**Arrow Flying**

A Few Informative Articles

* Airplane Academy— High Wing v. Low Wing Differences
  + <https://airplaneacademy.com/high-wing-vs-low-wing-aircraft-pros-cons-and-key-differences/>
* AOPA— Retractable Landing Gear
  + <https://www.aopa.org/training-and-safety/students/presolo/topics/retractable-landing-gear>
* Boldmethod— How a Constant Speed Propellor Works
  + <https://www.boldmethod.com/learn-to-fly/aircraft-systems/how-a-constant-speed-prop-works/>

A Few Informative Videos (Youtube)

* C Retractable Landing Gear-
  + <https://www.youtube.com/watch?v=dhRiKIf5J6M&t=351s>
* Complex Endorsement (middle bit about prop governor)
  + <https://www.youtube.com/watch?v=B8du_mbUckM&t=1081s>
* Expert Aviator Constant Speed Prop Part 1-
  + <https://www.www.youtube.com/watch?v=GNsnXjxopJM>
* Expert Aviator Constant Speed Prop Part 2-
  + <https://www.youtube.com/watch?v=tIAfmY42siI&t=32s>

**Questions with answers that you must have memorized:**

What is your prelanding checklist?

**Vso:** Stall w/ Flaps, gear: **63 mph**

**Vs:** Stall no Flaps: **69 mph**

**Vx:** Best Angle Speed (Distance traveled):

**Vy:** Best Rate Speed (Time): **100 mph**

**Vfe:** Maximum flap operating speed: **125mph**

**Vlo:** Maximum speed at which you can:

* Retract the gear: **125mph**
* Let the landing gear down: **150mph**

**Va:** Maneuvering Speed: **131 mph**

**Vno:** Max Structural cruise speed (Smooth air): **170mph**

**Vne:** Never exceed: **214 mph**

Are you permitted to intentionally spin this aircraft?

What is the short field take off procedure for this aircraft?

What are the general climb power settings?

What are the generally cruise power settings?

When can you safely advance the prop to its forward / maximum RPM setting?

What is the final approach speed without flaps?

What is the final approach speed with full flaps?

**Questions with answers that do not need memorized:**

1. Have you added this airplane to Foreflight for W&B?

2. What is the max gross weight?

3. With yourself, and full fuel, how much weight can you add to this airplane?

4. Using the number from the question above will it put the W&B outside the acceptable envelope for any of the following conditions:

* all of the weight is in the front seat?
* all of the weight is in the baggage compartment?

(note: does your calculation for part B violate the baggage compartment limitations anyway? )

5. Using your answer from 3 again. Subtract all of the fuel. Is your zero fuel condition inside the envelope?

* (Be prepared to comment on how your answers for 1-5 affect the handling characteristics of the aircraft.)

6. Describe the electrical system of this airplane.

7. Describe the fuel system in this airplane.

8. Describe the landing gear system in this airplane.

(Be sure to address the following:

How does the gear stay up?

How does the gear stay down?

What safety mechanisms keep it down on the ground?

What indications to do you see inside the plane for this system?

How does the emergency extension work?

9. Describe the propeller system in this airplane.

10. Generally for your home airport and temperature, what is a reasonable take-off distance to expect?

11. Generally for your home airport and temperature, what is a reasonable landing distance to expect?