



**PILOTS' OPERATING NOTES**



**CENTRAL WARNING PANEL  
AND MASTER CAUTION MASTER WARNING**



## OVERVIEW

### Overview

Congratulations on your purchase of the Aero Safety Systems' Central Warning Panel (CWP) and Master Caution (MC).

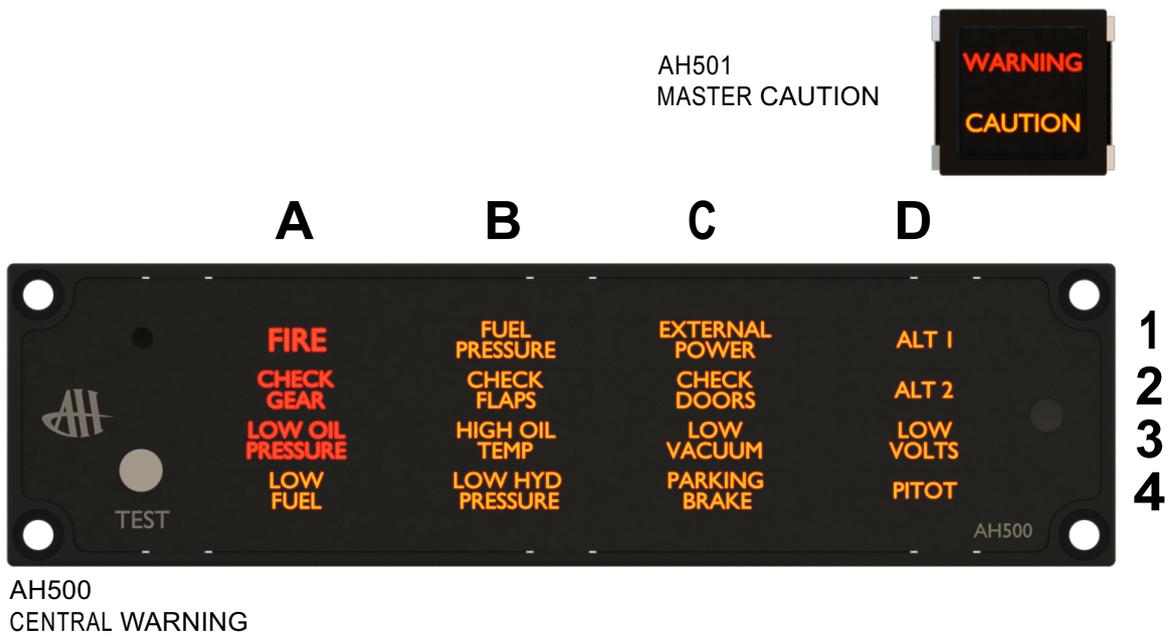
This purchase represents an important investment in your safety. Good checklist drills and cockpit scans will always be essential for good airmanship and responsible captaincy, but for those times when you need to focus on a difficult task or to sharpen your lookout in congested airspace, it's reassuring to know that safety critical items or flight conditions are still being monitored.

### Operating Notes

Your CWP will typically have legends, voice alerts, EFIS integration and logic pre-configured by the factory to your specific requirements.

It is important to read the customization documentation that came with your unit to understand the logic, and this should be appended to these pilots notes.

An example layout is shown below:



The SD equipped CWPs allow easy customization of the logic and voice alerts. It is the installers responsibility to document any changes to the logic and append the logic in the pilots notes.



## BE AWARE

### Be aware

For all these warnings and cautions to function properly, the CWP will have been specified, configured, installed and wired with careful thought to the logic and in accordance to the fitting instructions supplied with the kit. If you were not responsible for fitting the CWP yourself, ask the installer for a logic document and wiring diagram. Some warnings or cautions may not have been enabled depending upon aircraft type in which case these should be marked with the blank “-----” legend.

**Some legend logic requires data from external data feeds from an EFIS or Engine monitoring system. This logic requires the EFIS and data feed to be operational.**

### Switching the system on

The central warning system should be wired to be automatically switched on with the electrical master switch.

The CWP features auto acknowledge on startup to prevent unnecessary flashing captions and voice alerts. On Power up, CWP legend logic that is active will illuminate steady (i.e. not flash) and there will be no voice alerts. For example, on initial power on and since the engine is not yet running, a LOW OIL PRESSURE warning would illuminate steady (not flash) as would the associated Master Warning Caption. There would be no audio voice alerts. After engine start, the caption becomes inactive, and only on reactivation would the LOW OIL PRESURE caption and Master Warning flash with the associated voice alert.

### Testing the system

The CWP can be tested at any time by pressing the TEST button on the CWP panel. Pressing the TEST button will bring all legends on steady and also bring on the master caution WARNING and CAUTION lamps.

In daylight, illumination levels should be full brightness (sunlight readable). In low light conditions (e.g. dusk or night), the illumination level will automatically be dimmed. This can be tested by placing a finger of the light sensor when in bright light.

While the TEST button is held depressed, all lamps should remain steady and the voice ‘TEST-TEST’ audio should be heard. This test can be performed at any time on the ground or in flight to confirm that the system is functioning correctly. Audio voice volume is preset during manufacture but can be adjusted using a trim potentiometer located at the rear of the CWP panel.

### After Engine Start and Pre Take-off

After engine start, warnings or cautions applicable to engine parameters will extinguish. Similarly, captions relating to configuration will extinguish such as a parking brake alert when released and cabin doors when closed.

Once a warning or caution legend has been extinguished after start (or was not triggered in the pre-start state), any subsequent fault condition will trigger the appropriate CWP and Master caution or warning, and associated voice audio as applicable. Thus ALL legends should be dark (unilluminated) for take-off and this check e.g. ‘CWP CLEAR’ should be included in your PRE TAKE-OFF checks.



## BE AWARE

**Note:** The logic configuration allows a number of different voice alerts to be associated with a single caption. This expands the amount of information available to the pilot beyond the 8 or 16 captions.

This can be useful for many alerts, one example being 'Check Gear' where a number of retractable gear problems can be monitored with limit switches and EFIS airspeed/ Height AGL to generate a single 'Check Gear' caption, but a number of voice alerts as shown in this example:

- "Warning! The Port Gear is not locked down" (Down Limit switch not closed within 'x' seconds of gear down selected)
- "Warning! The Nose gear is not locked down" (Down Limit switch not closed within 'x' seconds of gear down selected)
- "Warning! Landing gear is not down" (Airspeed below 'x', Height AGL below 'y', gear not down)
- "Caution! The Starboard gear is not up" (UP Limit switch not closed within 'x' seconds of gear down selected)
- etc.

### When Warnings or Cautions are triggered

If at any time any a logic becomes active, the warning or caution will be indicated as follows:

- The relevant voice audio will sound in a clear, calm voice e.g. 'CHECK GEAR'
- The MC WARNING lamp or the MC CAUTION lamp will flash as appropriate.
- The relevant warning or caution legend will flash on the CWP.

Pressing the MASTER CAUTION button will acknowledge the warning or caution and:

- Mute the voice audio,
- Turn the Master Caution or Master Warning caption to steady,
- Turn the applicable flashing CWP legend to steady.

The pilot's attention having been brought to the system failure or configuration anomaly, check-list procedures should then be followed and appropriate actions taken. For some warnings or cautions, however, a more immediate (learned) pilot reaction may be required; for example a "Gear not down" voice alert may mean that gear is not down at approach speed (as set in the logic configuration) and CHECK FLAPS may mean that you are about to exceed the (pre-set) flap limiting speed.

The CWP system remains alert to any other warning or caution situation(s) arising subsequently and will thus warn off again as indicated above if another system failure or configuration anomaly occurs. Conversely, if a fault condition is corrected, the warning or caution lamp will extinguish but will trigger again if the fault condition reoccurs.

### On engine shut-down

During engine shut-down, engine-related Warnings and Cautions will be triggered as alert logic becomes active (e.g. oil and hydraulic pressures/alternator output etc).

These can be muted by pressing the Master Caution button in the normal way. Switching off the battery master will shut the CWP system down and re-set it for subsequent start up.