

# Private

AVP 105 - Ground Lesson (GL) 5

Chapter 5 – Communication and Flight Information

# GL 5 Objectives

- Applicable subjects of the AIM and the appropriate FAA advisory circulars
  - Recognize the characteristics of the ADS-B system and radar operation
  - Explain how to properly operate a transponder
  - Identify the services provided by ATC and Flight Services
- Radio Communication procedures
  - Describe the proper techniques for transmitting on the radio
  - Explain the procedures for communicating at controlled and uncontrolled airports
- Preflight action that includes how to obtain information on runway lengths at airports of intended use and data on takeoff and landing distances
  - Recognize sources of information
  - Locate flight information by using Chart Supplements, NOTAMs, FARs, the AIM and advisory circulars

# RADAR and ATC Services

- Primary RADAR – skin reflections only, provides range and azimuth to “something” in the air
- Secondary RADAR – uses your transponder to ID you
  - Mode A – the four digits
  - Mode C – send ATC your pressure altitude
- Transponder
  - OFF – no power
  - STBY – Has power, not transmitting
  - ON – Transmits Mode A only, no altitude
  - ALT – Transmits Mode A and C, 4 numbers and pressure altitude
  - TST – Test mode



# RADAR and ATC Services

- Transponder

- IDENT – Causes your return to “blossom” on ATC display. Used by ATC to verify your position and confirm your ID
- Different Squawks
  - 1200 – VFR
  - 7500 – Hijack
  - 7600 – Lost Communications
  - 7700 – Emergency

- ATC Service

- Departure/Arrival/Center – VFR flight following
- Can provide vectors, may be useful if you are lost



# ADS-B System



- Automatic Dependent Surveillance–Broadcast (ADS–B) is an advanced surveillance technology that combines an aircraft’s positioning source, aircraft avionics, and a ground infrastructure to create an accurate surveillance interface between aircraft and ATC.
- ADS–B is a performance–based surveillance technology that is more precise than radar and consists of two different services
- ADS–B Out - ADS-B Out works by broadcasting the aircraft's GPS location, altitude, ground speed and other data to ground stations and other aircraft, once per second.
- ADS–B In - ADS-B In provides operators of properly equipped aircraft with weather and traffic position information delivered directly to the cockpit.

# ADS-B Out Required Airspace



# Flight Services

- Can file, activate and close Flight Plans
- Can provide weather updates
- 1800WXBRIEF.com (1-800-992-7433)
  - Setup a user name and password
- If you have not closed or cancelled an activated flight plan within 30 minutes of your ETA, Flight Services will start looking for you and may activate Search and Rescue Operations to find you





# Radio Communication Procedures

- VHF Radio Equipment

- Active vs Standby
- Frequency Selection



- Talking on the Radio

- Mic needs to be close to your lips



- Who you are calling, who you are (aircraft N-number), where you are, what you want (or what is next)

- “Pierce Country Traffic, Cessna 5955 Echo is 10 mile Southwest, 2,500, inbound for landing, Pierce Country Traffic”





# Radio Communication Procedures

- Phonetic Alphabet
- Decimals is “point”
- 9 = “niner”
- 4,500 ft is “four thousand, five hundred” not “forty-five hundred”
- Self-Announcing on CTAF
  - Most of your radio calls to report your position.
    - Generally done 10 miles out, 3 or 5 miles out, and on each leg of the traffic pattern (45° entry, downwind, base, final, takeoff, upwind or departure leg)
    - Other calls to sort out any confusion or maybe to change the takeoff and landing runway
- Towered procedures – Checkin with Tower and then they will direct you which pattern to fly, etc.

# Sources of Flight Information

- 1800WXBRIEF can be your one-stop shop for flight information
  - FAA funded to give pilots a free source of NOTAMS, Weather and ability to file flight plans
- Chart Supplement
- FARs
- AIM
- NOTAMs
- Advisory Circulars – Explain methods of complying with the regulations or may give non-regulatory guidance

# Completion Standards

- Demonstrate understanding of ATC services, radio procedures and sources of flight information
- Complete the quizzes for Chapter 5A, B and C with minimum score of 80%

# Any Questions?

- Next – AVP 105 - Ground Lesson 6 – Stage 1 Exam
- Review Chapters 1-5