

## 5 P2: VATSIM Pilot Fundamentals Rating Criteria

5.1 ATOs are free to choose any powered heavier than air aircraft to use in this rating.

5.1.1 The chosen aircraft are listed in the application to deliver the P2 rating and subject to approval as a part of the application

5.1.2 One or more aircraft types may be used by the ATO to deliver this rating

5.1.3 The purpose of this rating is to ensure the student pilot is capable of handling the selected aircraft and its systems in normal flight conditions without use of automated flight control systems, i.e., hand flying, while under online VATSIM ATC control from start up and taxi through landing and parking.

### 5.2 Understanding Flight

#### 5.2.1 Four forces of flight

5.2.1.1 Lift, drag, weight, thrust

#### 5.2.2 Center of Gravity

5.2.2.1 Effect of cargo, passengers, and fuel distribution

#### 5.2.3 Aircraft Axis

5.2.3.1 Pitch, roll, and yaw

5.2.3.2 Pilot Control inputs

### 5.3 Control the aircraft

5.3.1 Be able to maintain while hand flying the aircraft

5.3.1.1 Altitude +/- 100 ft

5.3.1.2 Heading +/- 10 degrees

5.3.1.3 Airspeed +/- 10 knts IAS

5.3.2 Make coordinated turns with proper rudder pressure

5.3.3 Understand Performance and Limitations

5.3.3.1 Take off and landing distances

5.3.3.2 Density Altitude

5.3.3.3 Fuel consumption and planning

5.3.3.4 Weight and Balance

5.3.3.5 Distance and Range

5.3.3.6 Climb and Descent Settings

5.3.3.7 Cruise settings

5.3.3.7.1 Best fuel economy

5.3.3.7.2 Best Range

5.3.3.7.3 Best Speed

5.3.3.7.4 Altitude considerations

5.3.4 Able to make appropriate engine and configuration changes to comply with ATC instructions

5.3.5 Able to choose a heading to compensate for winds aloft to follow a consistent ground track +/- 10 degrees

5.3.6 Able to start the aircraft from a 'cold' condition, bring all aircraft systems to flight readiness, and return the aircraft to 'cold' after parking at the end of the flight.

5.3.7 Able to taxi, take off, level, cruise, approach and land the aircraft within the published engine, configuration, and airspeed parameters

5.3.8 Understands emergencies appropriate for the aircraft type and VATSIM, and how to conduct them provided ATC approval is secured prior to commencing the emergency.

5.3.9 Interpreting this requirement

5.3.9.1 The student shall be able to describe and demonstrate these basics of flight and aircraft systems with the approved ATO aircraft.

### 5.4 Aircraft Systems

#### 5.4.1 Powerplant

5.4.2 Propellers (if applicable)

5.4.3 Wings and Empennage

5.4.3.1 Flaps, slats, spoilers, air brakes

5.4.3.2 Mechanical or Electric Trim tabs

5.4.4 Landing Gear

5.4.4.1 Normal and Emergency Extension

5.4.5 Basic Flight Instruments

5.4.5.1 Altimeter

5.4.5.2 Airspeed

5.4.5.3 Artificial Horizon

- 5.4.5.4 Turn and Bank
- 5.4.5.5 Vertical Speed Indicator
- 5.4.5.6 Directional Gyro
- 5.4.5.7 Wet compass
- 5.4.5.8 Outside Air Temp
- 5.4.6 Engine Instruments
- 5.4.7 Pitot/Static System
  - 5.4.7.1 Pitot Heat
- 5.4.8 Navigation, Instrument, and Landing Lights
- 5.4.9 Interpreting this requirement
  - 5.4.9.1 The student shall be able to describe and demonstrate the use of these aircraft systems using the approved ATO aircraft.
- 5.5 Practical Test Flights for Rating with VATSIM online ATC services
  - 5.5.1 ATO may choose any powered heavier than air aircraft for the training and test flights
  - 5.5.2 Flight requirements
    - 5.5.2.1 File flight plan either VFR or IFR
    - 5.5.2.2 Appropriate preflight planning including a weight and balance for the flight assuming the pilot and a 190 lbs (86 kg) examiner for the flight. If aircraft has other required crew they should be included.
    - 5.5.2.3 Load fuel to complete flight with a diversion allowance of 50 nm and landing with local VFR fuel reserve remaining in the tank
    - 5.5.2.4 Operate the aircraft through all aspects of ground and flight operation appropriate to the aircraft's documented procedures while online and communicating with ATC.
    - 5.5.2.5 Follow all ATC instructions
    - 5.5.2.6 A minimum of 30 minutes under positive VATSIM online ATC control is required during the flight
  - 5.5.3 Interpreting this requirement
    - 5.5.3.1 The student shall demonstrate proper operation of the aircraft in all phases of flight as described in 5.3 "Control the aircraft" above.