

A seat belt is a major piece of safety equipment that often gets overlooked.

Beyond the Checklist:

Little Things that Can Make a Big Difference in Your Safety

BY MIKE SCHWARTZ

Because so many accidents involve some form of human error, there is an understandable emphasis on strategies to eliminate or mitigate hazards that can lead to such mistakes. Even the most casual reader of publications such as *FAA Safety Briefing* will be familiar with tools like the IMSAFE checklist: Am I free from **I**llness, **M**edication, **S**tress, **A**lcohol, **F**atigue, or **E**ating deficiencies that could affect my physical or mental capacity to operate safely as pilot-in-command? You probably know about the PAVE checklist that encourages a structured review of **P**ilot, **A**ircraft, **e**n**V**ironment, and **E**xternal pressures.

Thankfully, mechanical problems are a far less common cause of accidents than they were in the early days of aviation. Safety and reliability are built into the design of today's certificated production aircraft, and we all benefit from these improvements. In addition, proper and consistent use of a checklist for all phases of flight is now an integral part of aviation safety culture. As an instructor, one of my goals is to make sure that each pilot I train understands the importance of checklist use that starts with the preflight inspection and ends with a postflight review to ensure that the aircraft is properly shut down and securely tied down.

You've probably noticed that today's manufacturer-produced checklists include considerable detail. While I would agree that they cover all of the major items and even some of the not-so-major things to check, I think it's important for safety-minded pilots to consider and periodically review a few beyond-the-official-checklist items that can contribute to your safety and well-being. Let's take a look.

Restraints - Are They Up to the Job?

You know that your responsibilities as PIC include briefing passengers on the use of safety restraints such as seatbelts and shoulder harnesses (*see sidebar on page 16 for tips on giving a good passenger safety briefing*). Lap belts and shoulder harnesses are vitally important in reducing injuries in the event of an accident. But let's take a step back and consider whether those restraints are up to the task you expect them to do. As part of your preflight, you should:

- Check the safety restraints for cut or worn edges, damaged stitching, or excessive wear or chafing to the webbing. Worn or frayed webbing may still be serviceable — but you should check with the seatbelt and shoulder harness manufacturer to find out the limitations for your specific installation. Any webbing that is cut or torn on the edge, however, should be replaced.
- Inspect lap belts and shoulder harnesses for frayed straps.
- Check the inertia reels for proper operation.
- Verify that restraints have the appropriate tags and markings. Most safety equipment intended for aircraft installation, including lap belts and shoulder harnesses, has to meet a national set of standards known as technical standard orders (TSOs). Your restraints should have a cloth tag or metal identification plate stating

that they conform to the TSO requirements. Missing TSO tags are another reason to replace the belts.

- Passengers appreciate cleanliness, so you will want to sanitize safety restraints from time to time. A simple solution of mild soap and water applied with a soft brush will do the trick. Dry the belts in an area where there is good airflow. Never use heat, which could deform the webbing.

Airbags - Will They Work If You Need Them?

Airbags have now become standard equipment in automobiles, and this technology is now finding its way into aviation. As with the highway version, the airway edition of the airbag can quickly become part of the background. Even though aviation airbags are more obvious since they are embedded in the lap and shoulder restraint system, you probably don't even notice them on a day-to-day basis.

You need to leave the inspection and servicing of airbag systems to qualified maintenance technicians

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– even if it were legal (and it's not), it's not a good idea for a novice to tinker around with initiator devices and compressed gas cylinders and other dangerous parts of this potentially lifesaving

technology. What you do need to know is that these components have life limitations, and they also trigger inspection and maintenance requirements.

Fire Extinguishers - Do You Know How to Use Them?

The next area for focus — fire extinguishers — is a critical one. I truly hope you will never have to deal with combustion that is not confined to the engine compartment, but I also hope you are prepared for that particular emergency. First, you should ensure that your aircraft is equipped with a fire extinguisher that is appropriate for aviation use. The fire extinguisher should be securely mounted in a convenient location, such as brackets between the two front seats. It should be mounted in a way that keeps it tightly in place, but allows for quick release if you should ever need it.

Next, you need to check the operational condition of the extinguisher. Does your preflight checklist include checking the fire extinguisher's status in terms of proper charge and date of service? Has it been inspected at the appropriate intervals? Dry chemical fire extinguishers, for example, need


periodic service to ensure that the chemical agent remains in a powder form (i.e., that it does not clump from the vibrations and temperature variations inherent to aircraft operations).

Last, but certainly not least, do you know how to quickly release the fire extinguisher from its mount and activate it? You may not have time to read the fine print directions if ever you need the services of a fire extinguisher. Get familiar with how it operates and how to protect the occupants of the aircraft from the effects of discharging a fire extinguisher (e.g., do you need to ventilate the cabin?)

Options - Do You Need More Gear?

Depending on what you fly, you might want to consider using a helmet. Some aircraft manufacturers recommend using helmets during certain aircraft and rotorcraft operations. Helmets can improve a pilot's ability to hear radio communications by reducing outside noise. More importantly, they can prevent a head injury in the event of an accident or incident. If you do use a helmet, consider keeping the visor down during flight in order to protect your eyes in the event of bird strike or windshield damage. Naturally, you'll want to clean the visor periodically to remove foreign debris, and replace it if it becomes scratched.

If you operate over water, or in remote areas, consider flotation devices and/or first aid equipment. Life vests have requirements for inspections and testing, so they should be checked periodically to ensure they are still within serviceable time limits. The same is true of first aid kits. Check to make sure the contents have not exceeded life limits, and replace items that are out of date.

Mistakes or safety gaps, no matter how small, can cost lives. Therefore every gap is worth investigating. 

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FAA Brochure on Shoulder Harness Safety

<http://go.usa.gov/bQQj>

FAA Information for Operators (InFO) – Safety in Part 137 Agricultural Operations

<http://go.usa.gov/bQQ5>