



# Use of Checklists

## Background:

To reduce human error in aircraft operations, a move was made in the aviation industry to standardize aircraft controls, instruments, charting, and other areas as much as possible. This effort, intended to reduce variance in human behavior also addressed the use of checklists in aircraft.

Pre & Landing Checks		Shut Down Checks	
<b>Pre-Landing Checks</b>		<b>After Landing</b> <i>Clear of runway and stop!</i>	
<b>B</b> Brakes	Check OFF	Carburetor heat	OFF (COLD)
<b>U</b> Undercarriage	Fixed down	Flaps	Full up
<b>M</b> Mixture	Rich	Trim	Neutral
<b>F</b> Fuel	ON and sufficient including gear and reserves	Throttle friction nut	Loose
<b>F</b> Flaps	Use as required	Electrics	Non-essentials OFF
<b>L</b> Landing light	Use as required	Radios	Non-essentials OFF
<b>I</b> Instruments	Engine temp and pressures checked, altimeter set	<b>Shut Down</b>	
<b>C</b> Carburetor heat	Check conditions and set as required	Position	Into wind with the nosewheel straight
<b>H</b> Harnesses	Fastened and secure	Parking brake	ON
<b>H</b> Hatches	Secure	Throttle	1,200 RPM for 20 seconds 1,200 RPM for 10 seconds

While the NTSB reports suggest that flightcrews need to place more emphasis on checklist usage, they also suggest other areas that require attention with due consideration for human factors. Such factors as fatigue, crew reliance on working or short term memory, crew interruption or distraction, and complacency or failure to visually verify aircraft configuration, are factors that may affect crew performance and have the potential to cause checklist error.

## Human Factors Based Checklist Training

Typical FBO flight schools teach students to use a checklist as a set of instructions. The student carefully completes each step before moving on to the next one. To most this would seem to be a very systematic approach. Unfortunately it is very easy to skip a step and never realize the mistake, especially if you're marking your place with your finger.

Most general aviation flying is done without the advantage of having a co-pilot to double check the PIC. The remedy to single pilot operations is to learn how to use the checklist as virtual co-pilot. This means that the checklist is no longer a do-list or a step-by-step set of instructions. Pilots need to learn how to create and follow a logical cockpit flow patterns in your pre-flight, run-up, and other flight operations. The checklist becomes integrated into a system that ensures items are not forgotten or improperly set.

DVI Aviation will assist clients in understanding and developing their own cockpit flow patterns and written checklists unique to their flying habits. The training does not stop on the ground. DVI has developed several scenario based flight situations, in which clients can test out their new cockpit procedures, while being saturated by realistic problem solving circumstances.