



**Stan/Eval Newsletter
CIVIL AIR PATROL
UNITED STATES AIR FORCE AUXILIARY
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Back to Basics: Rush and Go – NOT!

Instructors have often disagreed on whether to use “touch-and-goes” when training students in the pattern. There are good arguments on both sides. Those that argue for it point out that you can get a lot more landings and takeoffs in a lesson thus reducing the time and cost for the student. Those that argue against it point out that a touch-and-go introduces unnecessary risk. There are other factors to consider as well. Many flight schools prohibit touch-and-goes for student solos; but do allow touch-and-goes with an instructor aboard. The purpose of this article is not to argue one or the other but rather to suggest a safe way to do them when performed.

One of the ways to do the touch-and-go is what is called a rush-and -go (pronounced “Russian Go”). This is not a recommended technique for students. Unfortunately, it is done all the time. Here is a scenario:

The pilot/student lines up on final, flares, touches down and then immediately the throttle goes forward, the aircraft is rotated, and a climb initiated.

There are several problems with this, especially for low flight-time students. The pilot/student is distracted on final, thinking about “get the power in right away when you touch down!”. When you know you are going to do a touch-and-go, you are not really focused on the landing. You have split your brain trying to work both the landing and the takeoff. Because of this, mistakes can and have been made. There are many NTSB reports of a student applying the power right after touchdown and promptly losing control of the aircraft as they weren’t ready for takeoff (see NTSB **CEN13LA342**). There are also many reports of an improper touchdown resulting in loss of control. The student was more focused on the impending “go” part and they really didn’t focus on the initial “touch” part.

A better technique is the “Touch, then think about a Go if everything is under control” technique. Here, the student is coached to focus on the landing (yes, landing, not touching). Once on the ground, let the aircraft roll for a few hundred feet to ensure we have really landed, and that the aircraft is under control. While the aircraft is still rolling, check the mixture, mags, cowl flaps, and fuel. If all is ok and there is sufficient runway remaining, let’s do a takeoff. Configure the aircraft for takeoff (set the flaps and the trim for C172/C182), power up and rotate at the appropriate speed. We have previously agreed to a point on the runway beyond which we will simply come to a full stop and not attempt a takeoff. Just to make the point, I’ll often ask them jokingly to call their stockbroker (most 16-year-old students don’t have a stockbroker although I discovered there are exceptions) as we are rolling out, just to make the point we are in no rush to take off. Takeoff is optional.



This takes a longer runway than a “Russian Go” but reduces the risk. However, if the runway is so short you can’t be relaxed on the touch and go, maybe you should reconsider doing a touch and go with a student in the first place or find a longer runway.

We are teaching some important things when we use the “Touch”, then think about a Go if everything is under control” technique. When on final we are completely focused on the landing (not the touching!) and not even thinking about the go part. That results in much better landings and reduces the risk of loss of control on touchdown. We are also teaching that taking off is optional and should only be initiated when we have verified that the pilot and the aircraft are ready and the runway remaining is sufficient.

A corollary to this is a stop-and-go. Here we just land, come to a full stop, do a quick pre-takeoff checklist (mixture, flaps, and so forth), and then takeoff. Either way is less risk than a Russian Go.

Back to Basics: Airworthiness

Pilots are an extension of CAP’s responsibility as an owner/operator which includes resolving discrepancies that could affect aircraft airworthiness or safety of flight. Flying aircraft with damage or other discrepancies that have not been evaluated, repaired, or otherwise addressed by a properly certificated mechanic is beyond the scope of pilot authority within CAP. To be an effective team, pilots, AMOs, NHQ/LGM, and others must work collaboratively to ensure CAP meets its regulatory obligation and that the aircraft is safe for flight.

We all know the ARROW acronym that pilots use on every flight to verify and aircraft’s airworthiness.

- Airworthiness Certificate – Must be in the aircraft and ensures that the aircraft is in accordance with its Type Certificate Data Sheet (TCDS).
- Registration – Just like the registration in our car, this documents who owns the aircraft. It must be renewed every seven years.
- Radio Telephone License – Only required for international flights (which CAP occasionally does).
- Operating Limitations – Most folks think of the POH, but this really refers to the limitations including the required placards. Of course, the POH describes both the limitations and the placards (section 2).
- Weight and Balance – This does NOT mean you have to do a W&B every time you fly. What it does mean is that you must have in the aircraft the necessary information so that you can do a W&B. This should be in section 6 of the POH.

The ARROW acronym is a good way to determine airworthiness, but it’s not enough. We also need to determine that all the required inspections are current, and that any applicable AD’s have been complied with. For inspections, the AV1ATE acronym is helpful.

- Annual inspection – The aircraft must have had an annual inspection within the past 12 calendar months.

- VOR check – If you plan to use VOR navigation in IFR conditions, you must have done a VOR check in the past 30 days. This can be done by any pilot.
- 100-hour inspection – If used for commercial operations, the aircraft must have had 100-hour inspection in the last (wait for it....) 100 hours. A 100-hour inspection and an annual are virtually the same, but the annual must be signed off by an A&I while a 100-hour inspection may be signed by an A&P. (All CAP corporate aircraft require a 100-hr. inspection per CAPR 130-2))
- Altimeter/pitot/static check – For IFR operations, this must be completed every 24 calendar months. If expired, you can still fly VFR.
- Transponder check – The transponder must be checked every 24 calendar months. This is usually done with the altimeter/pitot/static check.
- ELT check – The ELT must be checked every 12 calendar months. This is usually done as part of the annual inspection.

Except for the VOR check, the only way to verify these inspections is to review the aircraft maintenance logs. Not something we do every flight but good to consult the AMO on when the next inspection is due, so we don't get surprised.

An aircraft must also comply with all applicable Airworthiness Directives (AD's). This is usually done as part of the annual inspection. It's not easy as determining what ADs apply to a particular aircraft can be a tedious and time-consuming task. Some AD's must be complied with more often than annually so just checking at the annual may not suffice. Again, work with the AMO to ensure the aircraft is up to date.

Many of our older aircraft also have Supplemental Type Certificates (STC). An STC allows new equipment to be installed in an aircraft that was not originally equipped with the new equipment. For example, when you upgrade your old steam gauge aircraft with a whiz bang GPS and a glass AI, you need an STC (usually provided by the manufacturer). Something to look out for is that most STC's (not all) have a supplement to the POH (basically change pages). Those MUST be in the aircraft. You can't leave those with the AMO or in the hanger. Leave them in the aircraft please!

These are the basics of airworthiness. There are a lot of complications that can arise with airworthiness but complying with the above will avoid most unpleasanties. When it comes to airworthiness, you'll find that the AMO is your friend!

Lessons From a Low-Level MTR Survey (Capt. D. Beadle, SM R. Eyre, SM C. Lewis, SM J. Ellis, NVWG)

Three of us from the Tahoe-Truckee squadron (NV-027) were first-timers on a recent MTR survey operating a T-206 over mountainous terrain in Northern Nevada. It's different from the kind of flying most of us do for recreation or for work. In some ways it's also more demanding than typical CAP ES missions. Following are some of the lessons our crew learned while preparing for the mission and then flying it.

1. If you're the Incident Commander and must prepare a budget for the customer, plan for more fuel than you think you will use. The planning guidelines suggest a 10% cushion. Make the cushion bigger for reasons that will become apparent later.
2. You'll need a current source for existing obstacles, so you don't report obstacles the customer is already aware of. Military pilots are supposed to use the Tactical Planning (TPC) charts in the version of Foreflight that's distributed to all CAP pilots, along with updates from the National Geospatial Agency (so-called CHUMs, Chart Updates Manual) but these may not always be available. If you're unable to get a "CHUMMed chart", use any Foreflight chart layer that has terrain and turn on the Obstacles layer that includes all known obstacles at the time of publication to see where the known obstacles are.
3. In the mountains, consider flying these missions with a crew of four – two to scan, an observer who focuses on helping the pilot and looking for emergency landing sites, and a pilot - weight and balance permitting.
4. Every member of the crew should study the planned route in advance and understand where flight hazards lurk. We're supposed to fly these missions at 1000' AGL but even where it's flat, there are plenty of potential obstacles like TV and radio antennas that the crew needs to be aware of and avoid. In our case, we determined that a dogleg entry into the start of the MTR we were assigned to survey would avoid an uncomfortably steep 4000' descent over just a few miles after crossing a ridge.
5. If your assigned survey area is inside a MOA or Restricted Area, contact the controlling agency ahead of time (at least the day before your sortie) to make sure the area is cold during the time you expect to be in the airspace and to verify or make them aware of your presence and what you'll be doing. Don't depend on the "customer" to do this for you and don't assume the controlling agency knows you'll be in their airspace let alone when you'll be in their airspace. If you do wait to contact the controlling agency until you're just outside the MOA or Restricted Area, make sure you have enough fuel to loiter while you establish two-way radio communications and get everything sorted out.
6. Don't rely on flight time and fuel burn estimates from Foreflight. You'll need extra fuel for unexpected winds, climbs over terrain, and "loitering" time to inspect a target. You'll need more time than Foreflight says you will because you'll be flying most of the route more slowly than the standard cruise speed for your aircraft. If you don't start with enough fuel and must divert off the MTR. It will burn more fuel and add time to what might already be a long day. We departed our home base at 0730 and when we finally landed at 1630, we were very tired.

7. In the summer watch engine temperatures carefully, especially in the mountains where you may need to climb steeply to follow the terrain, and when there are up and downdrafts caused by summer heating. If you can't climb fast enough over terrain, and/or dealing with up and downdrafts causing cylinder head temperatures to approach or exceed 400 degrees, enrich the mixture, and make sure the cowl flaps are open all the way. If you must reduce power from cruise or climb to the bottom of the green arc to follow terrain down at 100-110 knots IAS, close the cowl flaps to keep the engine from cooling too rapidly. In a crew, have your MO help monitor engine parameters. If your rate of climb doesn't allow you to stay close enough to steeply rising terrain, consider doing a "climbing contour search" to inspect the terrain while climbing to top it and use your MO to help keep you clear of the rocks.
8. Have a plan for communicating with the IC or FRO during your flights. You may be too low to reach a CAP radio, Flight Service, or a cell tower for an extended period, in which case there's no way to track you on radar or ADS-B.
9. Know where you can divert for fuel if you need to do so. Know whether fuel is available at these airports, check airport NOTAMs. Be aware of any call-out fees if you must land on a weekend/holiday or after business hours and that some FBOs will not accept CAP credit cards (ask us how we know). In cold climates there are two seasons, known as winter and airport construction. Airport construction season can be full of surprises like runway and airport closures.
10. Know how to use your aircraft's avionics to mark finds and know the lat/lon format it uses. Make sure your scanners know how to make accurate log entries.
11. You'll probably be required to submit a flight track along with your log that documents any new obstructions. Be sure at least one member of your crew knows how to generate the log on Foreflight and be sure you know how the customer wants that log submitted.
12. Especially in summer, drink plenty of water and bring snacks. Not eating or drinking enough reduces your alertness and your ability to concentrate. It's a safety issue.

CAP Responds to Maui Fires

Here's an article from Flying Magazine on CAP helping with the wildfires on Maui. Click [here](#).

Who You Gonna Call? (AVWEB)

This was an interesting article someone brought to my attention!

<https://www.avweb.com/avionics/elt-plb/who-you-gonna-call/?MailingID=1443>

Fat Fingers! (EAA)

Another interesting article was brought to my attention!

[Click here.](#)

New Look for the AWC website (AINsight)

The Aviation Weather Center (AWC) is giving its website a new look with enhanced usability. Set to formally roll out on September 12, users can now view the site in beta mode. However, Jennifer Stroozas, a warning coordination meteorologist for the AWC at the National Oceanic and Atmospheric Administration, told NBAA that the beta site is only in experimental form and should not be used for flight-planning purposes.

Stroozas noted the site was designed for improved mobile use. “Whether you’re on a mobile phone, a tablet, or a desktop computer, the site is expandable and optimized for that device,” she told NBAA. “We’ve also streamlined the menus to make navigation simpler and more intuitive.”

Some of the changes improve access to information surrounding weather conditions, pilot reports, and radar and satellite observations, along with Airmet (airman’s meteorological information) and Sigmet (significant meteorological hazard) alerts.

The revamped site includes airplane and helicopter icons. A click on the helicopter icon will provide lower-altitude information. The revamped site combines the graphic forecast for aviation (GFA) and helicopter emergency management services product into a single GFA interface.

In addition, AWS is adding more Canadian core airports.

Articles for the National Stan Eval Newsletter:

These articles have been written to present ideas, techniques, and concepts of interest to CAP aircrews rather than provide any direction. The articles in this newsletter should in no way be considered CAP policy. We are always looking for brief articles of interest to CAP aircrews to include in this newsletter. CAP has many very experienced pilots and aircrew who have useful techniques, experiences, and tips to share.

Please send your contribution to stephen.hertz@vawg.cap.gov . You can view past issues [here](#).