

Gaining or Regaining Flight Currency And Keeping Fight Proficiency

By Bud Yerly
EAA 175

My Background and Experiences Shaped This Presentation

- Military Instructor/Evaluator Past Currency and Recurrency Requirements Shaped this Presentation.
- After my 20 years in the military, I took a 10-year hiatus from flying!
- EAA 175 was responsible for the encouragement to get back to flying.
- I regained my proficiency by accomplishing a program I set up with the research and information from FAA, EAA, AOPA, Sporty's and my own experience as a military IP and commercial pilot.
- Once I came back to flying, I kept flying many types of experimental and civil aircraft.
- I became the dealer for some experimental aircraft.

My Background and Experiences Shaped This Presentation

- I began test flying Europa, Zenith, and RV aircraft as a test pilot.
- I then started checking out builders after the initial test flights.





- I soon realized some builders were not proficient enough to fly their aircraft safely. Many were not even current.
- I worked with my local FBO at Plant City and got them recurrent in the Cessnas available, but they still were not proficient.
- Builders were not ready for flying their homebuilt aircraft.
- I began a currency, and transition service for many of my clients.

My Background and Experiences Shaped This Presentation

- I've done presentations for the FAASTeam, Plant City and Vandenburg Chapters, and have been involved in flying with the local chief pilots of Atlas Aviation to expose them to the recurrency needs of builders, advanced handling exercises and proper exposure to stall training.
- I've also written many articles from construction, to testing, flight evaluation, LSA transition issues, and stall spin avoidance.
- I have also written and presented briefings on how to accomplish safe and thorough transition training when there are no other means than to do it yourself.

Regaining Flight Proficiency as well as Currency.

Flying an airplane is many wrote memory actions, muscle memory and habits. If we practice habits often, we keep proficient, but if we fall out of practicing the habits, we no longer perform those wrote memory actions and we break those habits and lose our skills.

Bud Yerly

Regaining Flight Proficiency as well as Currency Has Its Problems:

After an 8 or 10 hour day, studying at night and finding the weekend to fly gets tough. The dream of flight and the skills necessary to accomplish a safe flight are different.

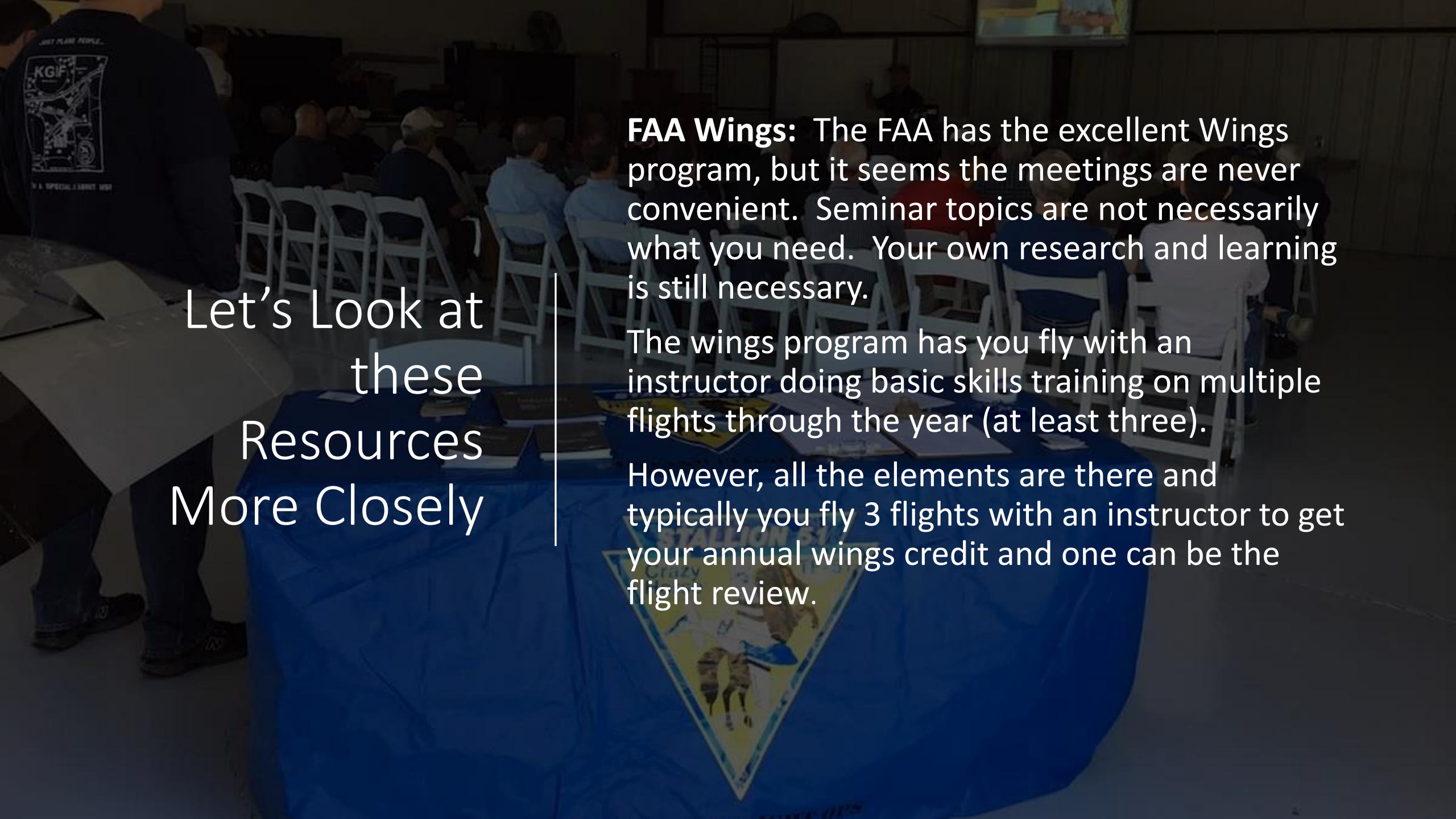
Luckily, we have resources to help us:

- Regulations, Books and Pamphlets
- Seminars
- Videos
- Instructors / Ground Schools

Regaining Flight Proficiency as well as Currency.

Resources available to get your knowledge level up to speed on your own:

- **FAA Wings:** The FAA has the excellent Wings program, but it seems the meetings are never convenient and we have to fly with an instructor doing basic skills training on multiple flights through the year to get enough credit for a biannual requirement.
- **AOPA ASI Programs:** If you are a member of AOPA they have a Air Safety Institute program which contains videos, and quizzes which can be used by an instructor on your Flight Review. Continue training through the Pilot Workshop Videos. These are short and informative. Membership is required.
- **Sporty's and King Rusty Pilot Courses:** Sporty's is a shorter and less complete course than the King or AOPA course but it suffices for a flight review ground course review, so you don't look stupid.
- **Ground School and Flight Instructors**
- **Simulators**



Let's Look at
these
Resources
More Closely

FAA Wings: The FAA has the excellent Wings program, but it seems the meetings are never convenient. Seminar topics are not necessarily what you need. Your own research and learning is still necessary.

The wings program has you fly with an instructor doing basic skills training on multiple flights through the year (at least three).

However, all the elements are there and typically you fly 3 flights with an instructor to get your annual wings credit and one can be the flight review.

Let's Look at these Resources cont'd

AOPA ASI Programs: If you are a member of AOPA they have an Air Safety Institute program which contains videos, recommends instructors and medical examiners and quizzes which can be used by an instructor on your Flight Review.

Continued education training topics are available through the AOPA Pilot Workshop Videos. These are short and informative.

Membership is required.

You still need to fly but at least you are up to speed on the regs, and techniques.



Let's Look at these Resources cont'd

The King Rusty Pilot or Return to VFR Flying Course: This is an online series of videos and pilot interaction computer presentations. Most expensive course.

The Complete Airspace Review

Communications

VFR Regulations Refresher

VFR Cross-Country Flying

Navigation From A to Z

METAR/TAF Made Easy

Weather Wise

Night Flying

Surviving Your Most Feared
Emergencies

Airport Signs, Markings &
Procedures

Practical Risk Management For
Pilots

Practical Risk Management For
Takeoffs and Landings

Let's Look at these Resources cont'd

Sporty's Flight Review Course: This is a shorter and less complete course than the AOPA course that also suffices for a flight review ground course review, so you don't look stupid.

The Sporty's videos and the extra stuff they have online must be supplemented. The videos severely lack FAA accident and incident topics to focus training to prevent recurrent accidents.

The videos have a quiz at the end and do cover all areas of a pilots flight review. I've used these myself to augment the AOPA programs.

Let's Look at these Resources cont'd

Look at Safety Data for Trends to augment your training:

Air Facts is an online journal of pilot writers. They do a concise breakdown of the accident issues. By looking at the accident statistics I can see where the major issues are, and it pays to look why folks are damaging airplanes and killing themselves. See why and how and practice those areas.

At the end of 2021 we found 65% of the accidents were loss of control after touchdown, stalling in the final turn and approach and takeoff from the touch and go/go around. You are continuing to see FAA interest in having instructors cover these areas in ground and flight training reviews.

Let's Look at these Resources cont'd

But what about Simulators?

The latest simulators are reasonable procedural trainers.

- The desktop type (Microsoft Flight Sim, and X plane) are OK, or you can go professional with Lockheed P3D and the Redbird hardware for nearly \$10,000.
- None of these are true simulators like professional pilots are required to take. These corporate sims are operated by Flight Safety and other contractors costing tens of thousands of dollars per hour to operate.
- Many believe because they can takeoff, navigate and land using a desktop PC driven wide screen simulator with a stick, throttle, and rudders they can keep current. Not so fast. These simulators are at best procedural trainers or aviation training devices, they help with checklist, navigation and enroute and terminal instrument procedures, and can aid in staying up with the airplane during the phases of flight.



Simulators Cont'd:

- Desk top PC based simulators are not a replacement for flight currency.
- For the VFR pilot, these desktop flight sims help with checklist procedures, planning navigation, letdown and approach to the airport.
- There is no replacing flight time when it comes to weather, traffic and the real world issues of flight.

Regaining Flight Proficiency is a step-by-step process.

It really doesn't matter what plane you are going to fly, it is all about the preparation. Here is what I do:

1. Get a review guide and or videos to learn the latest hot buttons and FAA concerns from either AOPA or Sporty's and brush up on Airspace, procedures, regulations and safety trends.
2. Review accident trends to assess where the threats are.
3. Do a complete review of my rusty pilot video program and take the exam for proof you prepped.
4. Pick an airplane and instructor. (Personally, I pick a plane I haven't flown to challenge me but I'm different.) For an instructor I do not know, or if it is an inexperienced instructor, I typically do whatever aircraft the instructor is comfortable with.

Regaining Flight Proficiency is a step by step process cont'd.

- 5. Get the Pilot Operating Handbook (POH) for the aircraft I'm to fly and copy it or download it.
- 6. Familiarize yourself with the avionics if a flat screen.
- 7. Chair fly the normal and emergency operations, V speeds, and limitations/GW in preparation for the flight.
- 8. Spend some ground time in the aircraft.
 - a. Practice reaching for controls, levers and switches.
 - b. Familiarize yourself with the cockpit layout and systems.
 - c. You should be able to access, identify and activate blindfolded all switches and controls.

Regaining Flight Proficiency is a step by step process cont'd.

- 9. Plan the flight.
 - a. The profile is based on the latest accident trends, and I dictate my inflight proficiency items. I will preplan this with my instructor.
 - b. Many new instructors are reluctant to do full flap touch and goes due to the balloon tendency of inexperienced pilots when attempting a full nose up trim landing with full flaps. Having been taught to maintain the pitch with stick pressure, then trim and adjust configuration, I resist the tendency of allowing the pitch to change from the preferred takeoff attitude until cleaned up and trimmed fully. I assure and convince the instructor I'm capable of doing touch and goes. In this practice flight with the instructor, we concentrated on the main accident areas. Takeoff departure control. Loss of control and proper flight attention in the base to final turn. The go around and climbout to downwind control. In the practice we are looking for precision (or getting back to it).

The profile may look like this:

Flight Profile for Recurrency:

- i. Takeoff
- ii. Climb, level off at least 3 mistakes high (3000 AGL)
- iii. 45 degree bank turns, then 60 degree bank turns and unloaded roll reversals at and to a heading.
- iv. Slow flight clean and dirty.
- v. Straight ahead clean stall
- vi. Full Flap stall straight and turning.
- vii. Takeoff departure stall (to climb back up)
- viii. Accelerated stalls. (This is to practice using rudder rather than aileron to control any roll tendency.)
- ix. Simulated engine out descent rate straight ahead and at bank angles. (Optional for practice of the engine out overhead forced landing approach planning practice.)

Flight Profile for Recurrency:

- x. Return for descent and pattern entry.
- xi. Final turn to $\frac{1}{4}$ mile final minimum to get on speed stabilized approach)
- xii. Low approach (inches off the runway) to practice control.
- xiii. Slow flight about 1000 feet down the runway.
- xiv. Go around to assess climb out and pitch trim changes.
- xv. Normal pattern and landing (at least two)
- xvi. No flap pattern and landing.
- xvii. Short Field approach and landing to full stop or touch and go.
- xviii. Full stop.
- xix. Then Review the Flight

Acquiring
Proficiency is
about being
honest

Review the Flight:

Go over your performance, where you had questions, difficulty or you just flat realized you are not yet performing up to par with the instructor. I don't mind using my video/audio recorder and review the flight after I'm home to go over my performance, but this is expensive, and some planes are not compatible with a quick video camera setup.

Maintaining Proficiency (an example):

- Fly in your personal airplane or favorite steed at the FBO. I like to fly at least twice a month for minimum proficiency for flying passengers.
- Plan your mission profile to achieve practical practice.
- If you are still feeling rusty, take baby steps and be conservative, make sure to maintain plenty of airspace between you and the ground when doing solo air work and patterns.

Keeping Currency:

1. Normally the practice flight will be similar to the above recurrency flight. I personally will add an engine out practice in the pattern.
 - a. Takeoff will be a minimum roll or soft field practice to a normal climb.
 - b. Flight to the area.
 - c. Area work to include Slow flight, stalls of clean, dirty and accelerated.
 - d. Advanced handling practice (L-8, Chandelle etc.)
 - e. Return to a towered airport for at least one pattern and if not busy, more.
 - f. No flap and normal patterns.
 - g. Fly back to un-towered or practice field for...
 - h. Practice engine out to very low approach.
 - i. Short(er) field landing to full stop. (What is a short field landing?)

Keeping Currency cont'd:

2. Second Flight will be a short cross country to another field, and do a landing (touch and go or full stop).
 - a. Navigation button pushing, and FF, timing checks.
 - b. Pattern entry and landing/touch climb out.
 - c. Return to base with slow flight and deep stall practice enroute.
 - d. Enroute letdown and Pattern entry.
 - e. Normal pattern and landing as required.

Keeping Currency Cont'd:

Every flight is an opportunity to practice something. Many GA pilots prefer to simply fly with a friend to a good restaurant and get a hamburger and fly back. Never pass up an opportunity to do some proficiency training. Normally for GA proficiency the stall is taken to the first indication of the stall and then recover. There is no necessity for flying into the deep stall.

(Simulated engine out practice over an airfield and accelerated stalls are frowned on by the FAA but since I do deep stalls in flight testing and anticipate engine issues with new aircraft, it keeps me sharp.)

Keeping Currency Cont'd:

- Planning in detail your air work is necessary. Air work is essential to gaining flight proficiency.
- Whenever conducting air work, stalls or slow flight, always begin practice well above the ground. If the aircraft requires 300 feet to recover from a stall, 1500 feet for a spin, and 1000 feet for a nose low nose low dive recovery it would be prudent to do your flight practice no lower than 3000 feet above the ground is my rule.
- Stall practice should emphasize stall warning indications, unload of the wing for recovery and proper control of roll using rudder rather than aileron. This warning may be the stall warning light or horn, airframe buffet, nose bobble, wing drop or stick force lightening.

Keeping Currency Cont'd:

- Steep turns with a roll reversal on heading will sharpen aileron rudder and backpressure blending for a rapid unloaded roll reversal.

Caution:

Accelerated stalls and attempting to roll with ailerons near the stalling angle of attack is a leading cause of loss of control. At the indication of a stall, unload the elevator to break the stall, while unloaded roll to wings level, then return to a level flight attitude.

Keeping Currency Cont'd:

- Pattern entry planning, communication and wind analysis is essential to the start of a stabilized pattern and approach. Flying precise is the hallmark of a practiced and proficient pilot.
- Pilots can get into the habit of landing regardless of the approach angle, speed or rate of sink to log a landing. This can lead to blown tires, bent landing gear and loose landing gear leg attachments or worse.

Keeping Currency Cont'd:

- Be disciplined in your pitch and airspeed control. Analyze the winds and practice precise runway alignment.
- Pattern spacing and wind analysis should not be overlooked. Thinking and planning for the entry and adjusting your pattern for traffic and winds will sharpen your inflight situational awareness. Keeping track of other planes mentally is vital as the iPad and ADS-B traffic display actually sucks your head into the cockpit and affects your lookout.
- Really plan for what to do if you must do a go around due to inadequate spacing or from an unstable approach.

Some Examples of Failure to Practice Properly

- First video is an experienced instructor stalling.
- The Second video is a builder which allowed his skills to atrophy.
- The third video is a pilot practicing STOL landings before properly learning the slow flight characteristics of his aircraft.
- Finally, is a more common error I'm seeing locally. The porpoise. Also known as the nose wheel first landing.





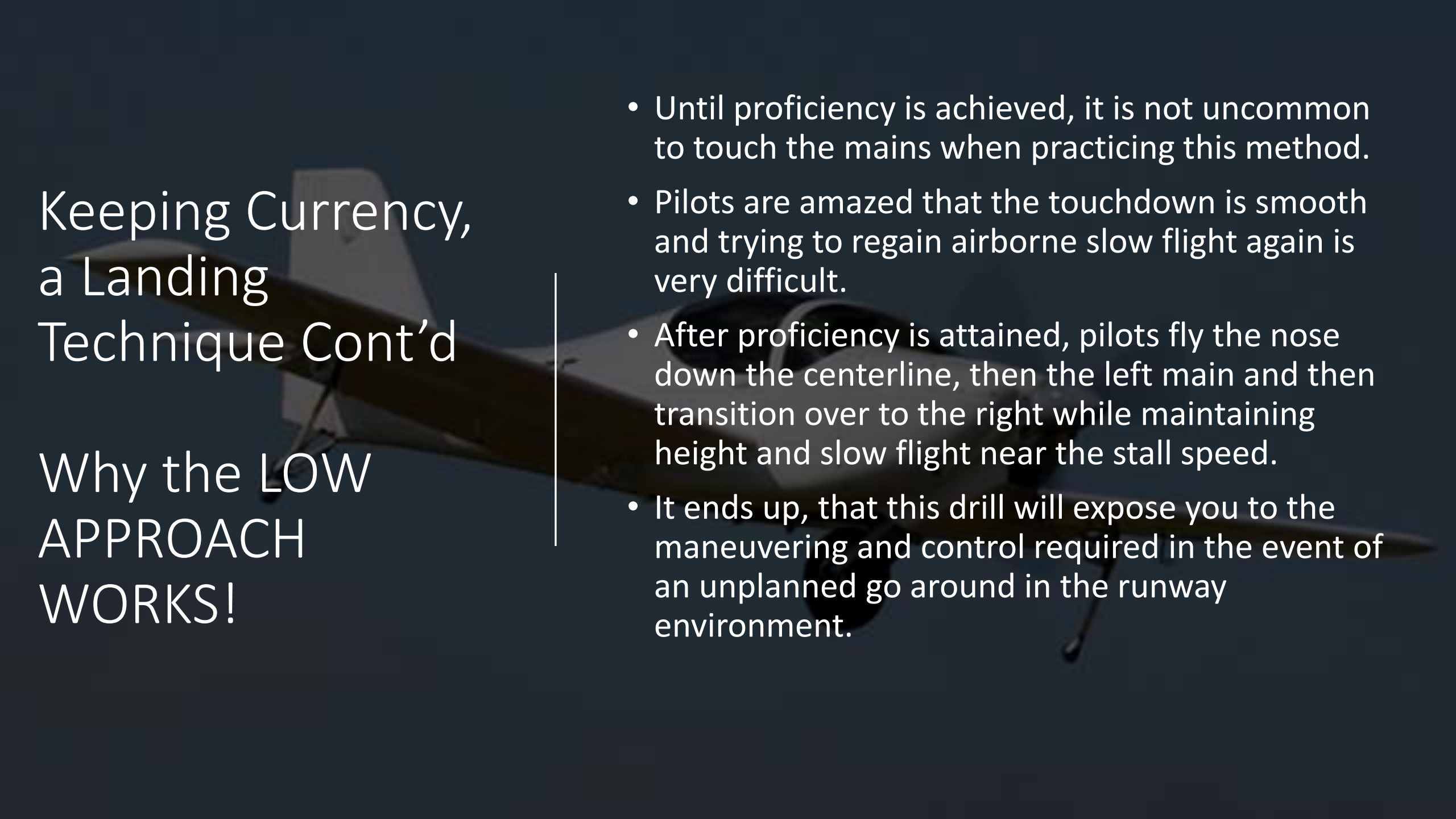






A Landing Technique to Keep Proficiency:

- A technique we used in the military to save wear and tear on our tires and equipment ended up improving our pilot skills.
- Pilots initially were prohibited from performing touch and goes due to a tire shortage. So, we pilots performed very low approaches to press the limits since we couldn't do touch and goes.
- What we found when planning a very low approach, required concentrating on smooth precise flight to arrive as close to the runway as possible, then fly for a 1000 feet or so inches off the runway, and then go around as it was initially done as an ego exercise.
- What we found is the pilots landing proficiency improved dramatically. Since the pilot must perform a precise approach at the right speed and approach glide angle, then fly into ground effect, while transitioning to a landing attitude (slow flight attitude), and then continue to slow flight precisely down the runway for a reasonable distance (no more than 1/3 the runway length) required more skill than crashes and dashes.

A small white airplane is shown in flight against a dark blue sky. The plane is viewed from a low angle, showing its wings and tail. The text is overlaid on the left side of the image.

Keeping Currency, a Landing Technique Cont'd

Why the LOW
APPROACH
WORKS!

- Until proficiency is achieved, it is not uncommon to touch the mains when practicing this method.
- Pilots are amazed that the touchdown is smooth and trying to regain airborne slow flight again is very difficult.
- After proficiency is attained, pilots fly the nose down the centerline, then the left main and then transition over to the right while maintaining height and slow flight near the stall speed.
- It ends up, that this drill will expose you to the maneuvering and control required in the event of an unplanned go around in the runway environment.

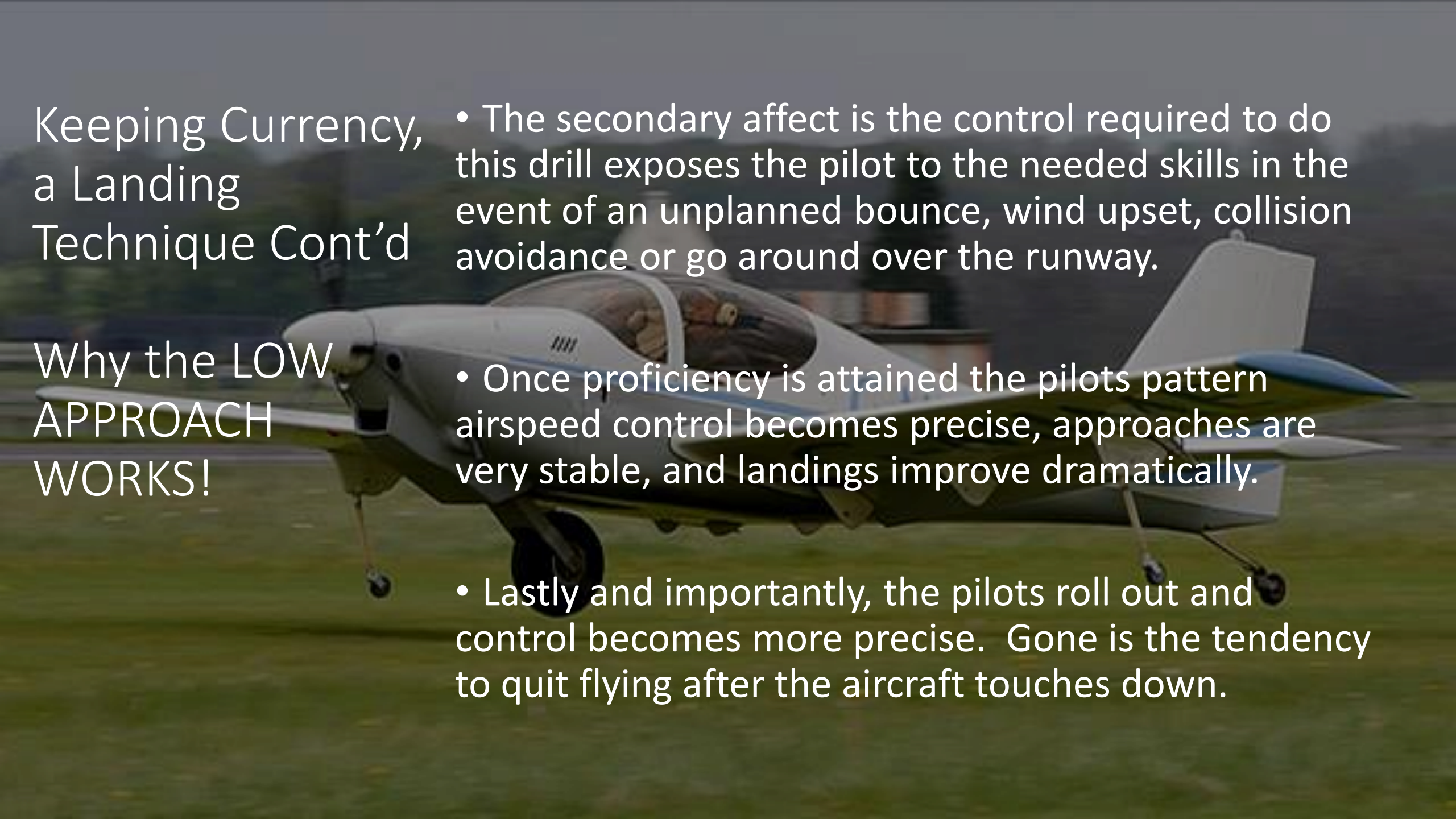
Keeping Currency, a Landing Technique Cont'd

Why the LOW APPROACH WORKS!

- The secondary affect is the control required to do this drill exposes the pilot to the needed skills in the event of an unplanned bounce, wind upset, collision avoidance or go around over the runway.

- Once proficiency is attained the pilots pattern airspeed control becomes precise, approaches are very stable, and landings improve dramatically.

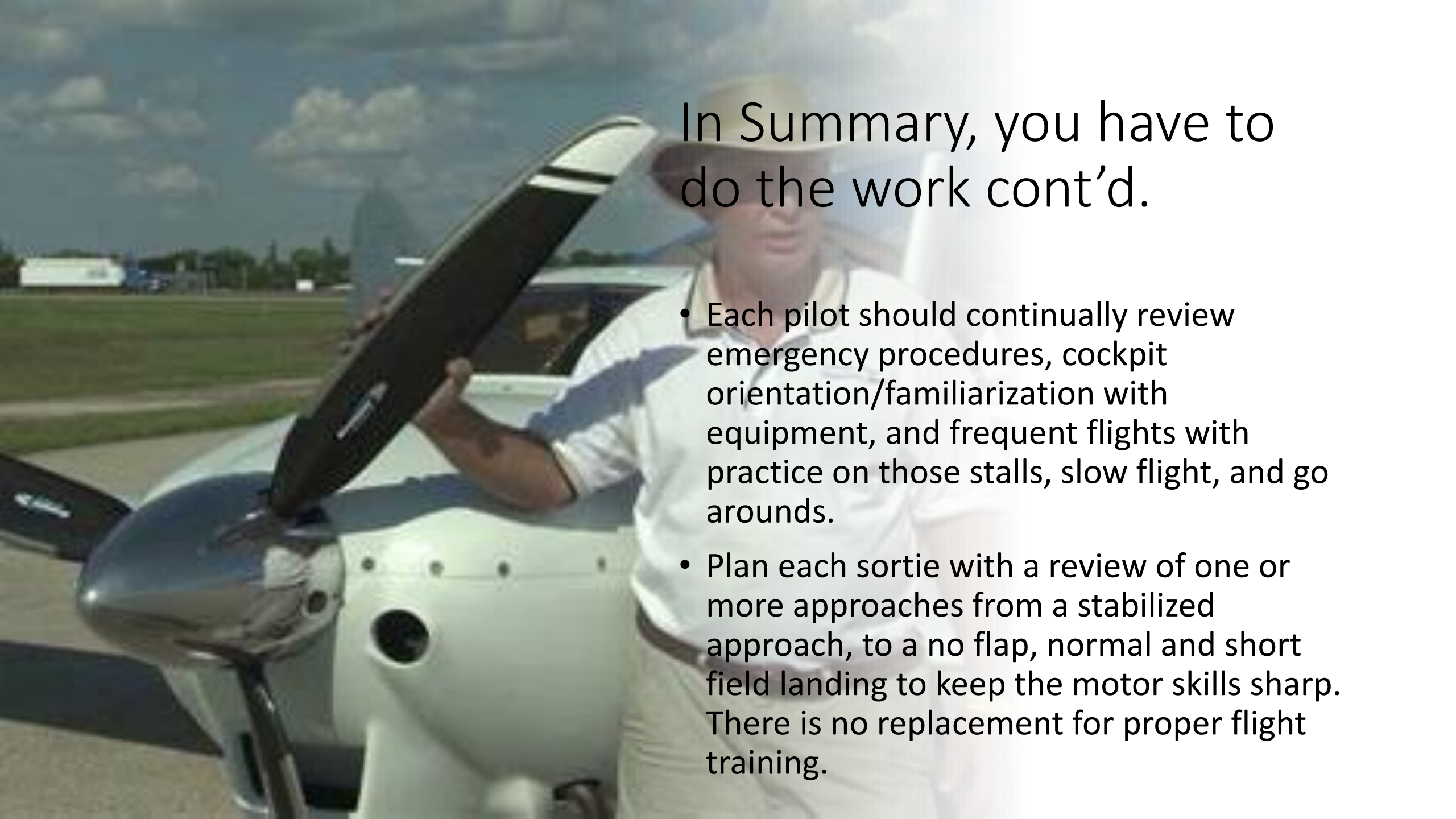
- Lastly and importantly, the pilots roll out and control becomes more precise. Gone is the tendency to quit flying after the aircraft touches down.



In Summary, you have to do the work.

- Getting recurrent takes a plan. Professional flight organizations have a dedicated program. It involves self-study through pilot review of regulations, simulator to work on checklist procedures and emergency procedure review. Then a flight or two for VFR and if necessary, night and Instrument qualifications.
- Keeping currency is about self-discipline, review of procedures, systems and emergency procedures.
- Participation in Wings or similar programs to keep current on trends and aviation related topics.



A pilot wearing a white polo shirt, tan pants, and a tan hat stands next to a small white aircraft. The aircraft's propeller is visible in the foreground. The background shows a grassy airfield under a blue sky with scattered clouds.

In Summary, you have to do the work cont'd.

- Each pilot should continually review emergency procedures, cockpit orientation/familiarization with equipment, and frequent flights with practice on those stalls, slow flight, and go arounds.
- Plan each sortie with a review of one or more approaches from a stabilized approach, to a no flap, normal and short field landing to keep the motor skills sharp. There is no replacement for proper flight training.

Gaining/Regaining Flight Proficiency

Questions/Comments