

**FLIGHT/APPRENTICE**

**TECNAM P2006T**

# **Course Study Guide**



# Log of Revisions

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1	04/23/2022	Original
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# Study Strategy

This guide contains a summary of the Tecnam P2006T Course flashcard questions, and is intended to be used in evaluating your own understanding of the course content. You should use it to recognize weak areas for further study.

1. Review your notes, flashcards, and any subject areas in which you know you're not fully prepared.
2. When you feel like you have a good grasp of general concepts, go through the Tecnam P2006T Course Study Guide (the one without the answer key). Write down your answers and mark questions when you don't know the answers.
3. Re-study the problem subject areas identified in step #2.
4. Once you again feel comfortable with all the subject areas, go through this document, (with the answer key) and verify you have the correct answers. Where you don't, go back through, study, and make sure you improve your understanding of those subject area(s).

We highly recommend thinking about the content on your own and discussing any questions with your instructor before consulting this guide for the "answers". **Although it is not the most enjoyable process, thinking critically about the subject is the best way to encourage long term retention of this information, which is the real goal.**

This guide is for informational purposes only. We've designed it to help pilots learn and apply concepts in the real world, and to improve their flight training efficiency. But it is not a substitute for time in an airplane with a flight instructor.

# Overview

## Differences From Other Light Twins

Does the Tecnam P2006T have a critical engine?

What equipment item in ATOMATOFLAMES is different for the Tecnam P2006T than for most light trainers?

Are the engines direct drive?

Briefly explain the function and purpose of the door lock mechanism.

What unique aspect of the quality makes P2006T performance calculations likely to include error?

Does the P2006T use fuel transfer?

The P2006T gear system is relatively standard, with one very big exception. What is that exception?

## Limitations

What type of operations is the P2006T approved for?

What is the maximum operating altitude?

What is the minimum operating temperature?

What is the minimum pressure for the emergency landing gear accumulator?

Are spins permitted?

What kinds of stalls are not permitted?

What are the flaps up loadfactor limits?

What are the flaps down loadfactor limits?

What is rotation speed in KIAS?

What is  $V_Y$  in KIAS?

What is  $V_X$  in KIAS?

What is  $V_A$  in KIAS?

What is VNE in KIAS?

What is the maximum takeoff weight?

What is the forward CG limit?

What is the maximum power?

What is the maximum continuous power?

When can oil pressure be 102 PSI indicated?

What is the maximum fuel capacity?

What is the normal operating range for the voltmeter?

# Systems

## Electrical

Describe the major components of the electrical system.

How many buses comprise the electrical system? What are they?

Under normal conditions, how are buses powered?

What do the cross-bus switches do?

How long can the battery provide electrical power in an emergency?

Is the P2006T electrical system AC or DC?

What is the battery voltage and amperage?

How are the avionics buses powered?

What is the function of the field switches?

What is the purpose of the integrated generator regulator?

Can the starters engage with the master switch off? Why or why not?

## Engines & Propeller

Describe the engine system.

How is the engine cooled?

What is the purpose of the expansion tank?

What is the purpose of the overflow container?

Why is the Rotax 912 liquid-cooled?

Describe the oil system.

What is the maximum power rating?

How many carburetors does each engine have?

Describe the transit of a drop of coolant, starting at the radiator.

What force moves coolant from the overflow container back into the expansion tank?

Describe the transit of a drop of oil, starting at the radiator.

What advantage does MOGAS provide over 100LL?

How is propeller pitch controlled?

If a propeller hub loses oil pressure, what pitch will the blades move to? What function drive this, and why is it built this way?

## Fuel

What is the capacity of each tank? What is the total fuel capacity?

What is the total useable fuel capacity?

How many drain points must be drained before flight?

What is engine cross-feed? How does it work?

What is the difference between fuel cross-feed and fuel transfer?

Describe the fuel selector positions.

How is the fuel fed from the tanks to the engine?

Where is the fuel-sensing unit located?

## Gear

Describe the landing gear system.

How is the hydraulic pump powered?

How is the landing gear held up?

If the landing gear fails to extend, what backup is available?

What does a green landing gear light indicate?

What does a red landing gear light indicate?

What does an amber landing gear light indicate?

When will the gear warning horn sound?



What procedure is recommended by the POH in the event of a main gear that is not down and locked?

## **Flight Controls**

Describe the primary flight control system.

What mechanism allows the pilot to move the primary flight controls?

Describe the secondary flight control system.

Describe the pitch trim system.

What is a stabilator? How does it differ from an elevator?

What is an anti-servo tab?

How is the rudder trim controlled?

Describe the aileron trim system.

How are the flaps controlled?

# Performance

## Weight and Balance

What is the aircraft final weight and CG given the following? Does it fall within the CG envelope?

- Empty Mass Moment A/C — 2,734lbs
- A/C Empty Mass — 1,7041lbs
- Front Seats — 325lbs
- Rear Seats — 200lbs
- Fuel — 45gal
- Baggage — 80lbs

What is the aircraft final weight and CG given the following? Does it fall within the CG envelope?

- Empty Mass Moment A/C — 2,734lbs
- A/C Empty Mass — 1,7041lbs
- Front Seats — 425lbs
- Rear Seats — 340lbs
- Fuel — 48gal
- Baggage — 115lbs

What is the aircraft final weight and CG given the following? Does it fall within the CG envelope?

- Empty Mass Moment A/C — 2,734lbs
- A/C Empty Mass — 1,7041lbs
- Front Seats — 125lbs
- Rear Seats — 0lbs
- Fuel — 25gal

- Baggage — 5lbs

## Takeoff and Landing Performance

What is the takeoff distance over a 50 foot obstacle, given the following?

- Weight — 2,712lbs
- Pressure Altitude — 2,500 feet
- Temperature — 25°C
- Tailwind — 6 knots
- Runway — Paved
- Slope — .2% Up

What is the takeoff distance over a 50 foot obstacle, given the following?

- Weight — 2,712lbs
- Pressure Altitude — 500 feet
- Temperature — 5°C
- Tailwind — 0 knots
- Runway — Paved
- Slope — Level

What is the takeoff distance over a 50 foot obstacle, given the following?

- Weight — 2,712lbs
- Pressure Altitude — 3,500 feet
- Temperature — 30°C
- Tailwind — 5 knots

- Runway — Paved
- Slope — .2% Up

## Cruise Performance

What is the fuel burn, power %, and true airspeed, given the following?

- Weight — 2,535lbs
- Pressure Altitude — 9,000 feet
- Temperature — -33°C
- RPM — 2,100
- Manifold Pressure — 18"Hg

What is the fuel burn, power %, and true airspeed, given the following?

- Weight — 2,535lbs
- Pressure Altitude — 12,000 feet
- Temperature — -9°C
- RPM — 2,250
- Manifold Pressure — 18"Hg

What is the fuel burn, power %, and true airspeed, given the following?

- Weight — 2,535lbs
- Pressure Altitude — 10,500 feet
- Temperature — -6°C
- RPM — 1,900
- Manifold Pressure — 18"Hg

# Maneuvers

## Preflight, Towing, Fueling

Why must pilots rotate the propeller during pre-flight?

What fluid levels must pilots check during pre-flight?

What indicates that oil has been pumped through the system?

What is the minimum required pressure for the emergency gear extension system?

What unique procedure must be followed before towing the Tecnam P2006T?

When towing, avoid moving the nose gear more than \_\_\_ degrees.

## Takeoffs

What normal flap setting is used for takeoffs?

Describe the typical climb profile

Maintain Blue Line until at least \_\_\_ feet.

What is the primary difference between a normal and short-field takeoff procedure?

## Landings

Landings are usually accomplished with what flap setting?

What is target speed for pattern entry?

Describe the approach procedure from downwind to touchdown.

How do the normal and short-field landing procedures differ?

What is the go-around procedure?

What should pilots do before increasing manifold pressure on a go around?

## Stalls

How is approach to stall recognized?

How is impending stall recognized?

Describe the power-off stall procedure.

Describe the power-on stall procedure

What configuration(s) is/are used for a power-on stall?

In what sequence are configuration changes made in stall recoveries?

## Steep Turns

What power setting is used for steep turns?

## Engine Failure

Where can intentional shutdowns for training purposes be performed?

Given sufficient time, what general procedures should pilots follow after experiencing an engine failure?

## Engine Restart

What considerations influence whether or not a pilot should attempt to restart a failed engine?

## V<sub>MC</sub> Demo

What is the purpose of the V<sub>MC</sub> Demo?

## Drag Demo

What is the purpose of the Drag Demo?

## Single-Engine ILS

What are the major differences between a single-engine and two-engine ILS approach?