

The Ninety-Nines, Inc.,® International Organization of Women Pilots®

# Aviation Adventure Guide

## Module 8 - Phonetic Alphabet & Communications



# Module 8

## Phonetic Alphabet & Communication



**Communication in Aviation:** Communication is an important part of daily life and is the way in which we interact with each other. There are many kinds of communications, both verbal and non-verbal, and all are important when we interact with others. Examples of verbal communication in aviation are: (1) telephone communication with weather briefers (2) radio communication with Air Traffic Control (ATC), the control tower and other airplanes (3) face to face conversation with your flight instructor and other pilots. Non-verbal communication can take many forms: (1) body language (2) aircraft movements (rocking your wings) (3) light gun signals from the airport control tower (4) Morse Code (5) hand and flag signals from airport linemen. This module will explore various types of communications used in aviation.

**Phonetic alphabet:** One of the first things that a pilot or air traffic controller must learn is the phonetic alphabet because many letters sound the same over a telephone line and over the radio. With outside noise, static and local accents, it can be very difficult to understand when someone tries to spell something. Here are some similar sounding letters: M and N; S and F; T, P, B, D and E. Try putting your hand over your mouth and say one of these close-sounding letters. Can your friend or study partner understand which letter you have said? To avoid confusion and misunderstanding, people in the aviation community (as well as fire fighters, police and military personnel) use a phonetic alphabet.

**Morse Code:** The year 1836 marked the early beginnings of Morse code when Samuel Morse first used a series of electrical pulses to communicate over a long distance. The “code” was developed into a series of “dots”, or short pulses, and “dashes”, or long pulses, put together to form words. Telegraph services, the military and ham radio operators frequently used Morse Code in their communications. In aviation, Morse Code appears on navigational charts to help identify navigation signals on the navigation radio. A pilot can tune her radio to hear the Morse Code signal to verify that she is navigating to the correct navigation facility.

Take a look at the chart to the right so you can learn how to communicate using the phonetic alphabet and Morse Code.

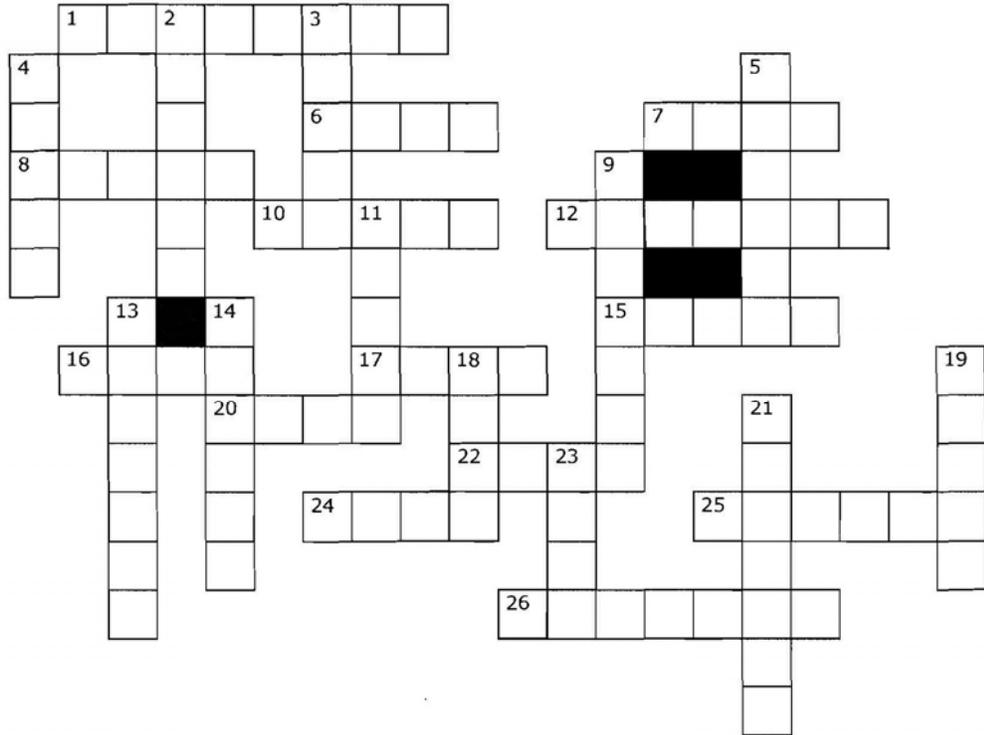
Character	Morse Code	Telephony	Pronunciation
A	. -	Alfa	Al-fah
B	-...	Bravo	Brah-voh
C	-.-.	Charlie	Char-lee
D	-..	Delta	Dell-tah
E	.	Echo	Eck-oh
F	..-.	Foxtrot	Foks-trot
G	--.	Golf	Golf
H	....	Hotel	Hoh-tel
I	..	India	In-dee-ah
J	.---	Juliet	Jew-lee-tt
K	-. -	Kilo	Key-loh
L	.-..	Lima	Lee-mah
M	--	Mike	Mike
N	-.	November	No-vem-ber
O	---	Oscar	Oss-cah
P	.-.-.	Papa	Pah-pah
Q	--.-	Quebec	Keh-beck
R	.-.	Romeo	Row-me-oh
S	...	Sierra	See-air-rah
T	-	Tango	Tang-go
U	..-	Uniform	You-nee-form
V	...-	Victor	Vik-tah
W	.-.-	Whiskey	Wiss-key
X	-..-	X-ray	Ecks-ray
Y	-.--	Yankee	Yang-key
Z	--..	Zulu	Zoo-loo
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	----.	Niner	Nin-er
0	-----	Zero	Zee-ro





Activity - Phonetic Alphabet: Complete the crossword puzzle below.

# Phonetic Alphabet Crossword



## ACROSS

- 1 N
- 6 A
- 7 X
- 8 D
- 10 H
- 12 W
- 15 R
- 16 Z
- 17 G
- 20 E
- 22 M
- 24 P
- 25 S
- 26 F

## DOWN

- 2 V
- 3 B
- 4 I
- 5 Y
- 9 C
- 11 T
- 13 J
- 14 Q
- 18 L
- 19 O
- 21 U
- 23 K

**Activity - Hand Signals:**

Often times when you are sitting in an airplane, someone outside of the airplane must give you directions to move or park your airplane. When that person has no radio or other means of verbal communications, standard hand signals are used. Look at the FAA standard hand signals below. With your study partner acting as an “airplane” use these FAA approved hand signals and guide your study partner to her “parking space”. Use only these hand signals. Be sure to ask her to “start” and “stop” her engine!

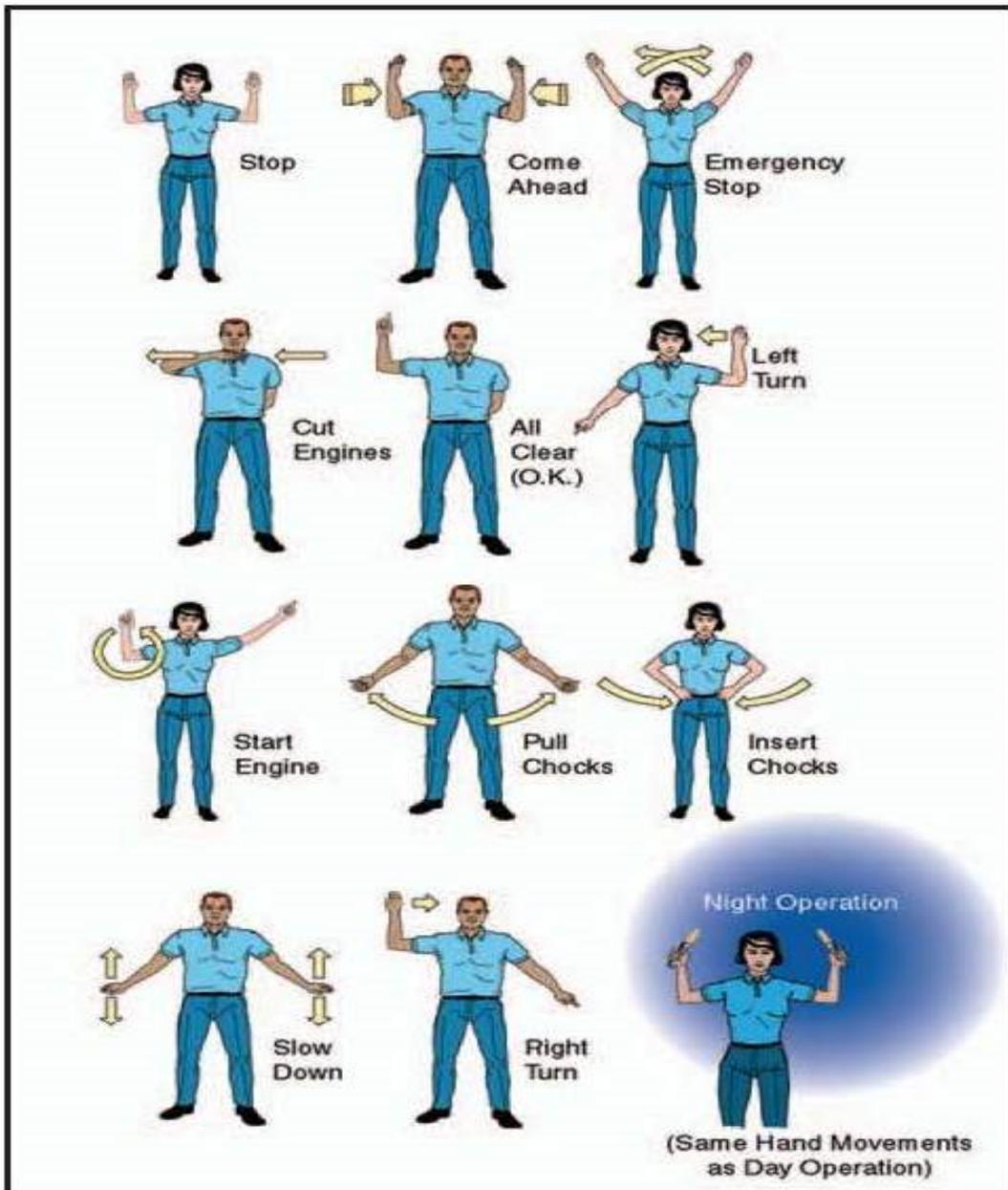


Figure 2-9. Standard hand signals.

FAA-H-8083-3A

## Light Gun Signals

**Light Gun Signals:** When a pilot is unable to communicate with the airport tower by radio, the tower sends signals to the pilot by a powerful colored light beam. Study the chart below to see the meaning of each signal.

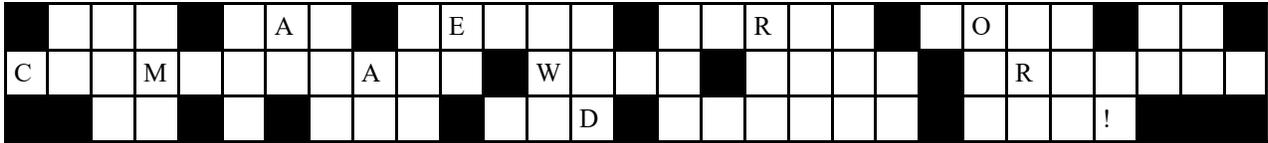
COLOR	ON GROUND	IN FLIGHT
<b>STEADY GREEN</b> 	<b>Cleared for takeoff</b>	<b>Cleared to land</b>
<b>FLASHING GREEN</b> 	<b>Cleared to taxi</b>	<b>Return for landing</b> Start descending in pattern and look for steady green
<b>STEADY RED</b> 	<b>Stop</b>	<b>Give way to other airplanes</b> – continue circling in pattern and <b>DO NOT DESCEND</b>
<b>FLASHING RED</b> 	<b>Taxi clear of runway in use</b>	<b>Airport unsafe – DO NOT LAND</b>
<b>FLASHING WHITE</b>	<b>Return to starting point on airport</b>	<b>N/A</b>
<b>ALTERNATING GREEN &amp; RED</b> 	<b>Exercise extreme caution</b>	<b>Exercise extreme caution</b>



**Control tower sending solid red light gun signal telling the pilot to continue circling and do not land.**

Photo credit: century-of-flight.net

**Activity:** Falling letters puzzle. Try to re-build the message below. The letters from each cell are below the cell in the letter box.



		I		A	C	L						O	E			E												
	O	M	U		C		N	N		A	N	I		M	E	C	R	E	R		F	A	I		N	D		
	Y	O	N	U	N	I	F	U	T	E	A	R	N	T	S	O	Y	S	U	T	C	W	D	Y	E	T	O	S

There are many other forms of communications used throughout the world. Challenge yourself to think about new ways to communicate and think outside the box!

How do you like to communicate with your friends?

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**Activity:** Think about all the different ways you communicate other than talking directly person to person and make a list below and see who in your group can think of the most.

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