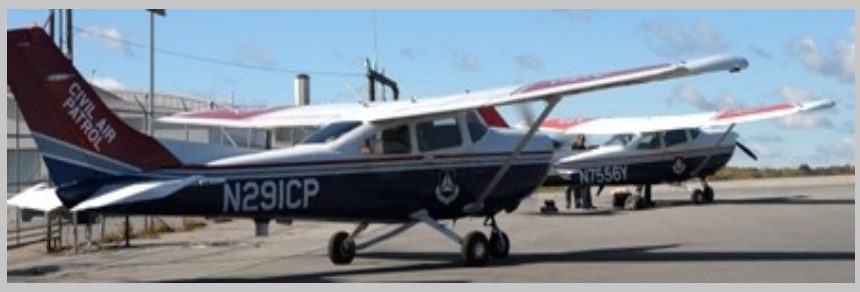
New York Wing

Standards/Evaluation
Air Operations
Safety Newsletter

Civil Air Patrol
United States Air Force Auxiliary



June/July Vol 5 Issue 1 2019

Happy Summer Everyone, well almost, in a week or two. Anyway hope everyone is up and enjoying the weather when its cooperating! We have flight encampment going on in July, and just a lot of flying for cadets and maybe some flight instruction for our pilots who are a little rusty or getting ready for there initial or annual form 5 in your area. Enjoy and be safe.

I would like to draw your attention to something sometimes overlooked in regarding our C182T and that's the POH overall and the KOL in particular. The KOL (Kinds of Operations) gives the official list of what you can fly with or without in VFR, IFR, including day or night operations. It's like a MEL. Please read through and if you ever have a hiccup in one of our C182T look it up and see what should be done. Here's an example that took me by surprise a couple of months ago...

I was brought up flying mainly Cessna's and the old adage was if the beacon light does not work you can use the strobes and still fly. Well guess what, that is wrong. The beacon light is not considered in a Cessna generally and in the C182T in particular an anti-collision light. This is a necessary item to fly with regardless of day or night flight. Why...well from the FAA the beacon light on most Cessna's are a flashing light not a rotating light. Technically an anti-collision light is supposed to rotate like on most Piper's. The anti-collision light certified for most Cessna's and in particular the C182T is the strobes! So make sure during pre-flight you check they are working and turn them on when departing, leave them on during flight and you can shut them off after landing. If the strobes are not working (all of them) the plane is grounded till repaired. Look at the KOL checklist in the POH (2-12). Read our approved takeoff checklists (before takeoff...strobes on) and POH checklist (before takeoff...strobes on). Also since your actively reading the KOL checklist, fuel tank indicators must read correctly the amount of fuel. The old wives tale of they only have to be accurate if empty is not true (91.205). Each tank must indicate correctly (no red X's) or its grounded, its in the KOL list.

Since I have your attention on lights let me share what the FAA's preferred lighting regiment should be for all aircraft. This is not a regulation, but something they feel would add to safety and is recommended. In cockpit turn on beacon. After engine start and ready to taxi turn on Navs and taxi light (yes I know it mainly used for after sunset). When crossing or taking the runway, strobes on. When takeoff clearance is given landing lights on. All those lights should remain on, however landing/taxi light can be shut off once you reach cruse level. I would leave them on in training area. The idea is to be seen. Just like cars now have day running light and motorcycles, trucks and buses keep lights on. To be seen. I have been using this system for years now. For some reason GA pilots have an aversion to using lights. Let's not.

Be safe and have fun this season flying!

Semper Vigilans

Major John A. Kolmos, CAP

Assistant DOV, NY001

PROPWASH

This will be a new column for those who wish to give feedback on an issue, adding, subtracting, disagree…etc. Should be fun and interesting. Here goes, some feedback from last issue:

NO COMMENETS FROM LAST ISSUE

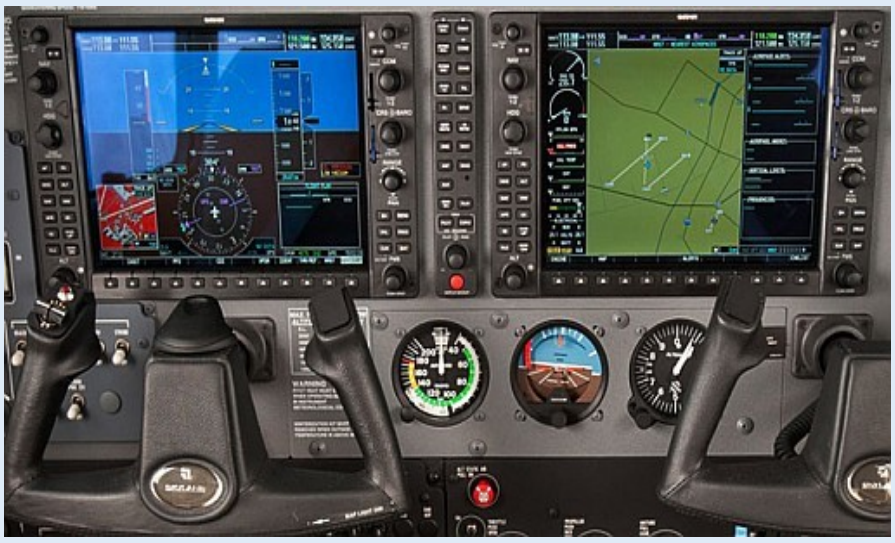
Differences in C182T with GFC700 vs.KAP140

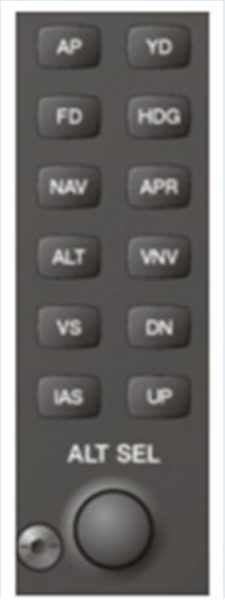
Be aware there are differences between these aircraft systems and the setups in the cockpits of the newer models of the C182T. Please read the POH. IP's and CP's should check there students in this regard. However for now lets review the trim disconnect procedure:

Both the KAP 140 and GFC 700 have required immediate action items published in the POH/PIM for **Autopilot or Electric Trim Malfunction/Failure**. These are the very similar for both autopilots and should be committed to memory—just as other emergency action items.

- **1. Control Wheel – GRASP FIRMLY (regain control of airplane)**
- **2. A/P TRIM DISC Button – PRESS and HOLD (throughout recovery)**
- **3. Elevator and Rudder Trim Controls – ADJUST MANUALLY (as necessary)**
- **4. AUTO PILOT Circuit Breaker – OPEN (pull out)**
- 5. A/P TRIM DISC Button - RELEASE **WARNING**

FOLLOWING AN AUTOPILOT, AUTOTRIM OR MANNUAL ELECTRIC TRIM SYSTEM MALFUNCTION, DO NOT ENGAGE THE AUTOPILOT UNTIL THE CAUSE OF THE MALFUNCTION HAS BEEN CORRECTED





HUMAN FACTORS IN AVIATION

What Is the Human Factor Complacency (Two Types of Complacency)

The Human Factor Complacency is one of the most important Human Factors that you need to be aware of. It can happen with you are feeling satisfied with your safety, and it can happen when you are apathetic to your safety.

Complacency is the cause of countless safety incidents because of things like:

You've done this task many times with no problem;
You know how to do this task really well;
You are sure of the dangers that this task poses; and
You are sure that you are behaving safely.

The hallmark of complacency is an expectation of safety, which is what the above points result in. With this type of mindset, you are less likely to:

Be aware of new danger;
Double check your work; and
Be vigilant and considerate about your current actions.

The opposite of complacency is vigilance and verification.

Great Story That Demonstrates Consequences of Complacency

At an air force base in Guam, a routine check of a 1.4 ***billion dollar*** Stealth Bomber discovered that humidity was causing the pressure sensors to malfunction. No problem, it was a simple fix. End of story. Safety was restored

Except, this maintenance team and safety managers did not communicate to other maintenance crews to fix the sensor as well.

The result? Another maintenance crew overlooked the wet sensor, and the wet sensor didn't send important data – the kind that keeps the bombers flying – to the flight control system. As you would expect, the bomber crashed.

Complacency on both crews causes this 1.4 billion dollar accident – complacency in not communicating a simple fix, and complacency in (presumably) not noticing the wet sensor.

Common Behaviors That Demonstrate Complacency

One of the reasons complacency can be such a problem is that when you are feeling complacent or behaving complacently, you are rarely aware of it. Some common complacent behaviors while performing routine tasks are:

Thinking about other things, like you are on auto pilot;
Not verifying your work;
No feeling of "stress" about your task;
Signing off on work you haven't ensured is complete; and
Working exclusively from memory, as opposed to actively paying attention.

(*Continued on next page)*

Complacent behavior is most common when performing every day, boring, routine tasks, that, frankly, most people don't really want to do. It is no surprise that these tasks are associated with way more safety issues than they need to be.

It is during such routine tasks that you should make the greatest attempt at vigilance. Tiny mistakes can have significant consequences.

Causes of Complacency in Aviation Safety

Causes of Complacency in aviation safety are fairly straightforward:

Feeling that things are safe;
Feeling confident that you know you performed the task safety, without double checking;
Feeling sure that nothing could go wrong in such an ordinary procedure; and
Feeling that something very trivial could not cause any harm.

Complacency is a feeling/mindset that leads to

How to Overcome Complacency

One anonymous person put it succinctly when they said, "Assume that everyone else doesn't know what they're doing, including yourself."

This is good attitude to have because:

The first precursor to danger is your assumption that you or anyone else is won't make mistakes.

In many ways, becoming really good at the operational side of your job can make you more prone to catastrophic errors, especially when you have seen success the past hundred times you have performed a task.

Past successes are not future guarantees. Trust that you know what you are doing. Trust that you can and will make mistakes. Trust that if you earnestly double check your work, you will find oversights.

THE DIRTY DOZEN
Twelve human factors for aircraft maintenance proficiency

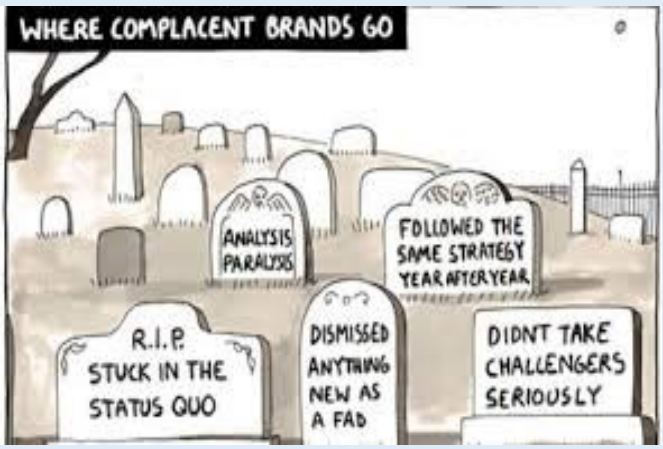
Lack of Communication	Lack of Teamwork	**Lack of Assertiveness**
Complacency	Fatigue	Stress
Lack of Knowledge	Lack of Resources	Lack of Awareness
Distraction	Pressure	Norms

Lack of assertiveness in failing to alert others when something does not seem right, can result in many fatal accidents. Do not let something that you know is wrong continue by ignoring that it is there.

MITIGATING THE RISK

Provide clear feedback when a risk or danger is perceived.	Never compromise your standards.	Allow co-workers to give their opinions and always accept corrective criticisms.

Even though the above says aircraft maintenance proficiency, it works the same for flight crews



C182T Flight Regimes. Just targets, depends on temperature, density altitude, weight.

C182T Flight Conditions Checklist – exact numbers temperature dependent and engine age

Phase	MP	RPM	FLAP	PITCH	IAS	COWL	Comment
Take Off							BLTM
Normal T/O	Full	2400	10	12.5	80	open	Rotate @ 59; @ 70kn: Flaps 0, MP23, pitch ~7.5
Short Field T/O	Full	2400	20	17.5	58	open	Rotate @ 53; Flaps up @ 70Kn; then normal climb
Soft Field T/O	Full	2400	20	to Vx	65	open	Rotate into ground effect; Flaps up @ 70 Kn; then normal climb
Climb	23	2400	0	7.5	90	open	Lean to 15 GPH
Cruise	20	2200	0	trim to IAS	110	closed	Lean to 10.5 GPH at 3,000-4,000'
Landing							
Downwind	16-18	full	0	trim to IAS	90	closed	Mixture Rich - GUMPS
Abeam	12-15	full	10	trim to IAS	80	closed	
Base	12-15	full	20	trim to IAS	80	closed	
Normal Final	10-12	full	full	trim to IAS	70	closed	Adjust flaps for wind
Short/Soft Field Final	to hold 60kn	full	full	trim to IAS	60	closed	Short: MP idle when clear obstruction, 60KIAS till flare; Soft: hold power on
Maneuvers							Clearing turns
Steep Turns	~18	2200	0	3-4	110		16-18 winter 18-20 summer
Slow Flight-clean	18 initial	full	0	10	65	open	Mixture rich; CHT<400
Slow Flight-dirty	20 initial	full	full	7.5	55	open	Mixture rich; CHT<400

Vx=65
Vy=80

Some more good stuff to know!

EMERGENCY PROCEDURES

ENGINE OUT

F FUEL PUMP ON, CARB HEAT (If equipped in older C182 and C172), FUEL BOTH

A AIRSPEED – BEST GLIDE

B BEST FIELD – GPS NRST / VISUAL

C CHECK LIST – FLOW, check all fuels switches, etc.

D DECLARE MAYDAY, who, what, where – SQUAK 7700 – DOOR OPEN

E ELECTRICAL Battery (s) – Off, after flap selection – ELT ON

F FUEL SELECTOR VALVE - OFF

G GOOD LUCK (this is your best day, right)

Component Failure	GFC 700	KAP 140
PDF (1)	Lose autopilot	No impact
AHRS (2)	Lose autopilot	Lose HDG, NAV, APR
ADC	Lose autopilot	Lose Alt capture
GIA 1	No impact on autopilot	No impact on autopilot
GIA 2	Lose autopilot	Lose NAV. APR
MFD	Autopilot remains on but modes cannot be changed	Lose NAV. APR

GIA 1 also lost when PFD fails

Magnetometer data lost when AHRS fails

GIA 2 also lost when MFD fails

G700 – if you change nav source the G700 lateral autopilot will disengage, if the system changes nav mode (i.e. RNAV to ILS app), the lateral autopilot will stay engaged.

KAP 140 – changing the nav mode (either by you or the system) will cause the lateral autopilot to disengage.

END NOTES

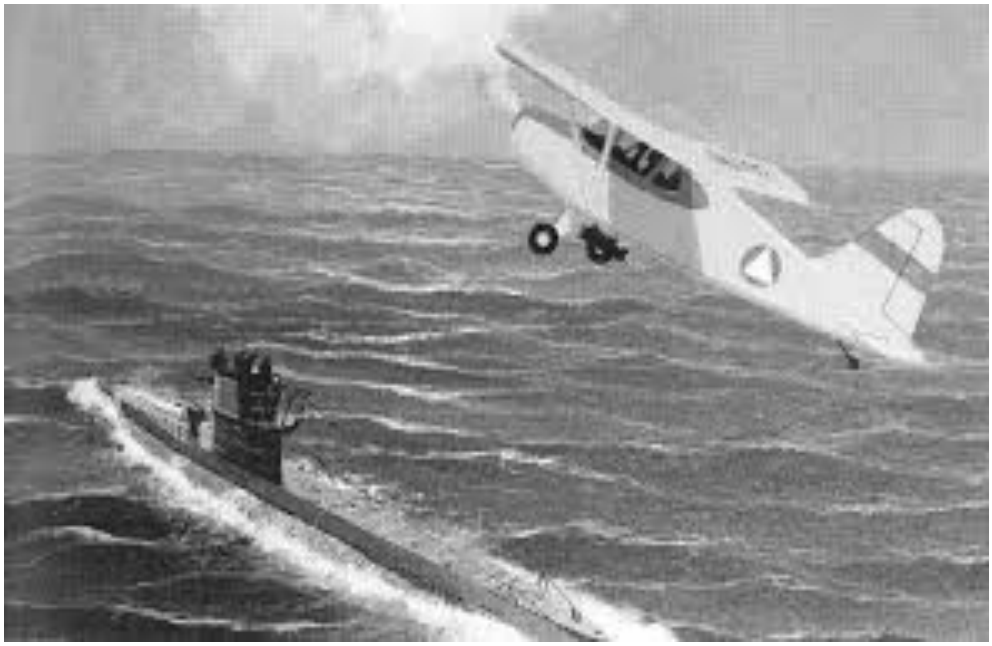
Anything you would like me to print or put in the next newsletter send to me at jakolmos@gmail.com. Thanks.

"Semper Vigilans"

Maj. John A. Kolmos

NY-001 DOV-A

A LITTLE NOSTALGIA FROM THE GOOD OL 'E DAYS……..



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Civil Air Patrol Core Values - Integrity, Excellence, Volunteer Service, and Respect