



# METAL SEAGULLS

**Checklist: A list of things to do in order to promote safety. Each item has generally been learned through somebody else's misfortune.**

Further to many requests from those reading the Wonderful Adversity series of books, and from our presentations at various events, Metal Seagulls provides the following checklists for information purposes only. You may use them/apply/modify them to suit your particular needs. These lists in no way replace aircraft or operator specific checklists or routines that you will come across in your flying career and various POHs.

**Pre-Start up Checks:** are the checks to carry out AFTER a full walk around, and having got into the plane, ready to start the engine.

**Vital Actions:** are the checks we do prior to committing to a flight, generally when turned into wind, close to the threshold, before lining up.

We call our list the **Thank-you For Giving Me Hot and Cold Showers** checks or TFGMHCS – we found that the same mnemonic can be used for both pre-start and vital action checks.

Letter	Attribute	Pre-Start up check	Vital Action or power checks
T's	<b>Throttle</b>	Check throttle throw and then ensure that throttle is back and then just cracked open	Is the throttle responding correctly and smoothly, are you on, and do you know the correct power setting (for warming up, engine checks, etc, etc)
	<b>Trims</b>	Check Trim movement is free and set neutral.	Make sure that the trim is in neutral position for take-off.
	<b>Temps</b>	Think about whether the engine is a hot or cold start. If cold start set choke, prime if necessary. If hot, there will be normally be no need to prime nor any need for starter.	Are the temperatures rising and (or moving towards) acceptable limits? Do not start a take-off run until minimum operating temperatures are met (if none set wait at least 4 minutes before takeoff).
F's	<b>Fuel</b>	Is there enough fuel for the flight and is the fuel switched on? Do you need a fuel pump for start-up?	Is there enough fuel for the flight and is the fuel switched on? Check fuel-pump(s) as appropriate and select as required for take-off.
	<b>Flaps</b>	Check that the flaps function fully and symmetrically, and are off for startup.	Set the flaps for take-off, ensuring that they are deployed evenly
	<b>Full and Free</b>	Move the controls in all directions – ensuring that they move without excessive friction in the correct	Move the controls in all directions – ensuring that they move without excessive friction in the correct sense

		sense and that there is no impediment to the full movement	and that there is no impediment to the full movement
G's	<b>Gyros</b>	If Gyros are fitted ensure that they are locked if necessary	If Gyros are fitted ensure that they are locked if necessary
	<b>Gauges</b>	Check all gauges appear normal and have no cracked glasses or other obvious problems prior to start up.	Check all gauges are functioning and that readings are within norms. Check that the altimeter is appropriately set.
M's	<b>Mixture</b>	Are you using the correct fuel (or mixture)? If you have a primer or choke do you need to use it for this start up? If you have a mixture control does it move freely and is it correctly set (rich)?	Are you using the correct fuel (or mixture)? If you have a mixture control is it correctly set (rich)? If you have a primer, is it locked? If you have a choke, is it OFF?
	<b>Mags</b>	Check mag switches are off, and only put to on immediately prior to start up	Check mags (L, both, R, both) ensuring that drops are within limits. (Do not carry out a mag check until temps and pressures are in range for the run-up.)
H's	<b>Hatches</b>	Ensure doors and holds are functional and closed and latched	Ensure doors and holds are closed and latched
	<b>Harness</b>	Ensure that all harnesses are functional and that occupants are wearing their harnesses and any unused harnesses are properly stowed.	Ensure that all occupants are wearing their harnesses and any unused harnesses are properly stowed.
C's	<b>Clearance</b>	Do you have clearance from the tower, authorities, etc? Do you need start-up clearance?	Do you have clearance from the tower, authorities, etc? Do you need departure clearance?
	<b>Comms</b>	Is your radio and intercom working? Do you know the frequencies that you may need during your flight?	Are your radio and intercom working?
S's	<b>Safety</b>	Is the area safe to start up in and operate from and have you taken all the necessary precautions prior to start up?	Is the area safe to operate from and have you taken all the necessary precautions prior to this flight?
	<b>Security</b>	Are you pockets empty of any items likely to fall, are all maps and loose objects secured?	Are you pockets empty of any items likely to fall, are all maps and loose objects secured?
	<b><i>If so...</i></b>	<i>Shout clear prop, wait at least 5 seconds and then start up!</i>	<i>You are ready for departure, knowing that you have carried out proper checks!</i>

For those with a non-carburetted engine, you may like to change the M's to Manage and Monitor (Manage the Engine Management System and Monitor the results. (eg switch off Lane A, check that the lane change works, then switch it on, check it re-establishes, then repeat with lane B).

**6 minute / En-route / FREDA checks:** During a flight, especially a cross-country navigation, it is always a good idea to carry out 6 minute checks. Basically, you check where you are and how things are going. We carry these out every 6 minutes, because it makes calculations easy! For example, if you are travelling at ground speed of 80km/hr you travel 8km in 6 minutes (10% of one hour) this makes calculations easy.

<b>Fuel</b>	Are you on the correct tank? (if applicable) Is the burn rate consistent with the plan? Is there sufficient fuel for rest of the journey? (If not DEVIATE or return early).
<b>Radio</b>	Is the radio functioning? Are you on the correct frequency? Are you due to report your position or make another radio call, report or request?
<b>Engine</b>	Are the temperatures and pressures (Ts & Ps) within limits?
<b>Direction</b>	Are you heading in the correct direction? (take into account drift, magnetic deviation, etc) Do you know where you are?
<b>Altitude Attitude Airframe</b>	Are you at the correct altitude or range of altitudes? Are you at an altitude that ensures that you are clear of obstructions (hills, masts, etc)? Is the aircraft attitude (pitch and roll) as it should be for the speed and power setting? Do you have the correct flap/slat/spoiler setting? Are all the airframe bits where they should be?!

**Downwind Checks:** Before you land it is a good idea to carry out some basic checks, and **BUMFITCH** is the catch word!

<b>B</b>	<b>Brakes off</b> – to avoid somersaults on the ground!
<b>U</b>	<b>Undercarriage</b> in good order (and down if retractable) to avoid a nasty surprise!
<b>M</b>	<b>Mixture</b> (if appropriate) set to rich – to ensure maximum power to the engine
<b>F</b>	<b>Fuel</b> sufficient for a go around – and if not make sure that you land first time – and declare a fuel emergency! Are you on the fullest/appropriate tank?
<b>I</b>	<b>Instruments</b> – are they all correctly set (pressure setting on altimeter, etc)
<b>T</b>	<b>Temperatures</b> and pressures – are all in the normal range?
<b>C</b>	<b>Carburettor</b> heat to be applied if available (often to be set off again at point to suit the engine/airframe) Do you have <b>Clearance</b> to land and are your <b>Comms</b> set to the correct frequency
<b>H</b>	<b>Hatches</b> and <b>Harnesses</b> – are all doors and hatches closed, items secure and stowed and passenger and pilot strapped in securely?

There are many other checks and check systems. We hope that ours help you in your flying and that you will have many happy and safe hours in the air!

Please let us know if you found this useful. You can contact us by e-mail : [info@metalseagulls.com](mailto:info@metalseagulls.com)

Find out more about Metal Seagulls Ltd and the Wonderful Adversity book series here:

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