a vehicle to cross or use any portion of an active runway.

- This coordination shall include the point/intersection at the runway where the operation will occur.

Ground Controller shall advise the Local Controller when the coordinated runway operation is completed.

Reference: JO 7110.65, Chap. 3



Coordination

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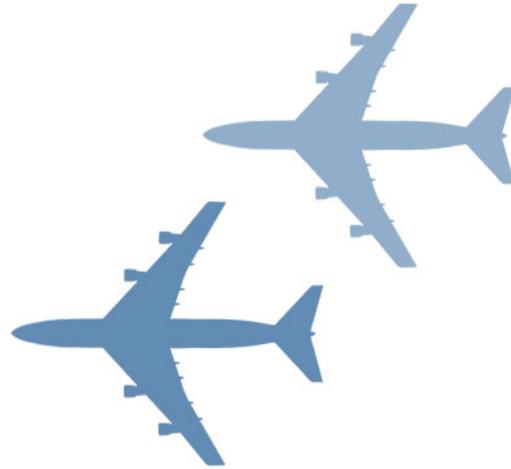
Forwarding Flight Plan Information

Flight plan information distributed and shared by all involved facilities is essential coordination.

The forwarding of flight plan information to the appropriate ATC facility, AFSS, base operations, etc. is normally accomplished by computer.

- Manual passage is required when the computer is not in service.

JO 7110.65, Chap. 2





Coordination

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Arrival Information

Forward the following information to control towers soon enough to permit adjustment of traffic flow.

- Applies to IFR aircraft only

Aircraft identification:

1. Type of Aircraft
2. Estimated Time of Arrival
3. Type of Approach
4. For SVFR, the direction from which the aircraft will enter the surface area
5. Position of the aircraft when executing a Contact or Visual approach

JO 7110.65, Chap. 4



Coordination

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Equipment Suffixes

When forwarding this information, state the aircraft type, followed by the word "SLANT" and the appropriate phonetic letter equivalent of the suffix.

Example: "CESSNA ONE-EIGHTY-TWO SLANT ALPHA"

JO 7110.65, Chap. 2





Coordination

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Clearances and Instructions

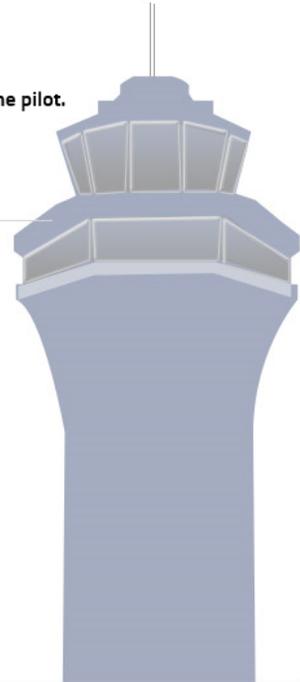
Relay clearances verbatim.

When issuing information, relaying clearances, or instructions, ensure acknowledgement by the pilot.

If altitude, heading, or other items are read back by the pilot, ensure the readback is correct.

- If incorrect, or incomplete, make corrections as appropriate

JO 7110.65, Chaps. 2 and 4





Methods of Coordination

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JO 7110.65, Chap. 5



Coordination

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Methods of Coordination

The most commonly used methods of coordination are listed below:

- Automated (computer)
- Interphone
- Facility Directives/Letters of Agreements (SOPs/LOAs)
- Verbal/physical

JO 7110.65, Chaps. 2 and 5

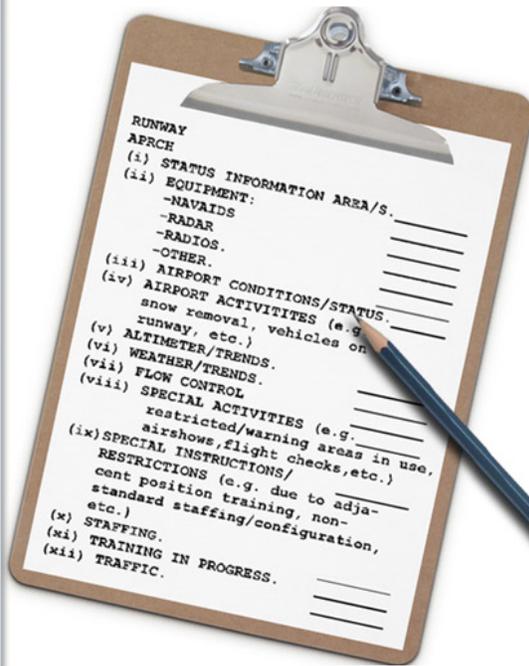




Position Relief Briefing

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Position Relief Checklist

An important aspect of teamwork is ensuring effective communication during position relief or change of shift.

- This is one of the most frequently cited areas that contribute to operational errors.

The purpose of the position relief briefing is to ensure the expeditious movement of traffic without compromising safety.

Transfer of position/team responsibility requires coordination between teams and is accomplished through a position relief briefing.

JO 7110.65, App. D



Position Relief Briefing

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NEXT

Step-by-Step Process

The position relief briefing is a four-step process consisting of the following:

- Preview the position
- Verbal briefing
- Assumption of position responsibility
- Review the position

JO 7110.65, App. D





Position Relief Briefing

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Relieving Specialist	Specialist Being Relieved
1. Follow the checklist and review the Status Information Areas (SIAs).	
2. Observe position equipment, operational situation, and work environment.	
3. Listen to voice communications and observe other operational actions.	
4. Observe current and pending aircraft and vehicular traffic and correlate with flight and other movement information.	
5. Indicate to the specialist being relieved that the position has been previewed and that the verbal briefing may begin.	

Preview the Position

The first step in the position relief briefing process is to preview the situation.

JO 7110.65, App. D



Position Relief Briefing

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Relieving Specialist	Specialist Being Relieved
	1. Brief the relieving specialist on the abnormal status of items not listed on the SIA(s) as well as on any items of special interest calling for verbal explanation or additional discussion.
	2. Brief on traffic if applicable.
3. Ask questions necessary to ensure a complete understanding of the operational situation.	
	4. Completely answer any questions asked.

Verbal Briefing

The second step in the position relief briefing process is to give a verbal briefing.

JO 7110.65, App. D



Position Relief Briefing

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Relieving Specialist	Specialist Being Relieved
	1. Brief the relieving specialist on the abnormal status of items not listed on the SIA(s) as well as on any items of special interest calling for verbal explanation or additional discussion.
	2. Brief on traffic if applicable.
3. Ask questions necessary to ensure a complete understanding of the operational situation.	
	4. Completely answer any questions asked.

Assumption of Position Responsibility

The third step in the position relief briefing process is the assumption of position responsibility.

JO 7110.65, App. D



Position Relief Briefing

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Relieving Specialist	Specialist Being Relieved
1. Check, verify, and update the information obtained in steps 1 & 2.	
2. Check position equipment in accordance with existing directives.	
	3. Review checklist, SIAs, written notes, and other prescribed sources of information, and advise the relieving specialist of known omissions, updates, or inaccuracies.
	4. Observe overall position operation to determine if assistance is needed.

Relieving Specialist	Specialist Being Relieved
	5. If assistance is needed, provide or summon it as appropriate.
	6. Advise the appropriate position regarding known SIA omissions, updates, or inaccuracies.
	7. Sign-on the relieving specialist, if appropriate with the time as noted in step 3.
	8. Sign off the position in accordance with existing directives or otherwise indicate that the relief process is complete.

Review the Position

The fourth step in the position relief briefing process is to review the position.

JO 7110.65, App. D



Conclusion

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Lesson Summary



This lesson covered:

- Radio and Interphone Communications
- Standardization
- Numbers Usage
- Facility Identification Phraseology
- Aircraft Identification Phraseology
- Route and NAVAID Description
- Coordination
- Position Relief Briefing

