

REQUEST FOR LETTER OF DEVIATION AUTHORITY (L.O.D.A.)

SUBMITTED BY:

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## TABLE OF CONTENTS

1. REQUEST JUSTIFICATION
2. TRAINING PROGRAM DETAILS AND LIMITATIONS
3. AIRWORTHINESS CERTIFICATE
4. OPERATING LIMITATIONS
5. AIRCRAFT REGISTRATION

## 1. REQUEST JUSTIFICATION:

The Pitts Model 12 is a high-performance, single engine, tandem two seat aircraft. All Pitts Model 12 aircraft are classified as Experimental, primarily amateur built, with approximately 15 aircraft classified as Exhibition, which are factory built. The Pitts Model 12 differs greatly in its flight characteristics and systems from any other Pitts (S1 and S2). These differences are significant and Pitts Model 12 specific training is essential to the safe operation of these aircraft.

Among the significant differences are:

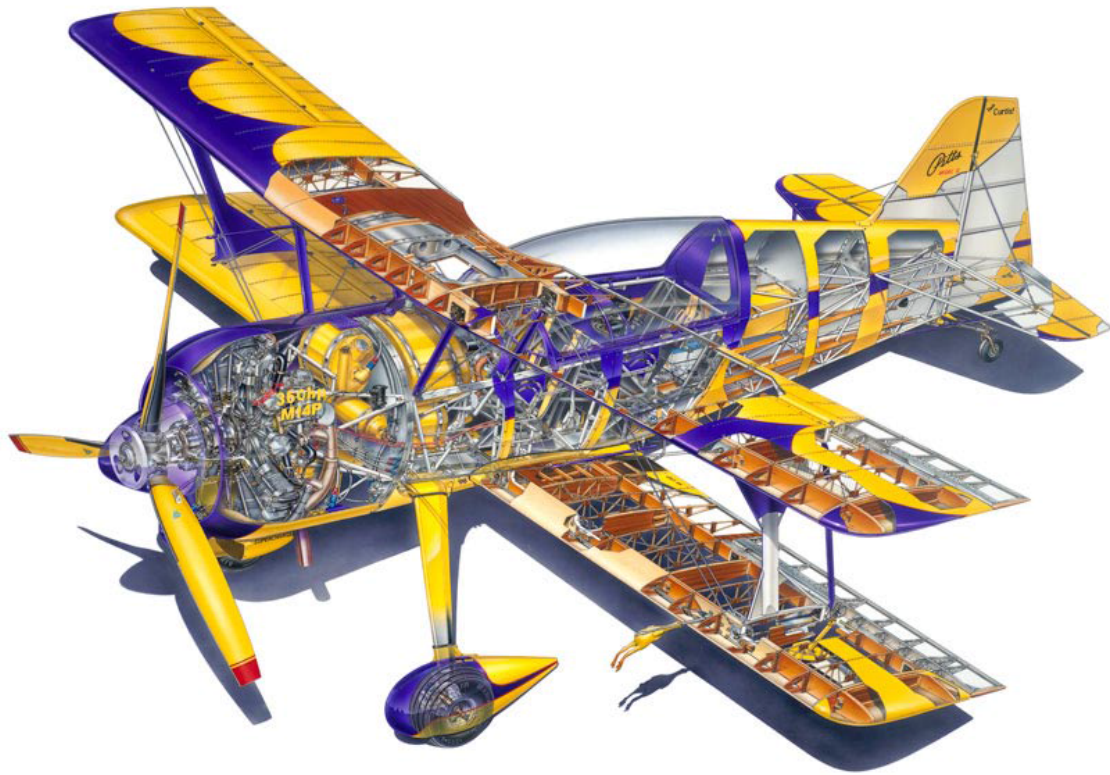
- Power Plant: All Pitts Model 12 aircraft are powered by Vedeneyev M-14P(F) radial engines. These are Eastern Bloc engines and rotate the propeller the opposite direction of US produced engines. This results in any training/habits developed in traditional Pitts aircraft needing to be 'unlearned' as they are opposite in a Pitts Model 12. This difference affects all phases of flight.
- Starting System: The Pitts Model 12 utilizes a pneumatic air-starting system. Starting, shutdown, storage and flight operations are affected by this system difference.
- Physical Size and Power-to-Weight Ratio: The Pitts Model 12 is significantly physically larger than any other Pitts variant and the power-to-weight ratio is typically greater in the Pitts Model 12. It is not unusual for Pitts Model 12 aircraft to have 1:1 power-to weight ratio.

While previous Pitts (S1-S2) aircraft experience is beneficial, it is not adequate to safely pilot a Pitts Model 12; specialized, model specific training is necessary. There are currently no L.O.D.A.s issued for the Pitts Model 12. With nearly 100 aircraft flying, there is a real need to address the lack of non-owner training availability. I appreciate your consideration; please feel free to contact me with any questions.

Respectfully,

Scott A. Drenner

## 2. TRAINING PROGRAM DETAILS AND LIMITATIONS:



Pitts Model 12 Familiarization Training

Scott Drenner CFI, CFII

Preface:

The following training modules assume student is a certificated, Sport Pilot, Recreational Pilot, Private Pilot or Commercial Pilot with a rating of 'Airplane Single Engine Land'. Student must also have approved and current medical documents and appropriate log book endorsements in accordance with 61.31 for the type of aircraft in which the training is to be provided. The following training modules focus on the unique physical and flight characteristics of the Pitts Model 12. Training modules include:

- 1.) Preflight / Review of aircraft and engine unique characteristics
- 2.) Start up / Taxi
- 3.) Run up / Takeoff
- 4.) Landing
- 5.) Emergencies / Unusual Attitudes
- 6.) Shut down / Post flight

## **Module #1: Preflight / Review of aircraft and engine unique characteristics**

**Dual**—ground: 2.0, flight: 0

**Objective:** To gain an understanding of preflight activities unique to the Pitts Model 12

**Visual Aids:** Whiteboard, model aircraft, actual aircraft

### **Review:**

1. Aircraft systems
2. Airframe attributes
3. Importance of engine hydraulic lock prevention and systems
4. Use and maintenance of air starting system
5. Use and maintenance of heating shutters
6. Safety equipment and use

### **Completion standards:**

1. Demonstrate ability to complete preflight inspection independently
2. Explain causes/risks/prevention of engine hydraulic lock
3. Explain proper steps to take when preflight anomalies are detected

## **Module #2: Start up / Taxi**

**Dual**—ground: 1.0, flight: 1.0

**Objective:** To gain an understanding of start-up and taxi activities unique to the Pitts Model 12

**Visual Aids:** Whiteboard, model aircraft, actual aircraft

### **Review:**

1. Starting procedure (stress differences from traditional US built engines)
2. Failed starting procedures
3. Engine fire procedures
4. Warm-up procedures and appropriate running engine parameters
5. Tail wheel awareness and use (stress importance of not over controlling)
6. Appropriate taxi technique (stress extreme limited forward visibility)

### **Completion standards:**

1. Demonstrate ability to complete start up procedure independently
2. Explain starting procedures, engine fire procedures, and appropriate engine temps
3. Demonstrate appropriate taxiing technique

### **Module #3: Run up / Takeoff**

**Dual**—ground: 0.5, flight: 2.0

**Objective:** To gain an understanding run up and takeoff activities unique to the Pitts Model 12

**Visual Aids:** Whiteboard, model aircraft, actual aircraft

#### **Review:**

1. Ground run up limitations (stress RMP limits, min/max engine temps)
2. Air compressor limits and unload prior to take off
3. Take off attitude (stress do not lift tail)
4. Very rapid acceleration, very short ground roll
5. Proper rudder application and runway alignment
6. Aborted takeoffs

#### **Completion standards:**

1. Demonstrate ability to complete run up and take off independently
2. Explain RMP and temp limits and the importance of adhering to limits
3. Demonstrate ability to properly negotiate an aborted take off

### **Module #4: Landings**

**Dual**—ground: 1.5, flight: 3.5

**Objective:** To gain an understanding of landing activities unique to the Pitts Model 12

**Visual Aids:** Whiteboard, model aircraft, actual aircraft

#### **Review:**

1. Target altitudes, power settings, airspeeds
2. Techniques to achieve and maintain runway visibility (stress traditional approach/landing profiles are ineffective in Pitts Model 12)
3. Power on and power off approaches
4. Touchdown and ground run (stress do not over control)
5. Go around procedures

#### **Completion standards:**

1. Demonstrate ability to complete varied approaches and landings independently
2. Maintain directional control throughout landing and ground run
3. Demonstrate ability to complete go around and reconfigure aircraft for landing

## **Module #5: Emergencies / Unusual Attitudes**

**Dual**—ground: 1.5, flight: 2.0

**Objective:** To gain an understanding of emergencies and unusual attitudes unique to the Pitts Model 12

**Visual Aids:** Whiteboard, model aircraft, actual aircraft

### **Review:**

1. Partial engine failure
2. Complete engine failure
3. In flight fire
4. Inadvertent stalls/spins and unusual attitudes
5. Key speeds and low glide ratio

### **Completion standards:**

1. Demonstrate ability to appropriately react to simulated emergencies
2. Demonstrate ability to enter and recover from intentional stall/spin
3. Explain key aircraft speeds/configurations and effects of low glide ratio

## **Module #6: Shutdown / Post flight**

**Dual**—ground: 1.0, flight: 0

**Objective:** To gain an understanding of shutdown/post flight activities unique to the Pitts Model 12

**Visual Aids:** Whiteboard, model aircraft, actual aircraft

### **Review:**

1. Engine shutdown procedure
2. Function of oil shutoff and scavenge pump
3. Function of lower cylinder drainage system
4. Function of air start system shutdown
5. Proper propeller alignment

### **Completion standards:**

1. Demonstrate ability to properly shutdown and secure aircraft independently
2. Explain importance of completing proper shut down procedures and potential consequences of failing to complete