**N811TW – Checkout**

The following check list highlights a few important issues and is not intended to take the place of the POH. While this plane flies much the same as the 172, there are some essential differences. Control pressure are heavier, sink rate is higher and use of the constant speed prop needs to be understood.

***Weight and Balance:***

Check to be sure that W&B is properly calculated taking into consideration long range tanks and weight. – See appendix for work sheets.

***Engine Starting:***

Starting fuel injected engines when hot, or even warm, takes a different procedure than when cold. Please note the engine temperature during pre-flight - when you check the oil for example. If the engine is warm or shows any elevated temperature on the oil temp gauge, play it safe and use the hot start procedure. If in doubt, use it anyway. If the engine does not fire in the first couple of turns of the prop, then go to the cold procedure and prime per POH/Checklist. **PRIMING A HOT ENGINE WILL LEAD TO BURNED OUT STARTERS**.

If you do flood the engine, turn off the master, open the throttle to full and wait 15 to 20 minutes and then use the hot start procedure.

***Taxiing:***

Lean out while taxiing. Pull the mixture out about an inch to 1 ½ inches while taxiing and adjust as needed. This will help prevent fowling of the plugs.

***Constant Speed Prop:***

For the most part (with some exceptions), the throttle controls manifold pressure and the prop setting controls RPM. It is essential to **NOT** set the RPM too low with a high manifold pressure during climb or cruise. This will cause a high EGT and when this occurs at a low RPM, will put an excessive stress on the engine.

***Normal Takeoff settings & cooling*** - See sections in check list and POH for other than normal climb out e.g. short field:

Wing flaps 0 to 20 degrees

Cowl flaps OPEN

Full throttle and less than 2400 RPM

Mixture Rich

Nose wheel off at 50 to 60 KIAS

Climb 70 KIAS (flaps 20 deg) to 80 KIAS (flaps 0 deg)

***Normal climb – change settings after initial takeoff to following:***

 Power – reduce to 23 in hg (or full throttle when at altitude) & 2400 RPM – whichever is LESS

Mixture – 15GPH or full rich whichever is **LESS.** Airspeed – 85 to 95 KIAS

 Cowl flaps OPEN

***EGT settings/ Mixture:***

 Always run rich of peak about 75 degrees. This is about 3 lines below max setting on EGT gauge

***Max Fuel flow***:

Except for maximum performance climbs, maintain fuel flow below 15 GPH and EGT as noted above.

***Cruise settings:***

 Power 15 – 23 in hg and 2000 to 2400 RPM – NO MORE THAN 80%.

 Cowl flaps closed – monitor CHT and make sure it stays in green arc.

 See performance charts in check list of POH

***Descent:***

 Mixture appropriate for altitude

 Cowl flaps closed

***Landing:***

For smoother landings, maintain about 11 inches of manifold pressure – increase throttle position and just above flare point close throttle this will prevent and excessive sink rate and keep stresses of the landing gear. Be careful, however, not to exceed a touchdown speed of about 60 to 65 KIAS otherwise you will bounce, propose or both. On landing, retract flaps and use aerodynamic braking to slow you down before applying full brakes. If you can’t make the turnoff you thought you were going to make, then go to the next one – assuming there is one.

***Endurance:***

This depends on a number of factors – please refer to the performance section for fuel flows and power settings all of which will affect endurance.

***Density Altitude:***

When flying into elevated fields or ones where the temperature at takeoff will be high or both, be very careful to check the density altitude prior to takeoff.

***Fuel quantity:***

Full fuel is close to 92 gallons with 87 usable. Make sure that this is reflected in your weight and balance calculations.

**REVIEW**

What controls the engine speed?

What is maximum usable fuel?

What is flair speed?

What do you do with the mixture during taxi?

Where do you find optimum performance settings for prop/fuel flow/weight?

When do you open and close cowl flaps?

How do you perform a hot start and when?

What do you do when engine won’t start and you suspect flooding?

Why don’t you want to set prop at low RPM and high throttle settings?

What is normal approach speed and flap settings?

**Weight and Balance Problem**

***GIVEN:***

Location – Big Bear CA (L35)

Runway length – 5,850 ft

Elevation – 6,752 ft (pressure altitude)

Local temperature – 30 degrees C

Fuel on Board – 87 gallons minus fuel burned from KMYF to L35

Passenger load – 450 lbs

Baggage – Stuff @ 75lbs in forward baggage area

Distance from KMYF = 88miles

Cruise altitude 9,500ft

Assume climb out of KMYF at 600 ft/min with a forward speed of 110 KIAS during climb

***FIND:***

Locate departure weight and balance on chart

Runway required for landing

Runway required for takeoff from Big Bear

Fuel Burned between KMYF and L35

Attention 182 drivers - N811TW a 2002 Cessna 182 fixed gear will be on line June 1. She is equipped with a Garmin 530 WAAS, HSI , Auto pilot etc. It’s located in space #7 along the north fence near the CFD helicopters. I am offering an introductory checkout of one hour of instructor time included in the rate up to $50. This is how you do it. Check with Bob Agresto for a list of CFIs and after you get checked out, e-mail me with the date, time and CFI and I will send you a check for 50 bucks. Email johnjbarta@yahoo.com

I think you'll enjoy the plane.