

# **AIRCRAFT DISPATCHER**

## **UNIT 1 – AIRCRAFT FLIGHT PLANNING**

### **LESSON D – POINT LOCATION DESCRIPTIONS**

#### **INSTRUCTIONS TO THE INSTRUCTOR**

Unit 1 is composed of four lessons; consider using more than one qualified instructor to teach this unit.

## NOTES

## DETAILED LESSON PLAN OUTLINE

**CURRICULUM:** BLM Fire and Aviation Training

**COURSE:** Aircraft Dispatcher

**UNIT:** 1 - Aircraft Flight Planning

**LESSON:** D - Point Location Descriptions

**SUGGESTED TIME:** 40 minutes

**TRAINING AIDS:** Overhead projector or computer with CD-ROM and computer projector; projection screen; markers, masking tape or tacks; handouts; flip chart;

**OBJECTIVES:** Given a simulated wildland fire incident, case study, or exercise, students will be able to

- Identify two primary methods of describing a point location to a pilot.
- Describe the difference between coordinates given in degrees/minutes/tenths and degrees/minutes/seconds.
- Convert one type of coordinate to another.

OUTLINE	AIDS & CUES
<b>Introduce the lesson.</b>	01D-01-ACDP-EP
<b>Present the lesson objectives.</b>	01D-02-ACDP-EP 01D-03-ACDP-EP
I. DESCRIBING LOCATIONS	01D-04-ACDP-EP
A. Geographic Locations	01D-05-ACDP-EP

OUTLINE	AIDS & CUES
<p>Geographic locations can be used to describe point locations.</p> <p>The pilot and aircraft dispatcher must be familiar with the area.</p> <p>Example: 5 miles south of Mount St. Helens</p>	
<p>B. Latitude and Longitude</p>	01D-06-ACDP-EP
<p>1. World-wide methods of finding a location</p>	01D-07-ACDP-EP
<p>2. Loran or Global Positioning Satellite (GPS)</p>	
<p>3. Published on all <u>aeronautical</u> charts</p>	
<p>4. Written or Spoken</p> <p>a. Degrees, minutes, seconds</p> <p>b. Degrees, minutes, tenths or hundredths, or thousandths</p> <p>c. Degrees, tenths, hundredths, thousandths, or greater</p> <p>5. Converting Coordinates</p>	01D-08-ACDP-EP
<p>a. Seconds to tenths:</p> <ul style="list-style-type: none"> <li>• Seconds <math>\div</math> 60 seconds = tenths</li> <li>– 15 <math>\div</math> 60 = .25</li> <li>• Tenths <math>\times</math> 60 seconds = seconds</li> <li>– .25 <math>\times</math> 60 = 15</li> </ul>	01D-09-ACDP-EP

OUTLINE	AIDS & CUES										
<p>b. Basic Conversions:</p> <table> <thead> <tr> <th><u>Seconds</u></th> <th><u>Tenths</u></th> </tr> </thead> <tbody> <tr> <td>15</td> <td>.25</td> </tr> <tr> <td>30</td> <td>.50</td> </tr> <tr> <td>45</td> <td>.75</td> </tr> <tr> <td>60</td> <td>1.00</td> </tr> </tbody> </table> <div style="border: 2px solid black; padding: 5px;"> <p><b>Refer students to page 1D-5 of the Student Guide for an exercise in converting from tenths to seconds and from seconds to tenths. This can be a stand alone exercise or you can walk students through the process using the 01D-11-ACDP-EP and 01D-12-ACDP-EP.</b></p> </div>	<u>Seconds</u>	<u>Tenths</u>	15	.25	30	.50	45	.75	60	1.00	<p>01D-01-ACDP-IR 01D-10-ACDP-EP THRU 01D-13-ACDP-EP SG page 1D-5</p>
<u>Seconds</u>	<u>Tenths</u>										
15	.25										
30	.50										
45	.75										
60	1.00										
<p>C. Township, Range, &amp; Section (Legal)</p> <p>Formally known as the Rectangular Land Description System</p> <p>Planned in 1784 by the Continental Congress.</p> <ul style="list-style-type: none"> <li>• “Public lands shall be divided by North and South lines and by other lines running East and West so as to form Townships 6 miles square (not 6 square miles, but a square of 6 miles on each side, with an area of 36 square miles).”</li> <li>• “The Townships will be divided into 36 sections, and each will contain 640 acres (as nearly as possible).”</li> </ul>	<p>01D-13-ACDP-EP</p> <p>01D-14-ACDP-EP</p>										

OUTLINE	AIDS & CUES
<p>D. Universal Transverse Mercator (UTM)</p> <p>UTM coordinates measure in meters east and north from two perpendicular reference baselines. A full UTM coordinate value defines a worldwide unique position.</p>	01D-15-ACDP-EP
<p>E. VHF Omni-directional Range (VOR)</p> <p>The VOR or VORTAC station transmits a unique signal allowing aircraft to determine its bearing relative to the VOR station.</p>	01D-16-ACDP-EP
<p><b>Southern students may inquire as to using metes and bounds for describing locations. Metes and bounds are not utilized in aircraft dispatching.</b></p>	
<p><b>Review lesson objectives.</b></p>	01D-17-ACDP-EP
<p><b>Ask the students if there are any questions.</b></p>	01D-18-ACDP-EP

# AIRCRAFT DISPATCHER

## UNIT 1 – AIRCRAFT FLIGHT PLANNING

### LESSON D – POINT LOCATION DESCRIPTION

#### POWERPOINT SLIDE INDEX

<u>Reference No.</u>	<u>Description</u>
01D-01-ACDP-EP	Title Slide
01D-02-ACDP-EP	Lesson Objectives
01D-03-ACDP-EP	Lesson Objectives
01D-04-ACDP-EP	Describing Locations
01D-05-ACDP-EP	Geographic Locations
01D-06-ACDP-EP	Latitude and Longitude
01D-07-ACDP-EP	Latitude and Longitude
01D-08-ACDP-EP	Latitude and Longitude
01D-09-ACDP-EP	Converting Coordinates
01D-10-ACDP-EP	Coordinate Conversion Exercise
01D-11-ACDP-EP	Coordinate Conversion Exercise Answers
01D-12-ACDP-EP	Coordinate Conversion Exercise Answers
01D-13-ACDP-EP	Township, Range, & Section
01D-14-ACDP-EP	Township, Range, & Section

PowerPoint Slide Index, continued

01D-15-ACDP-EP

Universal Transverse Mercator  
(UTM)

01D-16-ACDP-EP

VHF Omni-directional Range (VOR)

01D-17-ACDP-EP

Lesson Objectives

01D-18-ACDP-EP

Questions

**AIRCRAFT DISPATCHER**

**UNIT 1 – AIRCRAFT FLIGHT PLANNING**

**LESSON D – POINT LOCATION DESCRIPTION**

**INSTRUCTOR REFERENCE**

Reference No.

Description

01D-01-ACDP-EP

Coordinate Conversion Exercise

## NOTES

## COORDINATE CONVERSION EXERCISE

1. You have been given the following coordinates:

Latitude:  $43^{\circ}33'.85$  N

Longitude:  $116^{\circ}13'.37$  W

Convert the coordinates from tenths to seconds:

Latitude:

$$.85 \times 60 = 51''$$

Longitude:

$$.37 \times 60 = 22''$$

2. You have been given the following coordinates:

Latitude:  $43^{\circ}33'51''$  N

Longitude:  $116^{\circ}13'22''$  W

Convert the coordinates from seconds to tenths:

Latitude:

$$51'' \div 60 = .85$$

Longitude:

$$22'' \div 60 = .37$$

## NOTES