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PilotsOnlineAcademy.com

Making Superior Piloting Simple

Parts of an Airplane

Here's What to Expect

- You will learn what to call all of the major parts of a typical single-engine trainer;
- and commonly used alternative terms for some of those parts.
- This is just the first video in an entire series on Superior Piloting Techniques.

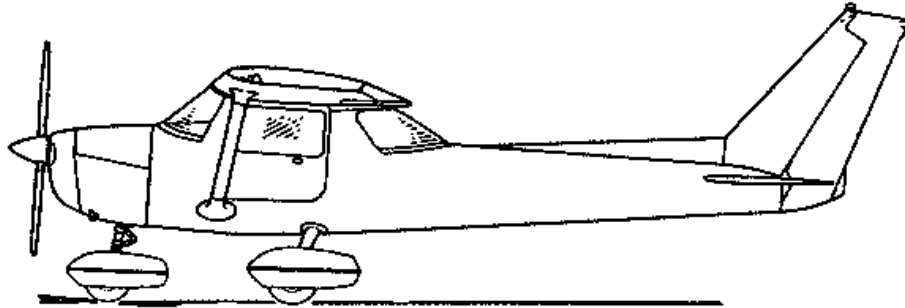
First Thing You Need to Do

1. **Create a folder** on your Hard Drive and name it **“Pilot’s Online Academy”**.
2. In that folder **create a sub-folder** and name it **“Superior Piloting Techniques – Basics”**.
3. **Create a “Superior Piloting Techniques – Notes” text file** and **keep your notes there** as you go through the material.

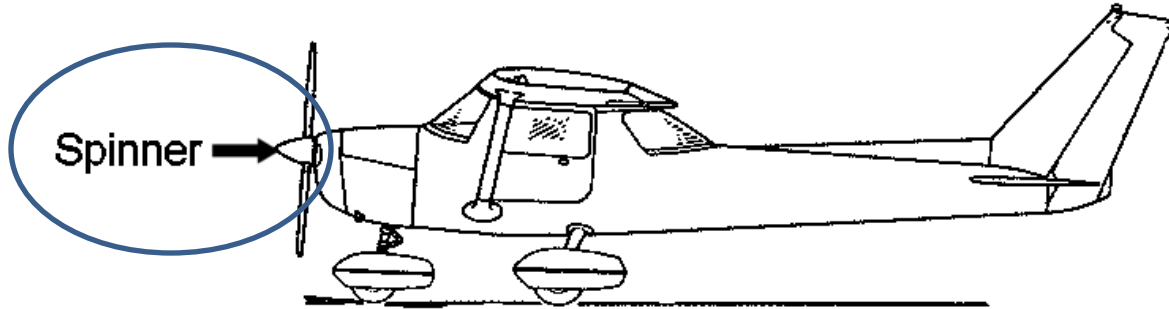
Why You Should Learn Definitions Now

- So you don't have to pay a flight instructor to teach you the terms – saving you time and money.
- So you can focus on flying (*and not wonder what he or she meant*).
- So you can communicate effectively with other members of the aviation community.

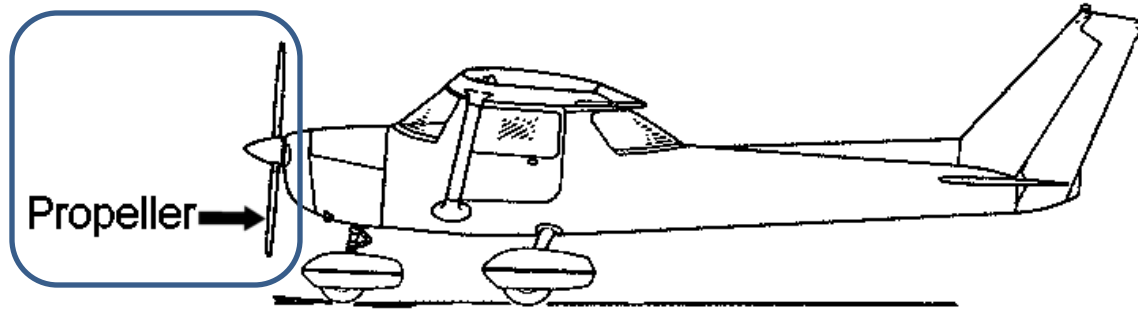
We'll use a Cessna 152, a typical trainer because you are more likely to learn in either a C152 or its four-seat cousin, the C172.



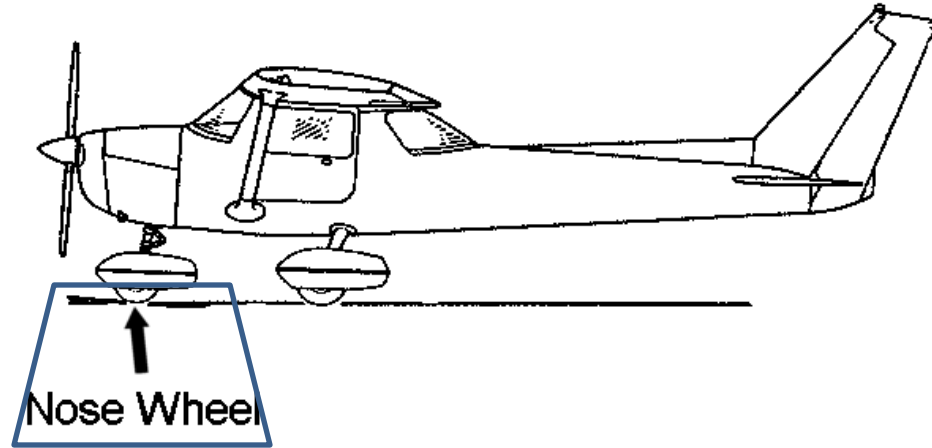
The Spinner Smooths the Airflow Reducing Drag and Increasing Speed



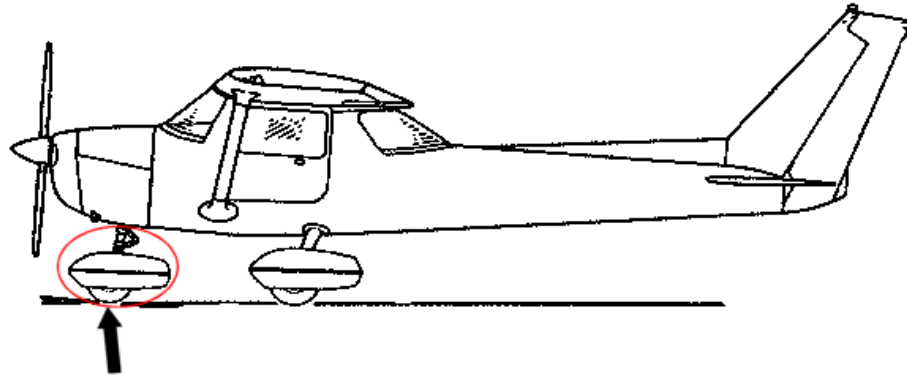
The Propeller Blows Air Backward Providing Thrust



The Nose Wheel Pivots and is Used for Steering on the Ground

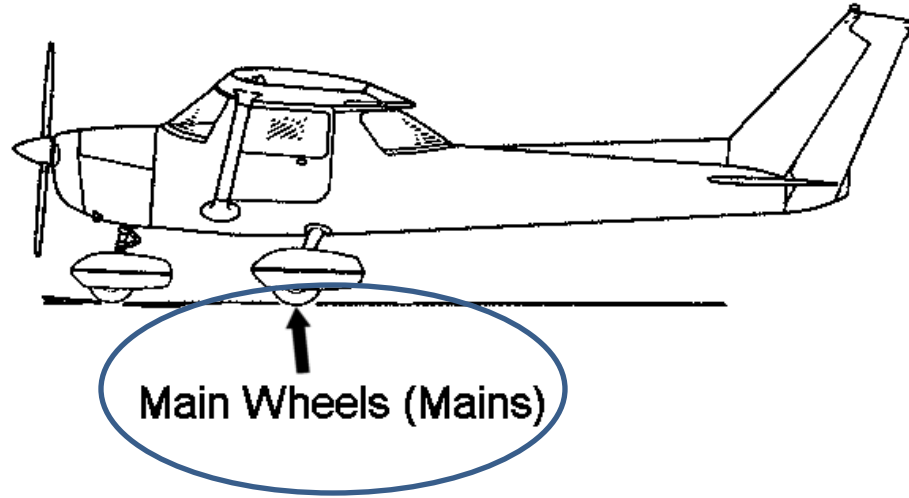


The Nose Gear Includes the Wheel, Fairing, and the complete Assembly

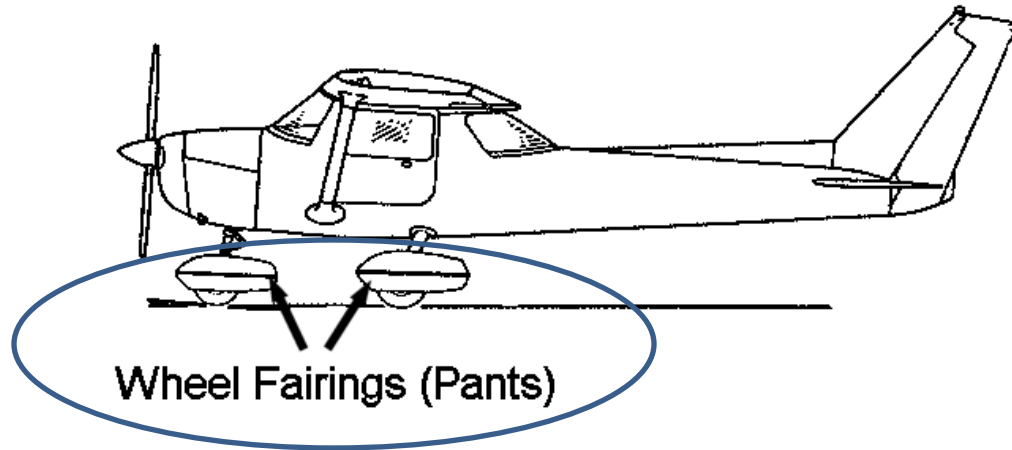


Nose Gear (Nose Landing Gear)

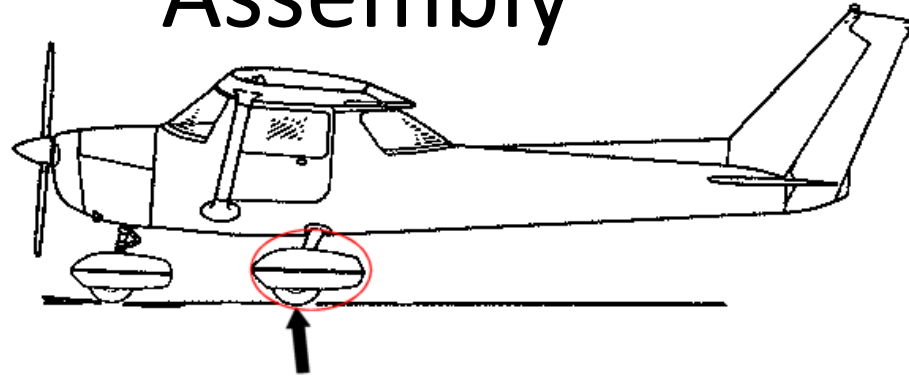
The Main Wheels Support over 90% of the Cessna's Weight



The Wheel Fairings Smooth the Airflow past the Wheels and Reduce Drag so the Airplane can go Faster

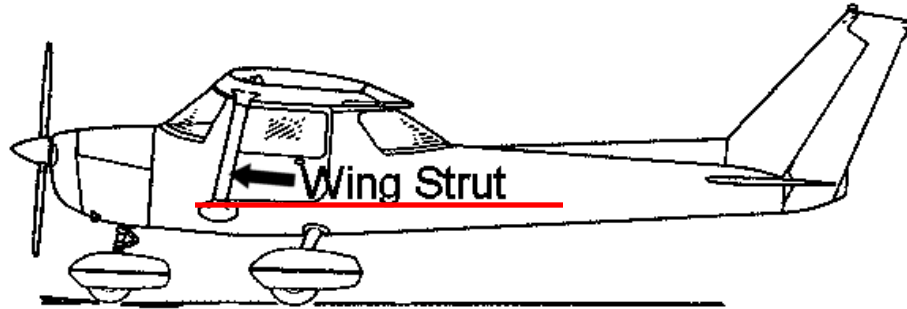


The Main Landing Gear Includes Wheels, Fairing and the Full Assembly

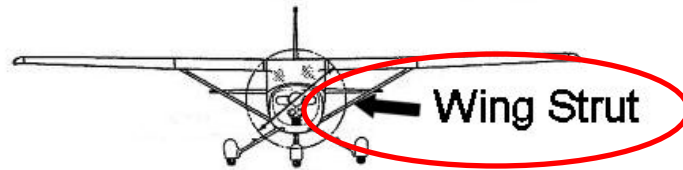


Main Landing Gear

The Wing Strut Strengthens the Wings

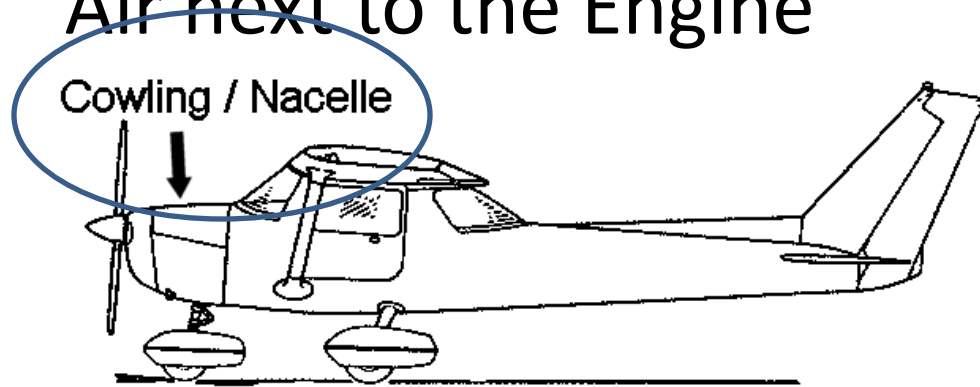


The Wing Strut Connects the Wing to the Bottom of the Fuselage

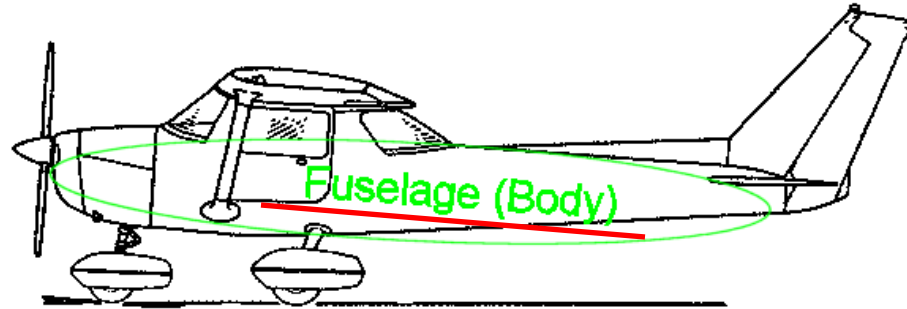


The Cowling or Engine Nacelle, Smooths the
Airflow past the Engine and Funnel Cooling

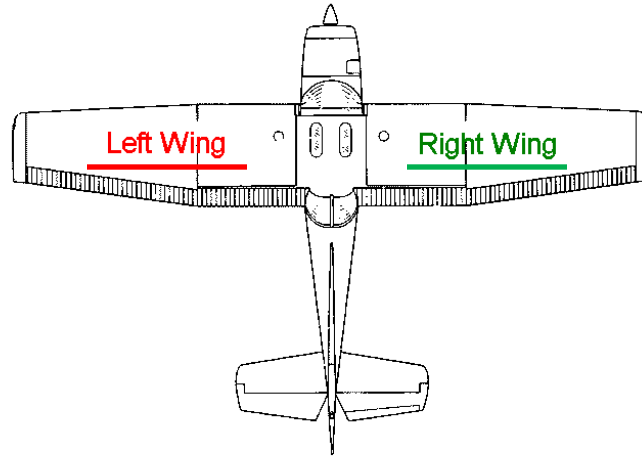
Air next to the Engine



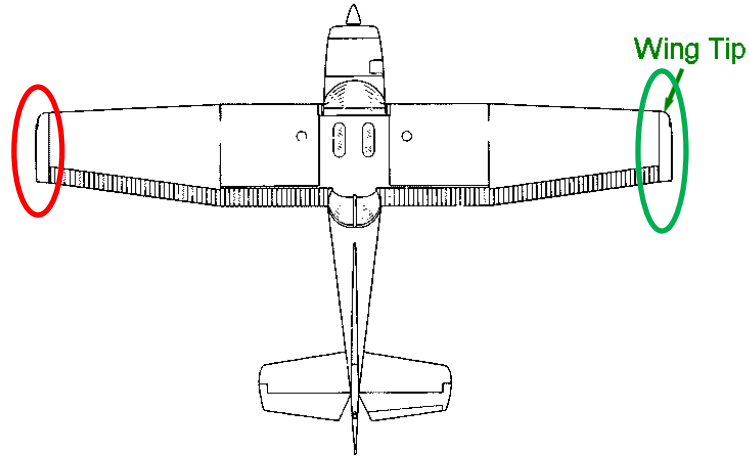
The Body of the Airplane is also Known as the Fuselage



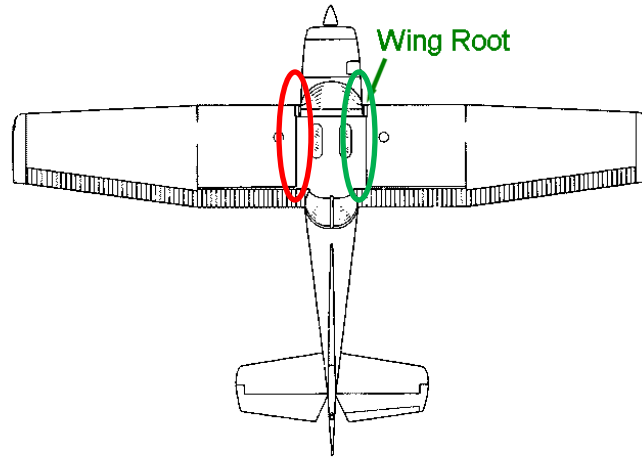
Wings provide most of the Lift for the
Airplane and hold the Fuel Tanks.



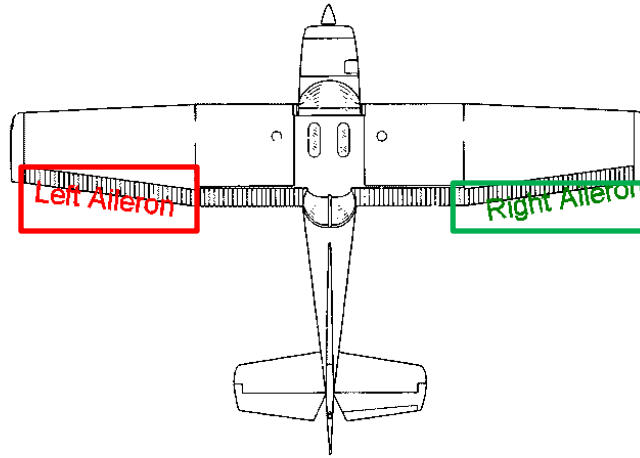
The right Wing Tip is marked with a green position light (not shown). Red on the left.



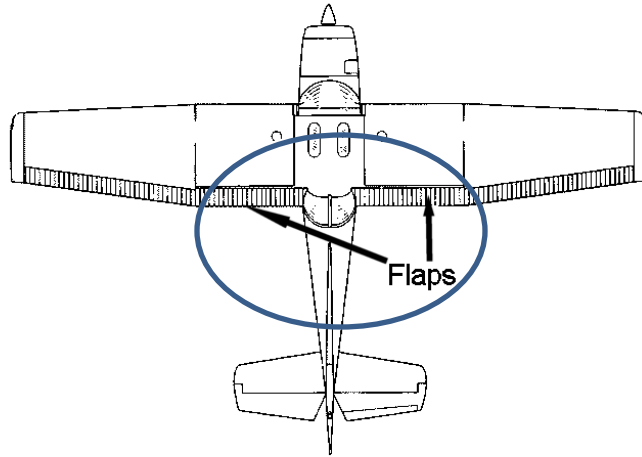
The wing attaches to the fuselage at the
Wing Root.



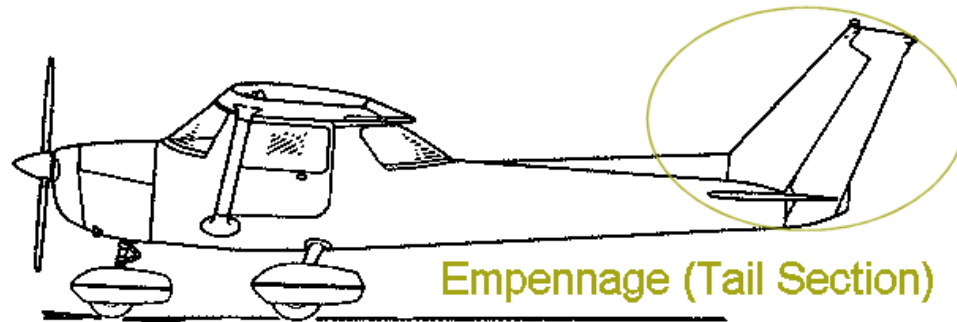
Ailerons are hinged on the trailing edge, outboard section of wings. They move in opposite directions to provide a rolling force for the pilot.



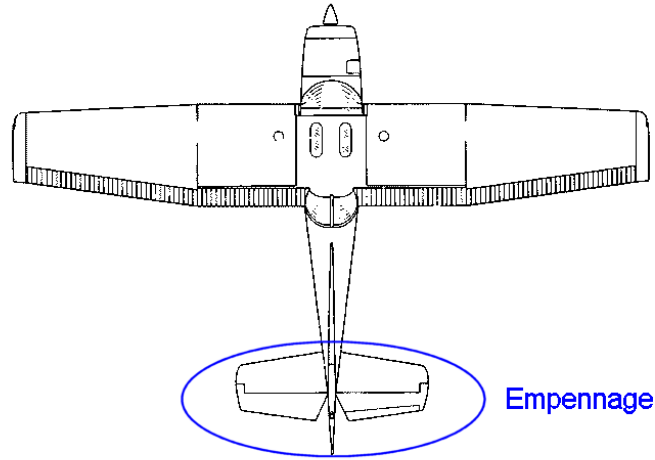
Flaps are on the trailing, inboard section of the wings. They move from neutral to a typical maximum of 40 degrees down deflection. In a single-engine Cessna, they also slide backward as they go down. Flaps increase a wing's lift and drag.



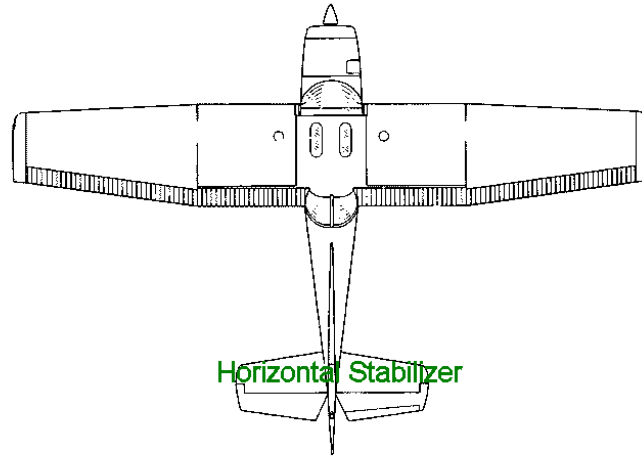
The Entire Tail Section is Known as the Empennage



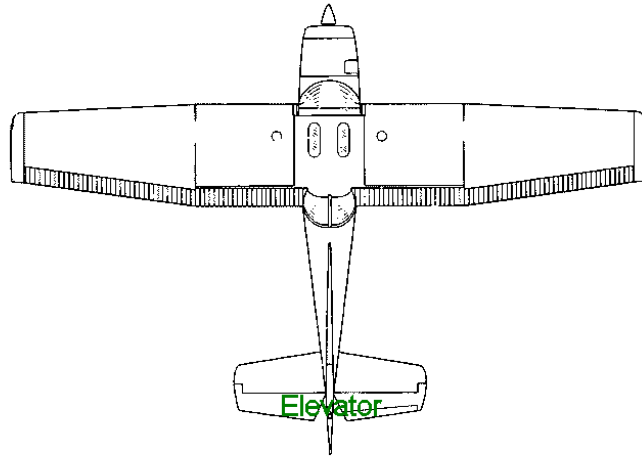
Here's another view of the Empennage.



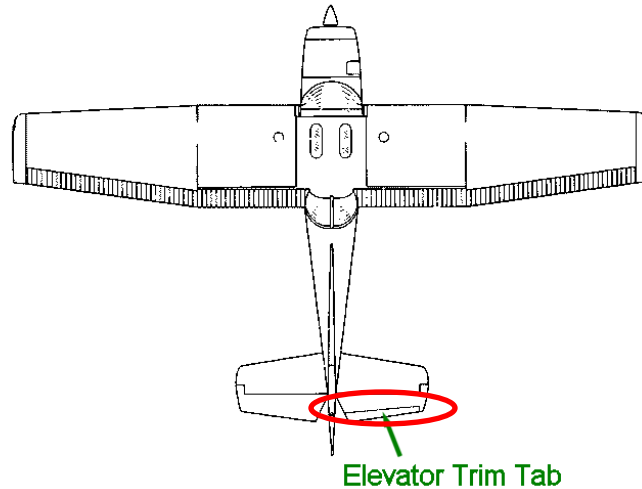
The Horizontal Stabilizer is fixed to the fuselage forward of the elevator.



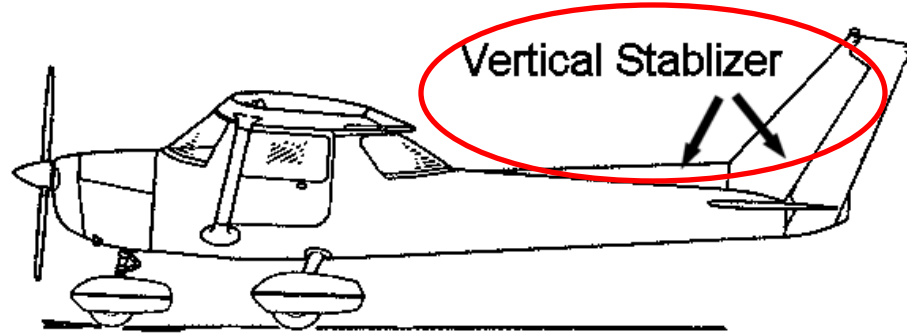
The Elevator is hinged on the trailing edge of the Horizontal Stabilizer. Together they give the pilot pitch control and stability.



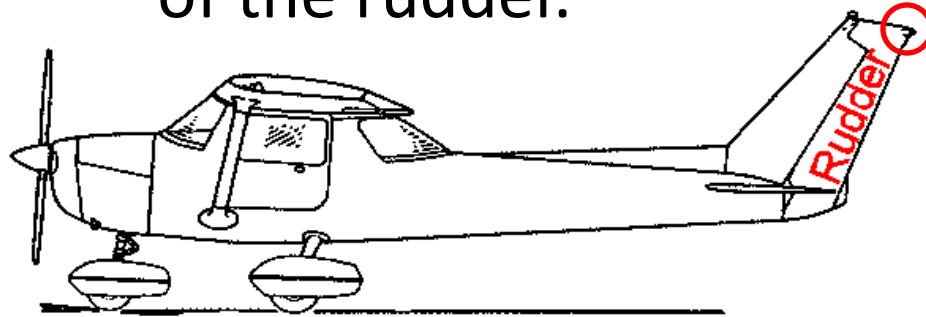
The Elevator Trim Tab is hinged on the trailing edge of the Elevator. The pilot adjusts it to relieve the force felt in the cockpit elevator control.



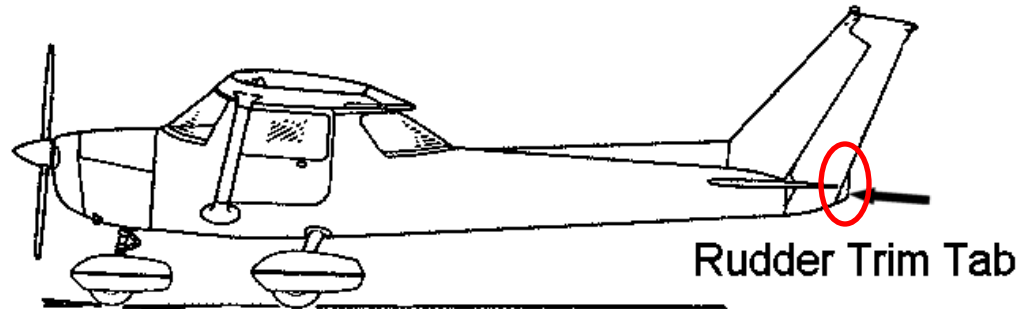
The fixed Airfoils on the top of the Fuselage are called the Vertical Stabilizer



The Rudder is Hinged on the Trailing Edge of the Vertical Stabilizer and Provides Directional Control. A white position light is placed on the aft most part of the rudder.



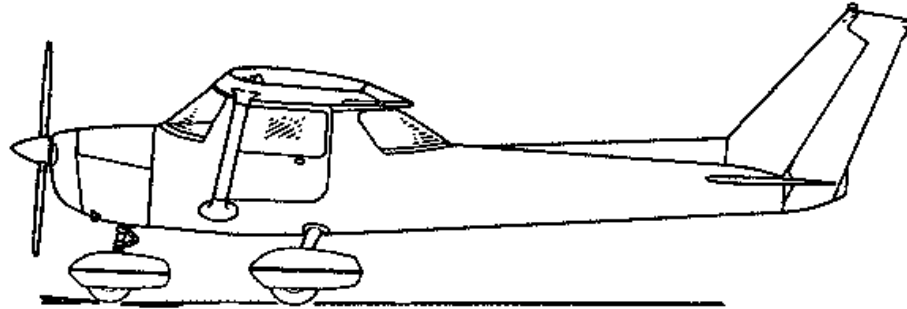
The Rudder Trim Tab (on this airplane) is a fixed, bendable piece of Sheet Metal used to relieve rudder pedal pressure during cruise.



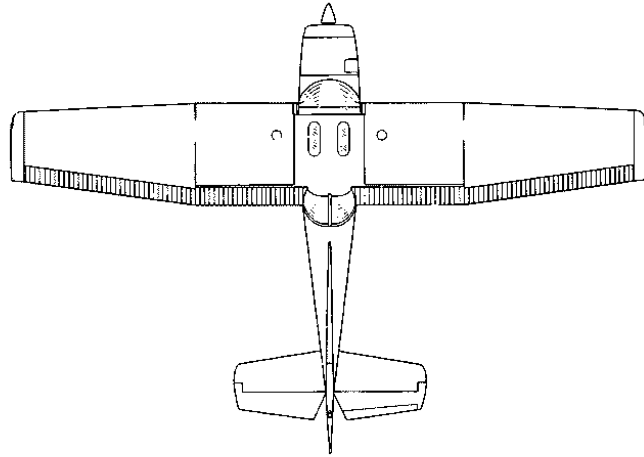
Action Items

- 1. Download this presentation in PDF format.**
- 2. Print the next three pages.**
- 3. Label each of the airplane parts (I have included a list in the presentation).**
- 4. Check yourself.**
- 5. Repeat if needed.**

Print this page from the downloaded PDF.



Print this page from the downloaded PDF.



Parts of an Airplane

- 1 ailerons
- 2 elevator
- 3 elevator trim tab
- 4 empennage
- 5 engine cowling/nacelle
- 6 flaps
- 7 fuselage
- 8 horizontal stabilizer
- 9 main gear
- 10 main wheels
- 11 nose gear
- 12 nose wheel
- 13 propeller
- 14 rudder
- 15 rudder trim tab
- 16 spinner
- 17 vertical stabilizer
- 18 wheel fairings
- 19 wing roots
- 20 wing strut
- 21 wing tips
- 22 wings



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