Introductory Flight

February 2, 2013

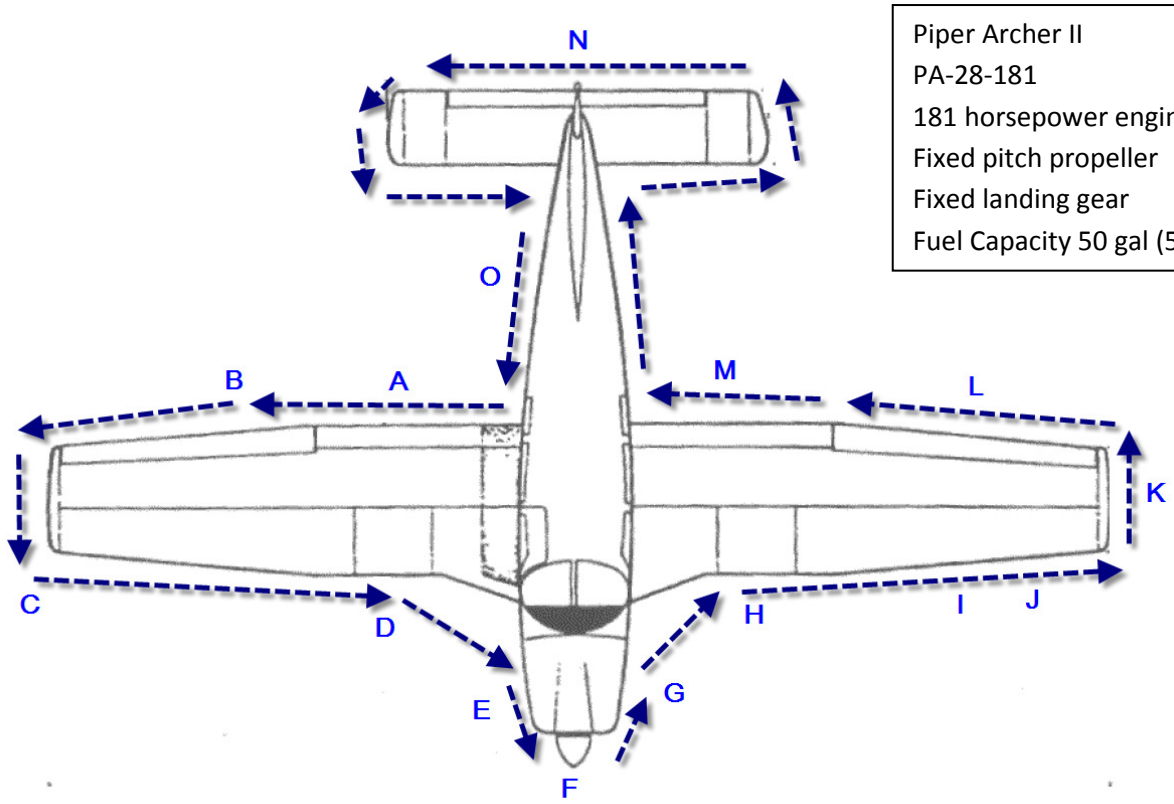
our airplane

What will be covered:

1. Pre-Flight Check
2. Flight Agenda
3. Basic Flight Dynamics

Pre-Flight Check

Piper Archer II
PA-28-181
181 horsepower engine
Fixed pitch propeller
Fixed landing gear
Fuel Capacity 50 gal (5 hrs)



We ALWAYS check functional parts of any airplane before flight:

A. Flaps – Secure
B. Aileron – Hinges & Control Tube
C. Wing Tip – Secure with Lights OK
D. Drain Wing Sump, check for water.
   Inspect Tires & Struts, Check Fuel
E. Check Oil – 6 quarts minimum
F. Check Prop & Nose Wheel, Tires
G. Drain Lowest Sump at Nose
H. Drain Wing Sump, Check for Water
   Inspect Tires & Struts, Check Fuel
I. Check Stall Warning - Free
J. Check Pitot Tube – Clear of obstruction
K. Wing Tip – Secure with Lights OK
L. Aileron – Hinges & Control Tube
M. Flaps – Secure
N. Stabilator & Trim Tab
   Rudder (check connection – do not push)
O. Antennae – Check condition

Before Takeoff:

1. Check radios & transponder
2. Check engine instruments (oil, fuel)
3. Run engine to 2,000 RPM and check BOTH magnetos independently
4. Check Carburetor Heat
5. Check Annunciator Panel (lights)
6. Electric Fuel Pump – ON
7. Check Trim Tab – Neutral
8. Check Controls – Free
9. Door latched.

Takeoff:

1. Align on Runway
2. Adjust Ailerons (if crosswind)
3. Full Power – Stay on Center Line
4. Lift at 60 knots & Level the Aircraft
5. Climb at 85 knots

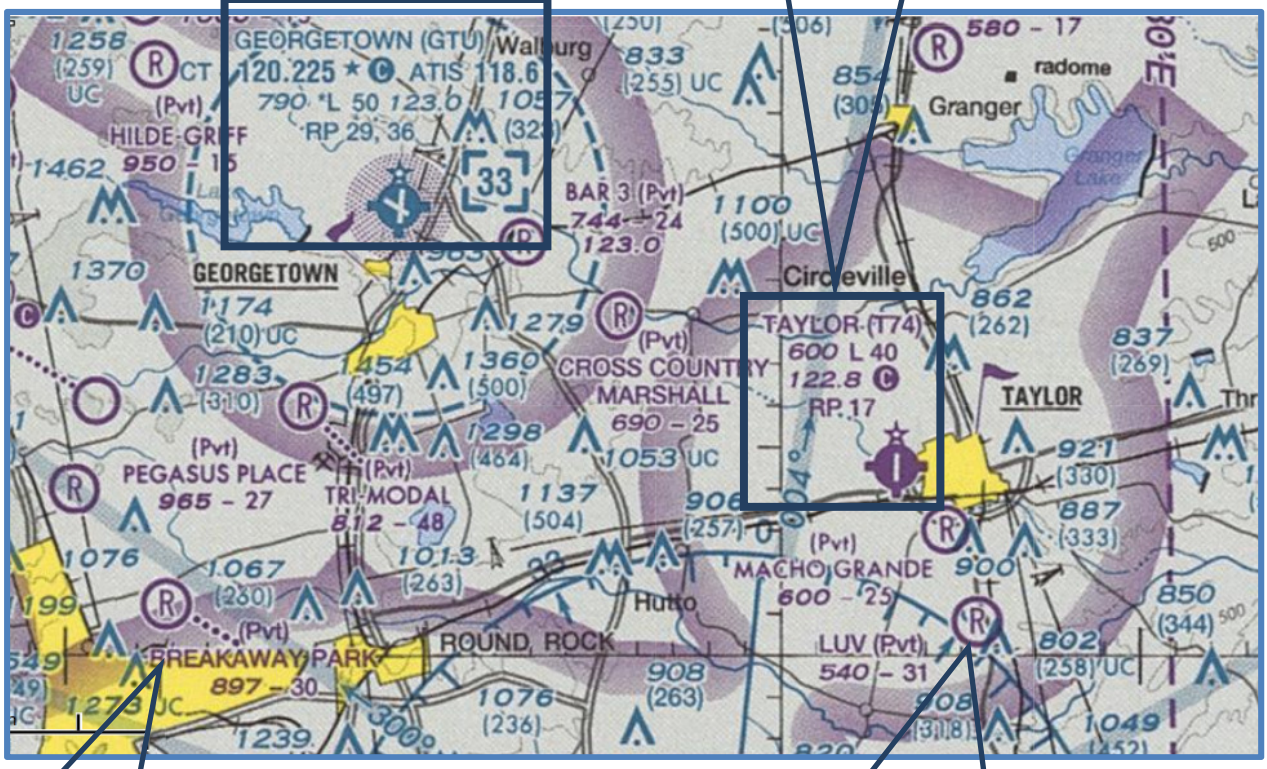
Our Flight Agenda

Each aviator will take turns sitting in the front left (pilot's) seat.

We have 3 waypoints: (1) We start at Georgetown. (2) Fly to Taylor with some time spent over the countryside, where we will cover flight dynamics, then we will land at Taylor. We will switch seats there. Then (3) Fly to Visa Ridge High School; return to Georgetown. Sectional Charts provide a lot of information. Look at the airport legend on the map below and match the data to the description.

1) Georgetown (GTU)
Control Tower (blue color): 120.225
Automatic Terminal Info Service: 118.6
Elevation 790 feet, Lighted, 5000 ft runway
Right (turn) Pattern on Runways 29, 36

2) Taylor (T74)
Uncontrolled Airport (magenta color)
Unicom (used for airplane comm): 122.8
Elevation 600 feet, Lighted, 4000 ft runway
Right (turn) Pattern on Runway 17



3) Vista Ridge High School

All these (R) airports are Restricted.
You need permission to land there.

Airports like Georgetown have control towers (blue on the map). Uncontrolled airports (magenta color) do not have control towers. At uncontrolled airports like Taylor, all airplanes are required to report their position when approaching the airport, so other planes know their location and intentions. Pilots basically sequence themselves into and out of the airport.

At Georgetown, we will call the control tower on frequency 120.225 about 10 miles out and state our intention to land. They then must clear us to approach and land.

Basic flight Dynamics

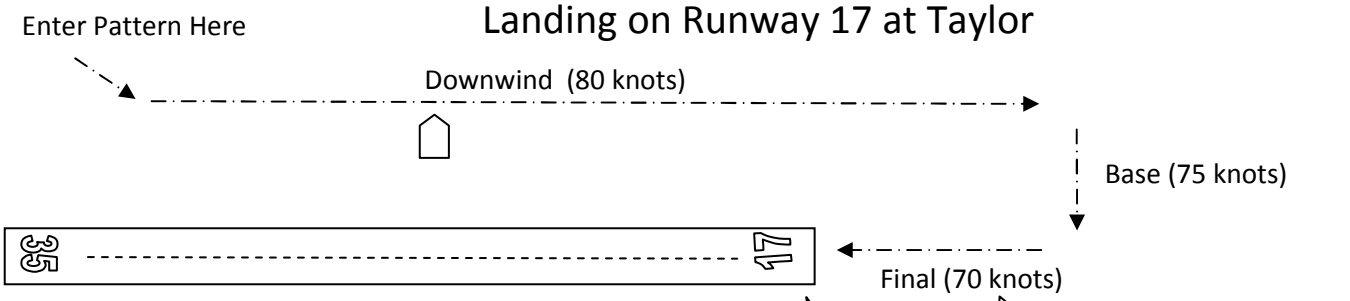
- The airplane is **VERY** stable! Relax & enjoy the flight.
- Takeoff – We rotate the nose at 60 knots, then level to reach 85 knots and climb at that speed.
- Airspeed – Is controlled with Pitch (forward and back on yoke)
- Altitude – Is controlled with Power
- Turning – We keep the nose on the horizon & use a little rudder to coordinate the turn.

Rules of the Sky

- We must maintain 500 feet from all property and people
- We always clear all turns: LOOK before turning.
- Entering an airport traffic pattern, we maintain 1,000 feet above ground
- At uncontrolled airports, we call on the radio 5 miles out and before each turn in the pattern.

Garmin “Glass Cockpit”

Landing on Runway 17 at Taylor



On Downwind Leg, check “GUMPS”

G as – Fullest Tank
U ndercarriage – Down (this airplane is fixed gear)
M ixture – Rich
P rops – Proper pitch (this airplane has fixed prop)
S eats – Seat belts fastened

“17” means this runway points to 170°

On Final Approach,
Adjust airspeed with elevator.
Correct to Center with ailerons.
Align nose with rudders.
(takes practice)