



CHAPTER 613 September 2005

(Chapter 613 web site)
www.eaa-chapter613.org

News and Views: Tom Edwards

Terry Griffin is looking for help at the Young Eagles rally this Saturday in Montpelier. Give him a call or e-mail trg216@aol.com John and Marge can't make it so we need to fill their shoes. Pancake breakfast starting at 9 and flights to follow.

I got to see a few of you at Basin Harbor. It was a beautiful day for flying and I estimated over 100 aircraft flew in. There were a half dozen or so new aircraft to crawl over and a few avionics displays. It was too nice a day to sit for a Wings seminar but I estimate 30 or so attendees were in the tent. There was a temporary control tower set up but believe it or not, a few bozos just flew into the pattern and landed. If we all aren't being more careful, our privileges will be reduced. Ask Phil Boyer how much damage control he is performing due to careless pilots.

I have cut the cord from Verizon and have gone to cell phone only. My new phone number is 355-4244 but please no calls after 8:00 pm as I get up early. I will only have internet at work so e-mails won't work on the weekends.

Our first potluck is Sunday October 23 at 1:00 pm and pancake breakfasts start in November. Check your calendars!

Flight Advisor Corner: Hobie Tomlinson

Hand Propping

Last month we finished the series on Tailwheel Transition and I thought it would be appropriate to talk about "Hand Propping" of aircraft, otherwise known as the "Arm Strong" starter.

When I look at the new Sport Pilot rule and the "Graying" of my peers, I think the old 65/75Hp Cubs, Champs, Taylorcrafts and the like may be making a comeback. (Anyone remember the Aeronca L3, Chief, Ercoupe 415C, Interstate Cadet, Luscombe 8A or Piper J4?)

The big driver in this will be the privilege granted Sport Pilots to fly without obtaining a medical, which was previously limited to Glider & Balloon Pilots. There are a couple of "Excepts & Gotchas" in this, but I will save that for a future article on the Sport Pilot rule. Because of the above fact, I think aircraft which qualify are going to see an increase in market value and restorations. New "Sport Aircraft" are going to be priced in the \$100K range and even with the increased cost of acquisition and restoration, these aircraft are still bargains.

The Sport Aircraft category restricts Maximum Certificated Takeoff Gross Weight to 1320 pounds, so most 65/75HP. aircraft instantly qualified, even though they are certified aircraft under the old CAR3 regulation. When the 85/90HP. versions came along, the gross weight also increased causing these aircraft to “step over” the line and not be eligible.

The reason for the 85/90Hp versions was to incorporate starters, generators and electrical systems as light aircraft were starting to interface with the developing ATC system of the 1950's. The 65/75 HP engines of the 1940's were designed without accessory drives for these features, as they added weight & were not needed. (DC generators are quite heavy due to the permanent magnets) Having said all of that, hand propping of aircraft has become a lost art which may be resurfacing with renewed use of these aircraft.

I just completed my first Sport Pilot Certification Flight with Mr. Ronald B. Webster (a Commercial Glider pilot @ Sugarbush/0B7), so had the opportunity to put some “old skills” to recent use. He was flying their Taylorcraft BC12-65.

Hand Propping an aircraft entails risk, which like everything else in aviation (and life) must be properly understood and managed for a successful outcome. Years ago (we'll leave that there) when many of us started our aviation careers, these airplanes were still in common use as trainers. Leaning to “prop” an aircraft was just part of the pilot course. That has long ago disappeared, so before you get involved in propping an aircraft it would be wise to seek instruction from someone currently operating or teaching with these type aircraft.



Communication is vitally important when propping an aircraft, so the first step is a safety briefing between the pilot and the person propping the aircraft. The sequence of events and callouts used must be briefed and adhered to by both parties. Failure to do so dramatically increases the chances that some will get hurt!

The Callouts typically used are “**Brakes On,**” “**Switches Off**” and lastly, “**Brakes & Contact.**” The last one evolved into the “**CLEAR**” callout currently used in modern light aircraft.

The Starting Sequence is: 1) Safety briefing. 2) Communication. 3) Insuring aircraft secure 4) Evaluating “footing.” 5) Pulling thru 6) Priming and 7) Starting.

The Safety Briefing is the vitally important first step in the process, especially when working with an unfamiliar aircraft or pilot. This should include the starting sequence, the callouts to be used and their exact meaning, and whether the aircraft is to be secured by brakes alone, brakes and chocks, or even be tied down. Consideration should be given to the surface and “footing” in front of the aircraft, the removing of chocks or tie downs once the engine is running and lastly the position of and signal from the person propping the aircraft which will confirm to the pilot that it is safe to taxi the aircraft.

The Communication used in hand propping an aircraft is always “looped communication”, that is everything said by the person doing the propping is repeated verbatim by the pilot, after it is verified correct. The first callout is **Brakes “ON”**.

Insuring the aircraft is secure and will not roll forward is step 3. As these are light aircraft, they can easily be pulled forward by a single person. Grasping the prop at the hub, pull forward to see if the aircraft will move. It should not budge. If the aircraft still has the old mechanical brakes, wheel chocks are highly recommended. Needless to say, one should not prop an aircraft alone. If it must be accomplished solo, it is imperative the aircraft be securely tied down until the engine is idling. These aircraft are no different than a big model airplane & they fly just fine without a pilot. Many are the stories of aircraft getting away while being propped solo and then wreaking havoc during their destruction!

Evaluating the footing is next. Insure you are on a level surface which has good footing. It should not be slippery or have any loose stones or gravel. Once the engine starts you will be standing very close to a lethal object and it is important to not slip

Pulling the engine thru is step 5. I use this step for a couple of reasons. The first is it lets me feel the compression level on that particular engine and the force it will take to pull the prop thru compression. The second is I can evaluate the blade position where the engine comes up against compression for suitability of hand propping. All these aircraft were designed for hand propping so the propeller blade should be at the 10 to 11 o'clock position when it comes up against compression. If it does not, the propeller should be removed and repositioned on the hub. Lastly, I evaluate my grip and finger position on the propeller blade.

Engines with inverted cylinders (Ranger) or **radials** (Kinner, Jacobs, etc.) require pulling thru to insure trapped oil in the inverted cylinders does not form a "hydraulic lock." If the engine locks during the pull thru, the lower spark plugs must be pulled and the trapped oil drained before proceeding.

Before moving the propeller, the commands "**Brakes ON**" & "**Switches Off**" should be given by the person propping and repeated by the pilot **after he has verified the brakes are on and the magneto switches are off.**

The propeller is **always** treated as if the mags are "hot" and the engine will start. The body should be positioned at a comfortable arms length from the propeller with an erect posture. It is very important to not lean forward when pulling the prop thru, but to pull from the shoulder using just the shoulder muscles and not waist muscles. The hands should grasp the propeller with the flat of the hand firmly against the prop face and only the finger tips extending around the training edge of the blade. This is because, if the engine should "kick back" it will be easy to release your grasp and not be pulled into the prop arc.

Priming the engine is the last step before starting. Verify that the fuel selector is "On" and if a mixture control is installed, that it is in the "Full Rich" position. This is where knowledge of an individual engine's "personality" is invaluable. Most of these small engines, on a "cold" start with typical summer temperatures, will take a couple of shots of primer. Some primers don't draw much fuel with the first stroke, hence the "three shots" of prime. Lastly pull the engine thru two or three revolutions to draw the fuel air mixture into the cylinders. Stop with the descending propeller blade positioned between the 10 & 11 o'clock position. We are now ready to start.

Starting the engine is the final step. If the engine is well maintained, in frequent use, and we have completed the process correctly, it will usually start on the first pull. The command "**Brakes and Contact**" is now given and repeated verbatim by the pilot, **after** he has **verified the brakes and mags are on**. Position the hands and body as described above. This time we will start by lifting our right leg and swinging it forwards much like a baseball pitcher who is preparing to throw a pitch. We now swing our right leg back underneath us, stepping back while we simultaneously smartly pull the propeller thru compression. Insure that you maintain an upright posture, pulling the prop through with the shoulder, not waist muscles. Continue the arm motion until you arms are down by your sides and step back from the now (hopefully) idling engine. If the start attempt was not successful, the final process is repeated until it starts. If several attempts are unsuccessful, we may have to reprime. If the engine becomes flooded, it will be necessary to pull it thru backwards to "clear" excess fuel from the engine. As always, if nothing works the next step is maintenance.

Always, Always, Always leave the front of an idling engine by walking parallel to the wing leading edge, around the tip and back the training edge. More than one aviator has "met his Maker" by walking directly into the propeller after a successful start!

With the engine idling, proceeded around the wing tip and approach the cockpit from the back of the wing. If it was a "solo" start, the aircraft can now be untied and the chocks removed. **Always go around the rear of the aircraft when the engine is running!** If a two person start, remove the chocks; then position yourself at the prearranged spot (so that eye contact can be made with the pilot) and give an "aircraft clear" signal.

Floatplanes are propped from behind the propeller. Position yourself on the right float (cockpit door side) in front of the wing strut. Reach behind you with the left hand and grasp the strut or other aircraft structure, while using the right hand to prop the engine. Be sure you have good footing on the float & a firm grasp on the strut, as the aircraft will be "under way" as soon as the engine starts. Also be sure to position the aircraft (using the paddle if necessary), so that it will not drift into anything while being started or taxi into anything while you're returning to the cockpit. Some people use this as an alternate method to prop a land plane "solo", but I think it a lot safer to just tie it down.

Tricycle gear aircraft are not good to prop, because the lower propeller hub tends to make you lean forward when propping, especially if the propeller comes against compression at the wrong blade position. This may well be the case, as it is not a consideration when installing a propeller on these aircraft. Also avoid high compression, fuel injected engines. They are best left to maintenance & starters.

The propeller (like a firearm) should be treated with respect, not fear, and **always assumed to be hot** (or loaded)! **It can be lethal!**

The thought for this month, **“Wisdom understands the future consequences of current actions!”** So until next month, **Think Right to Fli-Rite!**



Attempting a Light Sport Aircraft “Relight”

Young Eagles: Donald Taylor

We have no pilots reporting flights for this edition of the newsletter. We have flown 190 flights with 110 to go for a total of 300 for the year

Young Eagles To Date

Young Eagle Flights have started to pick up! We have flown 156 Young Eagles so far, which leaves 144 more to go for our total of 300.

George Godin	2	Donald Taylor	91
George Coy	1	John Butterfield	14
Don Nowakowski	8	Mike Pecue	13
William Hanf	8	Chuck Robitaille	10
Ronald York	9	Steve Couzelis	17
John McNerney	17		



The Adirondak Regional Airport (SLK) Saranac Lake, NY Young Eagles Rally was a washout. No Young Eagles were flown due to the bad weather on both Saturday and Sunday.

Don Taylor recorded his 1300th Young Eagle Flight on August 10, 2005

Safety Tip: by Donald Taylor

It is important that we recognize stress for what it is and isn't. Every pilot experiences stress. It is a product of flying or any other demanding pursuit. One person's stress is another's motivation. When lifestyle stress levels increase or compound, we need to be alert to the fact that we could be moving into the "Grey Zone" of decision making. Here nothing is black or white. We can move into this "Grey Zone" so subtly that it is not apparent to us. Being aware that this can happen keeps us alert in our decision making process and can prevent stress overload. We should learn to use our newly honed perception of stress as a valued personal flying decision tool!

Did You Know?*BY: Don Taylor*

Through the 1940's, the US led the passenger transport business; however in 1952, British Airways challenged that lead with the introduction of the world's first jet airliner.

The Comet was designed to fly at 35,000 feet and higher thus dramatically reducing fuel consumption. At this altitude, there was another problem to be solved: creating a pressurized cabin in which passengers could fly without oxygen masks. Once the issue was resolved, the Comet was ready to be introduced to the public and the public loved it!

The original Comet's lifespan was cut short because of structural problems. The Boeing 707, based on a jet tanker design built for the Air Force, followed the Comet in 1954, not only addressing the structural problems that doomed the first jetliner but also offered a smoother, faster ride with room for more passengers.

**Chapter 613 Potluck
Shelburne Airport
Sunday October 23rd at 1:00
Bring a dish to share with others
Sodas, iced tea and coffee provided**

**Come enjoy good food and company for the first get-together
of the season!**

Finders Keepers**by Don Taylor**

I was cleaning out the Cap building at the airport and came across the following verse to share with all of us:

Are you an active member
the kind that would be missed
or are you just contented that
your name is on the list?

Do you make an offer
to help things really click,
or do you sit along the side
and tell us about it!

There is quite a program scheduled
that means success if done,
but can only be accomplished
with the help of everyone.
think it over Mister
are you right or are we wrong,
are you just a member
or do you just belong?

In memory of

Captain George Hazard, CAP

Captain Hazard was my communication officer when I was commander of the Border Squad, 44023

Safety Tip**by Donald Taylor**

Effective communications are a key component of every safe aircraft operation both in the air and on the ground. Communication not only involves speaking, it also involves active listening. Even if you only fly occasionally, it is important to learn and use proper communication procedures and phraseology!

Calendar of Events

Sept 24 **Young Eagles Rally**, Montpelier, (MPV) 9:00 Contact Terry Griffin
Oct 1 & 2 **Rutland Leaf Peepers**, Rutland, Contact Lee Morelli, 235-2808
Oct 18 **FAA Seminar**, Aeronautical Charts, Little known facts, South Burlington
Oct 19 **FAA Seminar**, Aeronautical Charts, Little known facts, North Clarendon
Oct 23 **Chapter 613 Potluck**, Shelburne, 1:00pm Bring a dish to share!
Nov **Pancake Breakfasts** to start! Times and locations to follow!

Check out www.flyins.com for all the places you would care to fly!

Check out www.faasafety.gov for seminar info and registration!



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FIRST CLASS MAIL



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