

# AIRCRAFT ORIENTATION LAB GUIDE

## Overview

- ⊙ Aircraft Orientation performance standards prescribe the minimum acceptable performance of the duties (tasks) involved in providing these services.
- ⊙ Throughout this guide, **mandatory phraseology** will be included and it will be in **bold** print.
- ⊙ In order to demonstrate the performance standards, each student will have:
  - **Two** practice problems
  - **Two** practice graded problem
  - **Two** graded problem
- ⊙ The VOR evaluation worksheet is the record used to evaluate/document the student's performance in the aircraft orientation lab.
  - The steps to complete procedures are grouped into sections. Sections contain performance tasks that are evaluated as Satisfactory, Needs Improvement and Unsatisfactory.
  - The student's grade is based on a technical assessment value (TAV) worth 100 points.

**NOTE: In the event of a conflict between the Aircraft Orientation Lab Guide and other publications, the guide shall be the standard of performance.**

- ⊙ During the student's performance, a grading instructor shall observe and evaluate the steps involved in completing each task.
  - **Students will get credit for corrections made before moving on to the next grading section.**
    - Example: Task corrections can be made in Section 1-Obtain Info, Initial Turn, Fine Tune Tasks BEFORE moving on to Section 2-Position Fixing Tasks.
- ⊙ Time limits
  - Only the first 25 minutes of the problem shall be graded.
  - Any tasks performed after that time shall be graded as "unsatisfactory."
  - The student may be allowed to finish the problem for extra practice.

- ⊙ All aircraft directions given from a NAVAID or airport shall be to the nearest cardinal direction spoken as one of the eight points of the compass (North, Northeast, East, Southeast, South, Southwest, West, Northwest)
- ⊙ All radio communication will be accomplished and evaluated IAW JO 7110.10, Inflight Services chapter, Radio Communications section.
- ⊙ All VOR orientations shall start by utilizing the operational VOR closest to the transmitter location over which contact is established. NAVAIDs to be used in labs will be TKA, BGQ, TED, ENA, HOM.
  - Example: Pilot called for assistance on Palmer RCO 122.4, start the orientation service with the Big Lake VOR

**NOTE: Instructor will correct a student that provides an initial NAVAID that is out of service or not appropriate for orientation. Grading criteria for this situation is listed in Section 1, Task 2.**

- ⊙ Handouts and Documents that can be used during labs.
  - HB01B
  - Inflight Emergency checklist form 7232-1 (to be filled out and graded)
  - M09 lab METARS sheets needed to be given to each student for each lab
  - All documents in position folder

# GRADING CRITERIA

## Section 1 – Obtain Info, Initial Turn, Fine Tune Tasks

### ☉ Task 1 – Obtain Information

- Obtain the following mandatory elements:
  - a. Aircraft identification
  - b. Aircraft type and transponder
  - c. Nature of emergency and pilot's intentions (desires)
  - d. Start time of emergency
  - e. Heading and altitude
  - f. Weather and fuel
  - g. Navigational equipment and airspeed
  - h. Last known position and time
  - i. If on a flight plan
- Advise aircraft to remain VFR
- Provide nearest altimeter setting
- Align magnetic compass to obtain heading

### ☉ Scoring

- Satisfactory
  - All data was obtained without error
  - Correct altimeter was provided
  - "Continue heading" statement was provided with accurate heading information
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Did not obtain 1 mandatory element
  - Incorrect altimeter was provided
  - "Continue heading" statement was omitted or provided with inaccurate heading information
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
- Unsatisfactory
  - Did not obtain 2 or more mandatory elements
  - Did not provide altimeter
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.

## Section 1 (cont'd)

### ☉ Task 1 – Obtain Information (cont'd)



#### Phraseology

**“MAINTAIN VFR AT ALL TIMES. ADVISE IF HEADING OR ALTITUDE CHANGE IS NECESSARY TO REMAIN VFR.”**

**“(location) ALTIMETER (setting).”**

**“MAINTAIN STRAIGHT AND LEVEL FLIGHT. RESET YOUR HEADING INDICATOR TO AGREE WITH YOUR MAGNETIC COMPASS. AFTER YOU HAVE DONE THIS, SAY YOUR HEADING AND ALTITUDE.”**

**“WHAT IS THE WEATHER AT YOUR ALTITUDE AND FUEL REMAINING IN TIME?”**

**“CONTINUE HEADING (degrees). WHAT TYPE OF NAVIGATIONAL EQUIPMENT DO YOU HAVE ON BOARD, AND WHAT IS YOUR AIRSPEED?”**

## Section 1 (cont'd)

### ☉ Task 2 – Select “Initial” NAVAID

- Advise pilot to tune in operational NAVAID closest to the transmitter location over which radio contact is established
- Obtain course selector reading

### ☉ Scoring

- Satisfactory
  - Correct NAVAID was selected
  - Course selector reading was properly obtained
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Phraseology is not verbatim, but the intent, meaning, or outcome of the task is accomplished
- Unsatisfactory
  - Did not select correct “Initial” NAVAID
  - Did not obtain course selector reading
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### Phraseology

**CONTINUE TRANSMITTING THIS FREQUENCY. TUNE YOUR VOR RECEIVER TO THE (name) VOR, FREQUENCY (frequency), IDENTIFICATION (identification). CHECK VOLUME UP AND IDENTIFY THE STATION. ADVISE WHEN YOU HAVE DONE THIS.”**

**ROTATE YOUR COURSE SELECTOR SLOWLY UNTIL THE LEFT/RIGHT NEEDLE CENTERS WITH A ‘TO’ INDICATION. ADVISE YOUR COURSE SELECTOR READING.”**

## Section 1 (cont'd)

### ⊙ Task 3 – Advise Pilot of Location

- Advise pilot of position relative to the VOR (using the 8 points of the compass)

### ⊙ Scoring

- Satisfactory
  - Correct position was provided
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Position was provided but was off by one cardinal direction
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
- Unsatisfactory
  - Incorrect position was provided and/or position provided was off by 2 or more cardinal points
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### Phraseology

**“YOU ARE (direction) OF THE (name) VOR.”**

## Section 1 (cont'd)

### ⊙ Task 4 – Provide Heading Inbound

- Turn the aircraft inbound to the VOR, providing the shortest direction of turn

### ⊙ Scoring

- Satisfactory
  - Correct heading and shortest direction of turn was provided
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Correct heading was provided but shortest direction of turn was not
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
- Unsatisfactory
  - Did not provide correct heading
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### Phraseology

**“FOR VOR ORIENTATION, TURN (left/right) HEADING (degrees). REPORT ESTABLISHED HEADING (degrees).”**

## Section 1 (cont'd)

### ☉ Task 5 – Notify Control Facility

- Notify ARTCC of required information
  - a. Aircraft identification, type and transponder (if equipped)
  - b. Nature of emergency
  - c. Pilot's desires
  - d. Position and heading aircraft is on or turning to

**NOTE: See M09\_HO1c (ZAN Coordination-Initial Call) for suggested phraseology**

### ☉ Scoring

- Satisfactory
  - Passed all required information to ARTCC
  - Terminated contact with operating initials
- Needs Improvement
  - Passed partial and/or incorrect information to ARTCC
  - Did not terminate contact with operating initials
- Unsatisfactory
  - Did not pass required information to ARTCC



## Section 1 (cont'd)

### ☉ Task 6 – Perform Heading Adjustments

- Obtain position of CDI needle
- Perform heading adjustments (if necessary)
- Obtain position of CDI needle (again, if necessary)
- Obtain course selector reading
- Advise pilot to “Continue Heading”

**NOTE: If the course selector reading is less than 3 degrees of the desired course, heading adjustments are not necessary**

### ☉ Scoring

- Satisfactory
  - Obtained position of CDI needle
  - Performed heading adjustments until CDI needle centered
  - Obtained course selector reading
  - “Continue heading” statement was provided with accurate heading information
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Did not perform adequate heading adjustments to obtain centered CDI needle
  - “Continue heading” statement was omitted or provided with inaccurate heading information
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
- Unsatisfactory
  - Did not obtain position of CDI needle
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### Phraseology

**WHAT IS THE POSITION OF YOUR LEFT/RIGHT NEEDLE?”**

**ROTATE YOUR COURSE SELECTOR SLOWLY UNTIL THE LEFT/RIGHT NEEDLE CENTERS WITH A “TO” INDICATION. ADVISE YOUR COURSE SELECTOR READING.”**

**TURN (left/right) HEADING (degrees). REPORT ESTABLISHED HEADING (degrees).”**

**CONTINUE HEADING (degrees).”**

## Section 1 (cont'd)

### ☉ Task 7 – Plot Line of Position (LOP) after heading adjustments are completed

- Plot LOP

**NOTE:** The LOP is the reciprocal of the final course selector reading with a “TO” indication, to the exact degree, reported by the pilot.

### ☉ Scoring

- Satisfactory
  - Plotted LOP in the correct location
- Needs Improvement
  - Plotted LOP in an incorrect location
- Unsatisfactory
  - Did not plot an LOP

## Section 2 – Position Fixing Tasks

### ⊙ Task 8 – Select Position-Fixing NAVAID

- Advise pilot to tune crossfix VOR
- Determine course selector reading
- Advise pilot to continue inbound heading (to initial VOR)

### ⊙ Scoring

- Satisfactory
  - Selected an appropriate crossfix NAVAID
  - All mandatory phraseology was transmitted without error
  - Advised pilot to continue inbound heading (to initial VOR)
- Needs Improvement
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
  - Did not advise pilot to continue inbound heading (to initial VOR)
- Unsatisfactory
  - Did not select and/or have pilot tune crossfix NAVAID
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### Phraseology

**“CONTINUE TRANSMITTING THIS FREQUENCY. TUNE YOUR VOR RECEIVER TO THE (name) VOR, FREQUENCY (frequency), IDENTIFICATION (identification). CHECK VOLUME UP AND IDENTIFY THE STATION, ADVISE WHEN YOU HAVE DONE THIS.”**

**“ROTATE YOUR COURSE SELECTOR SLOWLY UNTIL THE LEFT/RIGHT NEEDLE CENTERS WITH A ‘TO’ INDICATION. ADVISE YOUR COURSE SELECTOR READING.”**

**“CONTINUE HEADING (degrees).”**

## Section 2 (cont'd)

### ⊙ Task 9 – Plot Crossfix LOP

- Plot crossfix LOP

### ⊙ Scoring

- Satisfactory
  - Correctly plotted crossfix LOP
- Needs Improvement
  - Incorrectly plotted crossfix LOP
- Unsatisfactory
  - Did not plot crossfix LOP

## Section 2 (cont'd)

### ⊙ **Task 10 – Advise pilot of the aircraft's position, provide Minimum Safe Altitude (MSA) and request intentions.**

- Advised pilot of aircraft position
- All mandatory phraseology was transmitted without error
- Informed pilot of the MSA for orientation services
- Requested pilot's intentions

### ⊙ **Scoring**

- Satisfactory
  - Accurately determined aircraft position from initial NAVAID
  - Advised pilot of correct aircraft position
  - Provided pilot with correct MSA information and requested pilot's intentions
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Position was provided but was off by one cardinal direction
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
- Unsatisfactory
  - Incorrect position was provided and/or position provided was off by 2 or more cardinal points
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### **Phraseology**

**“YOU ARE (miles) MILES (direction) OF THE (name) VOR, THE SAFE ALTITUDE FOR ORIENTATIONS IN THAT AREA IS (feet).”**

**“WHAT ARE YOUR INTENTIONS?”**

## Section 3 – AIRPORT GUIDANCE TASKS

### ⊙ Task 11 – Provide course guidance to the requested airport, advise pilot of position and request landmarks

- Advise pilot of shortest direction of turn and heading to airport
- After pilot reports established on the heading, advise pilot of position relative to the airport.
- Obtain landmarks visible to pilot

### ⊙ Scoring

- Satisfactory
  - Advised pilot of correct position, relative to the airport
  - Correct heading and shortest direction of turn was provided
  - Requested landmarks visible to pilot
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Correct heading was provided but shortest direction of turn was not
  - Position was provided but was off by one cardinal direction
  - Did not request landmarks visible to pilot
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
- Unsatisfactory
  - Did not provide pilot of position relative to the airport and/or the correct heading
  - Incorrect position was provided and/or position provided was off by 2 or more cardinal points
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### Phraseology

**“FOR A HEADING TO THE (name) AIRPORT, TURN (left/right) HEADING (degrees).  
REPORT ESTABLISHED HEADING (degrees).”**

**“YOU ARE (miles) MILES (direction) OF THE (name) AIRPORT. CONTINUE HEADING  
(degrees).”**

**“DO YOU SEE ANY PROMINENT LANDMARKS?”**

## Section 3 (cont'd)

### ⊙ Task 12 – Offer and provide airport information

- Offer/provide airport information
- Advise pilot to report airport in sight

### ⊙ Scoring

- Satisfactory
  - Correctly provided all required airport information
  - Advised pilot to report airport in sight
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Provided incorrect information
  - Did not advise pilot to report airport in sight
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
- Unsatisfactory
  - Did not provide airport information
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### Phraseology

**“ARE YOU FAMILIAR WITH THE (name) AIRPORT?”**

**“(name) AIRPORT FIELD ELEVATION (feet). IT HAS (number and surface type) RUNWAYS. THE RUNWAY/S RUN (direction). THE AIRPORT IS LOCATED (direction/distance) FROM (landmark visible to the aircraft).”**

**“REPORT AIRPORT IN SIGHT”**

## Section 3 (cont'd)

### ⊙ Task 13 – Terminate service, provide CTAF/altimeter and notify control facility

- Determine when pilot no longer needs assistance
- Terminate orientation service
- Provide CTAF/altimeter
- Notify control facility of termination of orientation services

### ⊙ Scoring

- Satisfactory
  - Asked pilot if they needed further assistance before terminating orientation services
  - Provided correct CTAF and altimeter information
  - Notified control facility
  - All mandatory phraseology was transmitted without error
- Needs Improvement
  - Did not ask pilot if they needed further assistance
  - Did not terminate orientation services
  - Provided incorrect CTAF and/or altimeter information
  - Phraseology was not verbatim, but the intent, meaning, or outcome of the task was accomplished
- Unsatisfactory
  - Did not notify control facility
  - Did not provide CTAF and/or altimeter information
  - Phraseology was not repeated exactly as written or it was omitted, and/or the meaning, intent, or outcome of the task was not accomplished.



### Phraseology

**“DO YOU REQUIRE FURTHER ASSISTANCE?”**

**“(VOR/ADF) ORIENTATION SERVICE TERMINATED. COMMON TRAFFIC ADVISORY FREQUENCY (frequency). ALTIMETER (setting).”**



## **Section 4 - RECORDING INFORMATION**

### **⊙ Task 14 – Record required information**

- Subtask 1 Items a – i
- Subtask 2 Course selector reading
- Subtask 3 Aircraft position
- Subtask 4 Aircraft heading
- Subtask 5 Notified ARTCC
- Subtask 6 Course selector reading
- Subtask 8 Course selector reading
- Subtask 10 Aircraft position
- Subtask 13 Notified ARTCC of termination

### **⊙ Scoring**

- Satisfactory
  - Accurately recorded all required information stated above
- Needs Improvement
  - Accurately recorded some of the required information
  - Inaccurately recorded 2-3 items
- Unsatisfactory
  - Did not record any information
  - Inaccurately recorded 4 or more items