

## What is a “GUMPS” check?

Pilots love mnemonics! They are an essential tool we use to memorize the endless lists of important tasks and information involved in flying. This particular mnemonic reminds us of the critical items we absolutely must confirm before landing. “GUMPS” stands for: Gas, Undercarriage, Mixture, Propeller/Pump, Switches/Seat Belts.

### **G - Gas**

This reminds us to check our fuel gauges and make sure the fuel selector is set to the fullest tank. In some airplanes, such as Cessnas, we would make sure the fuel selector is set to “BOTH,” and if you have a fuel shutoff valve, verify it is in the “ON” position.

### **U - Undercarriage**

This is old school terminology for the airplane’s landing gear. In fixed-gear aircraft there is nothing for the pilot to do, but if you have retractable gear, this is the most important item to remember! To save ourselves the embarrassment (and significant cost) of landing with the gear up, we must verify (preferably multiple times) that the landing gear is in fact down and locked in position.

We double check the gear handle is in the down position and verify all three wheels are locked down by various gear lights and/or annunciator panel lights and other gear position indicators. Some airplanes also have mirrors that enable the pilot to visually confirm the wheels are down.

Even if your aircraft has fixed gear don’t skip this item, just note that the gear is “down and fixed” (some people say “down and welded”). If you ever upgrade to a retractable gear airplane you will be grateful you created this habit.

### **M - Mixture**

Most POH’s and checklists call for the mixture to be full rich before landing but what we really need is to set the mixture for best power in case of a go-around or missed approach. The actual setting should be specific to your aircraft, the field elevation and the atmospheric conditions.

### **P - Prop/pump**

If you fly an airplane with a fixed pitch propeller there will be nothing for you to do. For a constant speed propeller you want to reconfigure the propeller from the cruise setting to the highest RPM setting, again this is to prepare for the possibility of a go-around or missed approach. At this time you would physically move the (blue) prop lever fully forward.

In many low wing aircraft we also switch on the auxiliary fuel pump, just in case the engine driven fuel pump decides to give up at the worst possible time.

### **S - Switches/seatbelts**

Check that you and your passengers have your seatbelts and shoulder harnesses secured and confirm your landing light is on.

“S” can also be a reminder to maintain a sterile cockpit and limit conversation to essential flight-related communications until after landing.

Speed brakes are another “S” item on some airplanes, and a reminder that we want to make sure those are stowed before landing. (In the Mooney you can land with the speed brakes deployed but they would create an excessive amount of drag if you needed to go around.)

### **What is not included in the GUMPS check?**

GUMPS focuses only on key safety items that if missed could result in catastrophic consequences. It is a final check after we have completed our pre-landing checklist so it doesn't necessarily cover all the tasks we have to accomplish before landing. It doesn't include things like flaps and trim, and there is no mention of carb heat, airspeeds or landing clearances.

### **When should you perform your GUMPS check?**

Because GUMPS is a last minute double-check of important actions that should have already been completed, we typically do this on our final approach to the runway. Some pilots recite GUMPS multiple times from various positions in the pattern.

For VFR flights in fixed-gear airplanes you *could* (and many pilots will) do this check on your downwind leg because there really is nothing in GUMPS you would change after that.

In complex aircraft, we typically complete GUMPS after the airplane is configured for landing. This could be on the downwind, base or final leg for a VFR or visual approach, or somewhere between the final approach fix (FAF) and the runway threshold on an instrument approach. Any sooner than that would be premature.

My recommendation is that whatever aircraft you fly, you should memorize GUMPS and always perform this check on every final approach to landing regardless of the type of aircraft you fly. From your very first private pilot lesson your instructor should be instilling in you good habits that remain with you throughout your flying career and can be applied to every aircraft you fly.

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