SECTION 4.06

AIRSPACE AND NAVIGATION

PILOT RESPONSIBILITIES

CAOs 95.10, 95.32 and 95.55 assume that all pilots can keep within the operating limitations specified, but when you start flying across country you need to do more preparation before flight. Knowing where controlled, restricted or prohibited airspace is located is only one of many considerations. The following section is a synopsis of MOST of the basic information you should have at your command.

Fuel planning is also a critical component of navigation and must be adequately catered for.

AIRSPACE CHARTS

ENROUTE CHART LOW (ERC-LOW): For VFR Pilots there are flight planning charts that are essential for planning a cross-country flight outside areas depicted on a VTC or VNC. The ERC-LOW covers a large area with some airfields and geographical features shown. Its purpose is to show the relationship between those features and the various types of airspace, aeronautical aids and facilities, which are also shown. ERC-LOWs are not suitable for in flight visual navigation.

EN ROUTE SUPPLEMENT (ERSA): Issued to list specific airspace limitations and aerodrome information in more detail than that provided on the En Route Chart or the Visual Terminal Chart. Designed to be used in conjunction with the VTC and/or the ERC.

VISUAL TERMINAL CHART (VTC): Issued to show the area surrounding a Controlled Aerodrome in greater detail than is possible on a VEC. When operating in the vicinity of any Control Zone the VTC should be used for navigation and pilots must be completely familiar with the features on the VTC. They show controlled airspace boundaries and the waypoints used by VFR aircraft entering the controlled airspace.

VISUAL NAVIGATION CHART (VNC): Scale 1:500,000 - wider coverage than VTC - useful for recreational aircraft. They show airspace boundaries and aerodromes.

WORLD AERONAUTICAL CHART (WAC): Standard plotting and navigation chart for General Aviation. The scale is 1:1,000,000, ie ONE millimetre on the chart represents ONE kilometre on the ground! When navigating at relatively low speeds at 500 feet above the ground, WACs are not particularly useful. They are not detailed enough to use in controlled airspace (use VTC or VNC) but are essential for cross country navigation over longer distances. They do not show airspace boundaries so cannot be used alone for flight planning purposes.

PLANNING CHART AUSTRALIA (PCA): Shows the areas and locations used for weather forecasts and the locations and communication frequencies of Flight Watch

LEGENDS: Are the DECODE of symbols used on the respective Maps and Charts. Each ERC, VNC, VTC and WAC has a legend printed on the chart.
IMPORTANT SYMBOLS: On ERC and VTCs purple symbols are used to indicate aeronautical activity, these are:

DOUBLE CROSS	Gliding activity, including aero-towing and winch launching of gliders.
PARACHUTE	Parachute Area. Avoid the areas if you are not familiar with the Drop Zones and the operation. Drop Zones often look like airfields. If you need to use a parachuting field, telephone first and take great care.
W	Winch or Auto-tow launched sports aviation Operation (Launching cables may extend to 3000ft AGL).
HANG GLIDER	Hang Glider Area. Shows approved operating height (AGL) or band of altitude (AMSL).
U	Area of significant recreational aircraft activity, usually for flying training areas. Presently uses hang glider symbol with 'U' letter underneath for the now-defunct "ultralight" term.

AREAS TO BE AWARE OF

PROHIBITED AREAS: Shown on charts as a purple outline (usually a circle) with a purple 'P' and three digit number. Prohibited Areas are mostly only 1500-2000ft high. You must not enter at any time.

RESTRICTED AREAS: Shown as a purple outline containing a purple 'R' and a three digit number. Some restricted areas are active 24 hours per day, but most are not. You can check on whether they are active or not by checking ERSA and current NOTAMS but be aware that some can be RE-ACTIVATED on short notice. Some temporary restricted areas are sometimes established by NOTAM.

DANGER AREAS: Shown as a Purple outline containing a purple 'D' and a three digit number. You may operate in Danger Areas, but be aware of the special purpose for the areas, usually flying training and may be LOW FLYING training. Check with ERSA to be sure.

CONTROLLED AIRSPACE: Controlled airspace is classified alphabetically according to (a) the degree of service provided to a pilot by Air Traffic control and (b) the level of equipment to be carried in the aircraft (e.g. radio, radar) in order to gain access to the service provided.

CONTROL ZONE: A Control Zone is controlled airspace which goes down to ground level, surrounding a controlled aerodrome. Control Zones are shown on charts (purple for military and blue for civil). You can only enter this airspace if you have an RA-Aus Controlled airspace endorsement or a CASA PPL and only in an RA-Aus aircraft approved to the standards set out in the CAOs, CARs, CASRs and relevant legislation as amended from time to time.

CONTROL AREAS: Other than in Control Zones, controlled airspace is called Control Area. Control Areas all have a LOWER limit, which is shown as a height

ABOVE MEAN SEA LEVEL (AMSL), not above ground level. A marking 'LL 3000' means aircraft operating at an altitude of 3000 feet AMSL are OUTSIDE controlled airspace. HOWEVER, if you are operating at 500 feet ABOVE GROUND LEVEL (AGL) and the ground is HIGHER than 2500 feet AMSL you are IN controlled airspace, that is, at an altitude of more than 3000 feet.

NOTE: Some Control Zones and Control Areas do not operate full time and revert to CTAF(R) outside the hours of Air Traffic Control Service.

CTAF (R): Common Traffic Advisory Frequency Mandatory Radio. As suggested it is mandatory to be VHF radio equipped and adequately approved to use radio within 10nm of CTAF(R) up to a height determined by the Pilot In Command where a collision risk does not exist.

The classifications of the airspace and the equipment and clearance requirements will be found in the VFR Flight Guide, published by CASA and also in the 'Flying Around' section of the airservies website at: http://www.airservicesaustralia.com/

IMPORTANT NOTE. Until the introduction of Civil Aviation Safety Regulation (CASR) Part 103, recreational aircraft are not permitted to operate in controlled airspace unless certain conditions are met. These conditions are specified in CAO 95.55.

On ERC-LOW Controlled Airspace is shown as a tint and the vertical 'steps' shown as blue lines for class C & D airspace and brown for class E airspace.

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