

Thomas P. Turner's Mastery of Flight®

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FLYING LESSONS for August 20, 2026

FLYING LESSONS uses recent mishap reports to consider what *might* have contributed to accidents, so you can make better decisions if you face similar circumstances. In most cases design characteristics of a specific airplane have little direct bearing on the possible causes of aircraft accidents—but knowing how your airplane's systems respond can make the difference in your success as the scenario unfolds. So apply these FLYING LESSONS to the specific airplane you fly. Verify all technical information before applying it to your aircraft or operation, with manufacturers' data and recommendations taking precedence. **You are pilot in command and are ultimately responsible for the decisions you make.**

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This week's LESSONS

From a rapidly completed [NTSB final report](#):

The pilot [of a Cessna A150L Aerobat] reported that during the takeoff portion of a touch-and-go landing, he **initiated the takeoff with the flaps remaining in the fully extended landing position** instead of retracting the flaps to 20° as prescribed by the *Pilot's Operating Handbook*. The extended flaps increased aerodynamic drag and reduced the airplane's climb performance.

As the airplane struggled to gain altitude, **the pilot maneuvered to avoid rising terrain while attempting to correct the flap configuration**. During an off-field landing, the airplane impacted a sign, which resulted in **substantial damage** to the right wing and fuselage. The solo pilot was not injured. Airplane damage was "substantial."

The pilot reported that there were **no mechanical malfunctions or failures** with the airplane that would have precluded normal operation.

The National Transportation Safety Board determines the probable cause(s) of this accident to be: **The pilot's failure to retract the flaps** during takeoff following a touch-and-go landing, which resulted in degraded climb performance and an impact with an object during an off-field landing.

See <https://thomaspturner.com/wp-content/uploads/2026/08/2026.0510-A150-AZ.pdf>

There's often debate over the merits of touch-and-go landings as opposed to full stop/taxi backs or, if runway length permits, stop-and-gos (in which the pilot brings the airplane to a complete stop, returns the airplane to a takeoff configuration, and then begins a new takeoff). I've opined against touch-and-goes many, many times in the context of avoiding inadvertent landing gear retraction, among other things, in retractable gear airplanes.

Still, touch-and-goes are a staple of flight training, especially in training-type airplanes flown by low-time student pilots and their instructors. If the aircraft has a nosewheel, regulators accept a "T&G" toward day currency requirements for carrying passengers, so a lot of pilots continue to fly them throughout their career. Yet **there is scant little guidance** from airplane manufacturers or the FAA about how to fly touch-and-goes and their unique hazards.

Touch-and-goes happen, and pilots and instructors will continue to do them. So although I personally argue against them in retractable gear airplanes and make the case for de-emphasizing T&Gs even in fixed tricycle gear types, this week we'll look at **risk mitigation if you do choose** to fly a touch-and-go maneuver.

A touch-and-go is a very different maneuver from a landing and a separate, stand-alone takeoff. Yet it must include elements and most of the pilot actions of both...with items from the Balked Landing checklist thrown in.

For example, the A150L Aerobat checklist tells us these things should be accomplished BEFORE LANDING:

- Mixture – RICH
- Carburetor Heat – APPLY before closing throttle
- Wing Flaps – As desired below 100 mph
- Airspeed – 60 to 70 MPH (flaps extended)

From this condition the pilot transitions to landing, which on the POH checklist includes:

- Touchdown – MAIN WHEELS first
- Landing roll – LOWER NOSE WHEEL gently
- Braking – MINIMUM REQUIRED

Then, after landing (and presumably after taxiing off the runway)

- Wing Flaps – UP
- Carburetor Heat – COLD

That's a total of nine distinct pilot actions between final approach and clear of the runway for a normal landing.

If for any reason the pilot must (or elects to) go around, the BALKED LANDING checklist calls for:

- Throttle – FULL OPEN
- Carburetor Heat – COLD
- Wing Flaps – Retract to 20°
- Upon reaching an airspeed of approximately 65 mph, retract flaps slowly

Using the checklists above, a touch-and-go requires, at minimum, these **10 steps**:

- Mixture – RICH
- Carburetor Heat – APPLY before closing throttle
- Wing Flaps – As desired below 100 mph
- Airspeed – 60 to 70 MPH (flaps extended)
- Touchdown – MAIN WHEELS first
- Landing roll – LOWER NOSE WHEEL gently
- Throttle – FULL OPEN
- Carburetor Heat – COLD
- Wing Flaps – Retract to 20°
- Upon reaching an airspeed of approximately 65 mph, retract flaps slowly

When I was a presolo student in US Air Force T-41As (barely militarized 1965 and 1967 145 horsepower Cessna 172s) the rule was that “it’s not a touch-and-go if the nosewheel touches the runway.” Presumably they were getting us ready for aerobraking in jets or some such reasoning. If you go that route, then there are **nine steps** to a touch-and-go landing.

Unlike most other POHs, Cessna handbooks include what they call Amplified Procedures. These are more detailed recommendations and explanations of checklist procedures. The C150 POH doesn't have an "A-P" for a touch-and-go, but it has this to say about Balked Landings:

In a balked landing (go-around) climb, the wing flap setting should be reduced to 20° immediately after full power is applied. Upon reaching a safe airspeed, the flaps should be slowly retracted to the full up position. In critical situations where undivided attention to the airplane is required, the 20° flap setting can be approximated by holding the flap switch for approximately two seconds. This technique will allow the pilot to obtain the 20° setting without having to divert his attention to the flap position indicator.

Presumably that technique assumes the flaps were fully down at the beginning of the balked landing maneuver.

The FAA is mute about T&Gs in the *Airplane Flying Handbook* guidance. We must glean what we can from the AFH's section on [Go-Arounds \(Rejected Landings\)](#), which includes this:

The go-around maneuver is not inherently dangerous itself. It becomes dangerous only when delayed unduly or executed improperly.... **Power** is the pilot's first concern...full or maximum available power should be applied smoothly and without hesitation.... Carburetor heat is turned off to obtain maximum power, as applicable.

Attitude. ...an airplane cannot fly below stall speed, and it cannot climb below minimum power required speed....resist any impulse to pitch up for climb is airspeed is insufficient. In some circumstances it may be required to lower the nose briefly....

...a **trim** setting for low airspeed is in place. The sudden addition of power tends to raise the airplane's nose and causes left **yaw**.... The pilot should anticipate the need for considerable forward control pressure [and] sufficient right rudder pressure to counteract torque and P-factor....

After establishing the proper climb attitude and power setting the pilot's next concern is **flap retraction**.... Unless otherwise specified in the AFM/POH it is generally recommended that flaps be retracted (at least partially) **before retracting the landing gear** [in complex airplanes].

See https://www.faa.gov/sites/faa.gov/files/regulations_policies/handbooks_manuals/aviation/airplane_handbook/10_afh_ch9.pdf

That adds an 11th step to a T&G checklist (10th in Air Force Flight Screening) that does not appear in the A150L handbook, setting and confirming the trim. In light trainers landing trim is often in the safe takeoff range. Move a bit up even in the single-engine world and that is frequently **not** the case.

Like a go-around, the takeoff portion of a touch-and-go is a matter of controlling **power**, **attitude** (for airspeed and angle of attack) and **configuration**. At a high density altitude power includes adjusting the mixture control for maximum available power. Oops, that's a **12th step**, one that distracts the pilot from his or (despite what Cessna says) her transition back into the air.

It also includes close attention to **yaw control** as power and attitude increase, and **trim control** if there's a difference between typical final approach trim setting and the normal takeoff trim. Yaw? **Step 13.**

In [last week's Debrief](#) reader John Wiebener recalled a *LESSON* he learned from GAMI's George Braly about landings: deliberately evaluation "**Is the airplane ready to land?**" while on final approach. "Weebs" recalled a second check as well, "**Is the airplane ready for takeoff?**" For a touch-and-go you must **do everything** and **confirm you've done everything** for takeoff in a very short time spent on the runway.

See <https://thomaspturner.com/flying-lessons-weekly/flying-lessons-for-august-14-2026/>

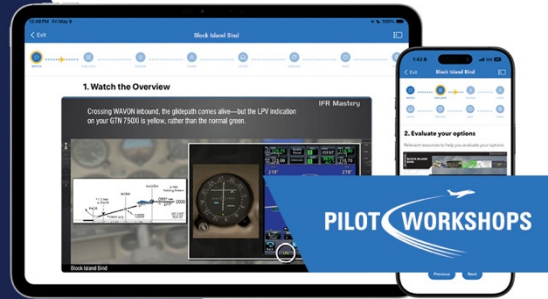
That's a lot to manage in the short time of a touch-and-go. Be ready for the mission, if you choose to accept it.

Questions? Comments? Supportable opinions? Let us know at mastery.flight.training@cox.net.

What would you do?

The glidepath disappears on an RNAV LPV approach. Would you continue to LNAV minimums? Test your knowledge in this IFR Mastery scenario.

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Debrief

Readers write about recent *LESSONS*:

We have lots of reader mail on inflight GPS outages, landing gear operating in the traffic pattern and more (including, I expect, your insights about this week's *LESSONS*). I'll get to all this and perhaps more next week.

More to say? Let us learn from you, at mastery.flight.training@cox.net.

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Thomas P. Turner, M.S. Aviation Safety
Flight Instructor Hall of Fame Inductee
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