34.2 **FNA Location**

The FNA is a 0.5NM radius circle centred on 3412.5S 15058.0E.

34.3 **Preferred Altitudes and Operations**

a. Avoid hovering and repeat passes or orbits.
b. The preferred over-flight altitude is 2,500FT AMSL.
c. Maintain constant RPM/pitch (avoiding sudden changes in engine management).

34.4 All pilots operating in the affected areas are requested to adhere with the FNA.

Further information is available from:
Symbio Wildlife Park
7-11 Lawrence Hargrave Drive
HELENSBURGH, NSW 2508
Ph (02) 4294 1244
Email: info@symbiozoo.com.au
Web: http://symbiozoo.com.au

35. FN 22 - TASMAN NATIONAL PARK, TASMANIA

Area affected by the Fly Neighbourly Advice (FNA)

35.1 Tasman National Park

A Fly Neighbourly protection area has been established in the southern section of the Tasman National Park to provide some protection to vulnerable natural values (e.g. eagles and seals), experiences of visitors and nearby residents. The Tasmania Parks and Wildlife Service (PWS) manages the Tasman National Park.

35.2 The FN applies to:

a. the southern sections of the Tasman National Park south of a line that extends west from the Hippolyte Rocks to Bivouac Bay, and to the northern end of White Beach and Wedge Island; and
b. includes the Three Capes Track.

35.3 Preferred Operations

All pilots operating in the area are requested to adhere to the FN.

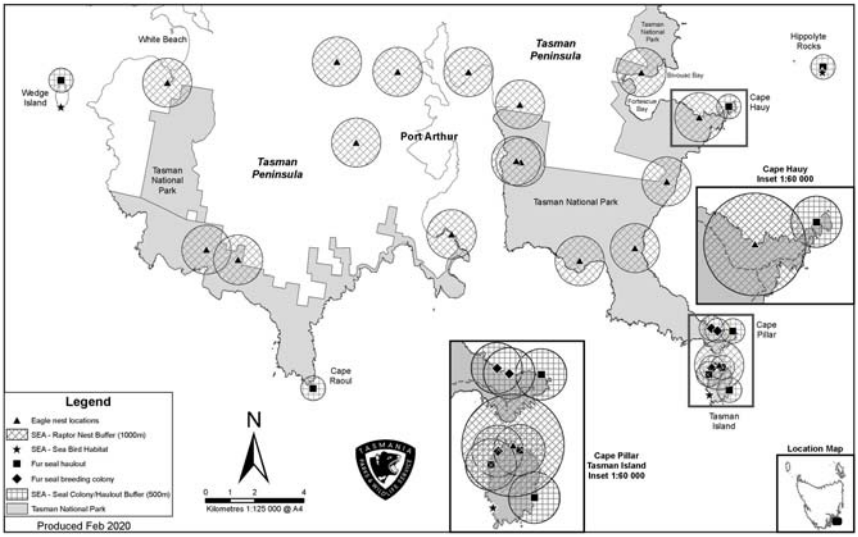
a. Sensitive Environmental Areas (SEA):
   (i) avoid eagle nests by a 3,000FT (1,000M) buffer during eagle breeding season, and do not hover over eagle nests at any time of the year;
   (ii) avoid important seal habitat by a 1,650FT (500M) buffer; and
   (iii) only fly in the vicinity of important burrowing seabird habitat during daylight hours, and avoid the Hippolyte Rock area at all times of the day and night.
b. The preferred minimum overflight altitude for the Tasman National Park is 1,650FT (500M) above ground or water.
c. It is preferred that aircraft operate offshore as much as possible, at the highest possible altitude and greatest lateral distance, from features of scenic interest.
d. Avoid hovering and repeat passes or orbits, especially near the Three Capes Track and offshore islands.
e. Maintain constant RPM/pitch (avoid sudden changes in engine management, which can startle or disturb wildlife).

35.4 Landings

Except in an emergency, aircraft are not permitted to land at any location within the Tasman National Park without written approval from the PWS.

35.5 Additional Information

The full version of this FN is available for download from the PWS website.
Tasmania Parks and Wildlife Service
Tasman National Park
PH: 03 6250 3980
Email: tasmannp@parks.tas.gov.au
Website: https://parks.tas.gov.au/Documents/Fly_Neighbourly_Tasman_National_Park.pdf



FIS: IN FLIGHT INFORMATION SERVICES

1. AUTOMATIC BROADCAST SERVICES

1.1 AWIS locations not listed in ERSA-FAC

Location	State	Frequency	Phone
Batchelor	NT		08 7922 2501
Kilmore Gap	VIC	128.6	03 8470 3210
Moss Vale	NSW		02 9353 6437
Mount Boyce	NSW		02 9353 6438
Murrurundi Gap	NSW		02 9353 6440
Samuel Hill	QLD		07 3564 3736
Tarcoola	SA		08 8150 3818

2. ON-REQUEST IN-FLIGHT INFORMATION SERVICE

2.1 Pilots should ensure they pre-fix any request for FIS on VHF with the callsign "FLIGHTWATCH". When operating on HF also include the frequency, for example: "FLIGHTWATCH, ROMEO JULIET DELTA, SIX FIVE SIX FIVE, REQUEST ACTUAL WEATHER Halls Creek"

Note: This helps to identify the service required and your location.

2.2 Requests will be dealt with on a "first come-first served" basis.

2.3 Pilots should be mindful that flight information services provided on HF by the FIS may be delayed while communications for traffic information services are being relayed between air traffic control and pilots of IFR flights.

3. HAZARD ALERTS

3.1 Hazard Alerts contain information, assessed by ATS to have an immediate and detrimental effect on the safety of an aircraft, that could assist pilots to avoid hazardous situations. Hazard Alerts will be:

a. broadcast on the appropriate ATS FREQ as necessary. Broadcasts will normally be made on receipt, H + 15 and H + 45 or until the availability of an updated FIS product (MET or NOTAM) has been broadcast; and

b. directed to those aircraft maintaining continuous communications with ATS at the time the hazard is assessed that are within one hour flight time of the hazardous conditions.

4. CANCELLATION OF SARWATCH (FULL REPORTING)

4.1 The preferred method for pilots using full reporting procedures to cancel SARWATCH is via radio. When two way radio communications are not available, pilots wishing to cancel SARWATCH may do so by telephoning the appropriate ATC Centre:
Brisbane ATC Centre 07 3866 3868^
Melbourne ATC Centre 03 9235 2039^.

5. CANCELLATION OF SARTIME

5.1 Except when a SARTIME for Departure has been nominated to ATC for an intermediate arrival and departure, all SARTIMEs nominated to Airservices will be held by CENSAR. For those SARTIMEs that will be held by CENSAR, pilots must show CENSAR as the unit responsible for a location when submitting flight notifications.

5.2 The preferred method to cancel a SARTIME is via telephone to CENSAR on 1800 814 931^. When telephone facilities are not available you may use ATS frequencies.

5.3 Pilots are encouraged to nominate a suitable time period for a SARTIME that will provide sufficient time for the flight to take place and to reach suitable facilities for cancellation in the event that radio contact is not available.

5.4 Whenever possible a single SARTIME should be nominated to encompass a number of flights that have short time intervals, rather than nominating a SARTIME for each flight stage. Nomination should be by flight notification direct to the FIS and CENSAR.

6. SAFETY RELATED MATTERS

6.1 Telephone services may be used to contact Australian ATS units or the Joint Rescue Coordination Centre (JRCC) Australia, as appropriate, for urgent, non-routine and safety-related matters. Telephone numbers are listed below:

Airservices Australia	
Brisbane ATC Centre	07 3866 3868^
Melbourne ATC Centre	03 9338 4032^
Perth ATC Centre	08 9476 8545^
Sydney ATC Centre	02 9556 6875^
Joint Rescue Coordination Centre (JRCC) Australia	
SAR Hotline (within Australia)	1800 815 257
SAR Hotline (outside Australia)	+61 2 6230 6899

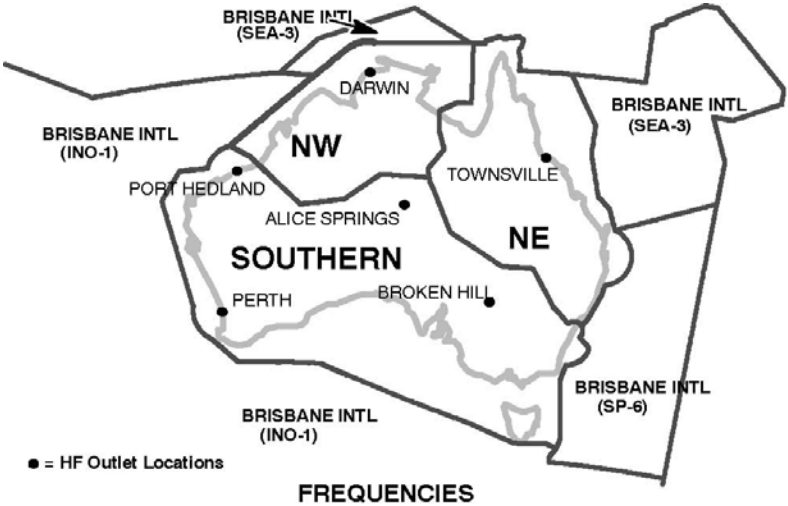
7. UPDATE OF SPFIB/AVFAX PRODUCTS

7.1 Pilots in receipt of NAIPS SPFIB or AVFAX briefings may quote the briefing identification number from the top of the first page of the briefing to obtain an update to the NOTAM and the latest MET INFO when airborne, through FLIGHTWATCH. The number is available from the first page of the briefing text. This will ensure that only the route, area and location NOTAM held are updated and will avoid repetition. For example - “FLIGHTWATCH, ALPHA BRAVO CHARLIE, REQUEST UPDATE ON SPFIB (OR AVFAX) BRIEFING NUMBER NINER ZERO ZERO ZERO ONE (90001).”

8. FAILURE OF GROUND STATION EQUIPMENT

8.1 In the unlikely event of failure of groundstation SSB equipment an alternative SSB FREQ should normally be available to ensure that ACFT are provided with HF communications.

9. FLIGHTWATCH HF ORGANISATION



FREQUENCIES

NORTH WESTERN	3452	6541	8843	SP-6	BRISBANE INTL	3467	5643	8867	13261	17904 (KHZ)
NORTH EASTERN	3452	6610	8831	SEA-3	BRISBANE INTL	3470	6556	11396	13318	17907 (KHZ)
SOUTHERN	3461	6565	8822	INO-1	BRISBANE INTL	3476	5634	8879	13306	17961 (KHZ)

9.1 Australia is divided into six HF Network Areas known as Regional Domestic Air Route Areas (RDARA). Details of the HF FREQ organisation is shown on PCA. All FREQ quoted are suppressed carrier FREQ, and the upper sideband mode is used. These HF FREQ are operated from Brisbane.

9.2 Depending on HF propagation conditions, the best useable RDARA/MWARA frequencies for reception will vary. Pilots can access up to date primary and secondary frequencies for all Domestic and International HF through the Airservices website. Access is made through Pilot Briefing Services, Location Briefing. Each HF area has been allocated a unique code and once entered into Location Briefing will provide an up to date primary and secondary HF frequency for that selected area. Enter the code that represents the area required in the following table.

RDARA	**LOCATION CODE**
Southern	165
North Western	170
North Eastern	175
MWARA	
SP-6 Brisbane INTL	150
INO-1 Brisbane INTL	155
SEA-3 Brisbane INTL	160

10. ATS AREA FREQUENCIES AT UNCONTROLLED AERODROMES

10.1 These are shown on en route and terminal charts.

10.2 HF facilities are remotely operated; proximity to these may affect frequency selection. The location of HF outlets and the frequencies operated from each outlets are shown above.

11. LOW JET ROUTES

11.1 Routes at or below 5,000FT AGL used by military aircraft for low level, high speed operations are designated as Low Jet Routes (LJR). Routes are planned to avoid:

a. controlled airspace administered by Airservices Australia;
b. restricted and danger areas not administered by the ADF;
c. civil aerodromes listed in ERSA by at least 5NM laterally or 4,000FT vertically;
d. aerodromes where carriage and use of radio is required unless equipped with the appropriate radio frequency; and
e. sensitive areas and oil/gas platforms as detailed in ERSA.

11.2 Notification of routes and duration of LJR operations will be by NOTAM. Information on LJR activity in your area is available from the pre-flight briefing service and FLIGHTWATCH.

11.3 Aircraft using LJR may be camouflaged and emit little or no smoke trail, although they will normally show anti-collision beacons. They may operate singly or in close or loose formation. Significant wake turbulence and a large turn radius may be expected.

11.4 All LJR aircraft are equipped with UHF and some also have VHF and HF. However, they may often be out of communications (NOCOM) for part of their flight. Although most LJR aircraft are radar equipped, these radars do not enable avoidance of conflicting aircraft.

11.5 WHERE POSSIBLE, PILOTS SHOULD PLAN THEIR FLIGHTS TO AVOID ACTIVE LJR.

11.6 The following LJR are activated HJ and are flown by F18 aircraft operating at or BLW 5,000FT AGL:

a. M641/R638 - 10NM SSW Baryulgil below 3,000FT AGL - Gatton (Climb Point) - Amberley.
b. M641/R638 - Coastal below 3,000FT AGL - Gold Coast - Point Lookout (Stradbroke Island) - Brisbane.
c. Point Lookout - Gold Coast- Coastal below 5,000FT AGL - M641/R638.
d. M641/R638 - Casino 231025 - Amberley 191043 - Amberley.
e. Sandy Cape - Coastal below 3,000FT AGL - Double Island Point - Bribie Island - Cape Moreton - Point Lookout.
f. Point Lookout - Cape Moreton - Bribie Island - Coastal below 3,000FT AGL - Double Island Point - Sandy Cape.

Note: A number of other LJR and Defence activities are in operation at various times in addition to those shown above and will be advised by NOTAM when necessary.

12. NIGHT VISION DEVICES AND EQUIPMENT

12.1 Night vision devices and equipment are used in defence, security and law enforcement operations. Current equipment is:

a. Night Vision Goggles (NVG) - helmet mounted light amplifying binoculars which sense minute amounts of visible and near infra red light under conditions of near darkness and enhance them through an image intensifier tube assembly.
b. Low Light Television (LLTV) - aircraft equipment which uses TV cameras with powerful zoom lenses, with or without image intensifiers for low light conditions.
c. Forward Looking Infra Red (FLIR) - aircraft mounted sensor which detects temperature differences and displays on a screen, thermal images. May also be capable of looking along other axes. Used in SAR, law enforcement and defence applications.

12.2 Various limitations are placed on the aircraft and crews using these devices. In particular, NVG require modifications to aircraft lighting. Masking or extinguishing external lights may create difficulties for other traffic and ATC in providing visual separation, particularly since most of the defence aircraft involved are camouflaged. Much of this activity is carried out at low level and may involve abrupt manoeuvring.

13. LOW LEVEL FLIGHTS - NOTIFICATION

13.1 Flights at very low level will advise their operating band of levels in the flight notification. Aircraft unlit, or with masked external lights will advise their operating area. In controlled airspace, other traffic will be advised of the activity and separation will be achieved using local procedures agreed between ATS and the night vision device user. In Class G airspace, notification of low level flights will be provided by NOTAM.

14. PRECAUTIONS

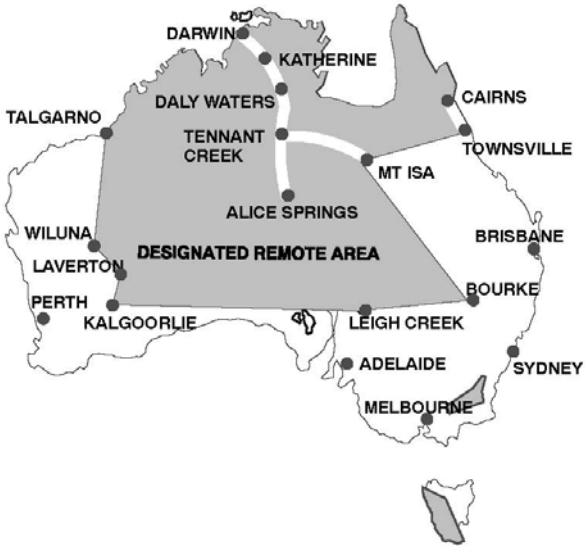
14.1 Because of the likely activities of these device users, e.g. surveillance, law enforcement, SAR and military operations, significant variations to normal aircraft operating procedures may be encountered. Pilots should acquaint themselves of the activity by making use of pre-flight briefing facilities and when in flight take account of possible non-standard procedures.

14.2 Aircraft operating in close proximity to such traffic may request that external lighting be displayed. Night agricultural operators in areas known to be used for night vision device training (e.g. Oakey and Townsville) should advise defence authorities of their intentions.

15. HIGH ALTITUDE BALLOON FLIGHTS

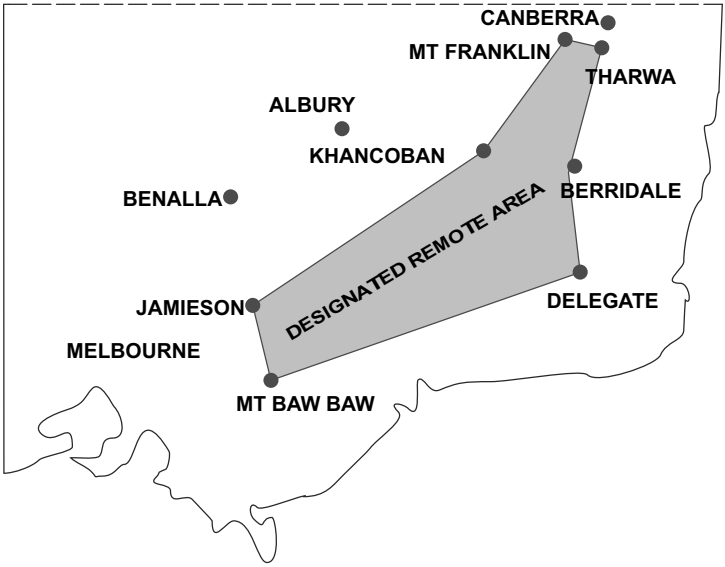
15.1 Large helium-filled plastic balloons are launched periodically from various locations. They carry scientific equipment to record data from the upper atmosphere and normally ascend to altitudes in excess of 70,000 FT with flight duration of 80 hours or more. The main balloon launching station is at Alice Springs but other launching sites, e.g. Charleville, may also be used. Where possible, flight paths will be selected so that the recovery area is outside the more densely populated Eastern/South Eastern/South Western areas. Notification will be by NOTAM.

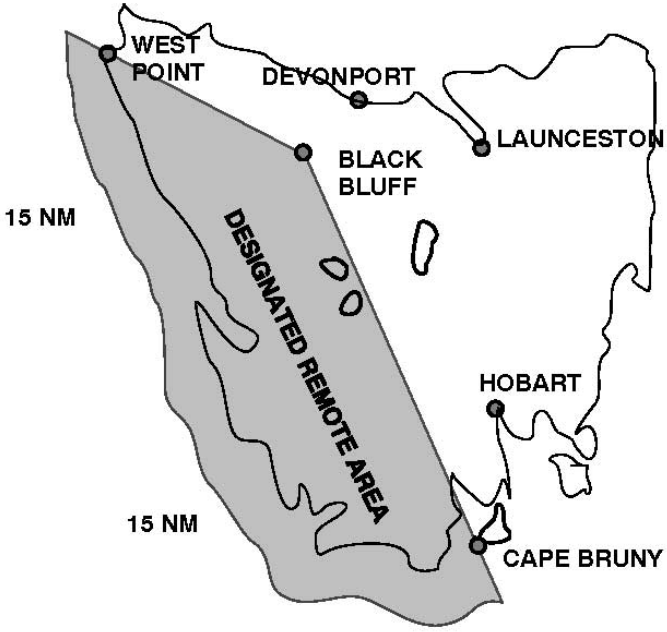
16. DESIGNATED REMOTE AREAS



Notes:

1. *ACFT planned to operate within or through the designated remote area shown in this section are required to carry survival equipment suitable for sustaining life in the area over which the flight is planned as per the civil aviation legislation relevant to their operation.*
2. *Flight through corridors must be made within sight of and not more than five miles from the highway concerned.*
3. *Australian administered islands adjacent to the Remote Area between Anna Plains and Cairns are part of the Designated Remote Area.*
4. *Mainland within 50NM of Darwin excluded from Designated Remote Area.*


CANBERRA
MT FRANKLIN
THARWA
ALBURY
KHANCOBAN
BENALLA
BERRIDALE
DESIGNATED REMOTE AREA
JAMIESON
DELEGATE
MELBOURNE
MT BAW BAW


WEST POINT
DEVONPORT
LAUNCESTON
BLACK BLUFF
15 NM
DESIGNATED REMOTE AREA
HOBART
15 NM
CAPE BRUNY

17. UNMANNED AERIAL VEHICLE (UAV) TESTING

17.1 Introduction

17.1.1 Unmanned Aerial Vehicle operations including testing and development take place in various Danger Areas and military Restricted Areas.

17.1.2 Temporary Danger Areas may be promulgated for other UAV operations if CASA considers there is a risk to other flights such that pilots need to be warned of the danger in order to take appropriate precautions.

17.2 UAV Operations

17.2.1 UAVs may be flown autonomously within the designated areas, but are subject to operator input. The operator will maintain continuous two way communications on the appropriate aeronautical frequencies, make regular broadcasts advising location, altitude and intention of the UAV and will respond to calls.

17.2.2 Pilots wishing to operate within a Danger Area designated for UAV activity are advised to contact the UAV ground station on the appropriate FIA/CTAF e.g. “UAV TRAFFIC - [location] AREA THIS IS....”. While no response from the ground station would normally mean that no UAV is airborne, pilots are encouraged to maintain an enhanced lookout.

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NAVIGATION AND COMMUNICATION

1. ADF MODERNISED HIGH FREQUENCY COMMUNICATIONS SYSTEM (MHFCS)

1.1 The ADF MHFCS is a high frequency (3-30MHz) radio network providing communication services for the operational control and support of ADF and allied aircraft, marine craft and land units. Visiting military aircraft may use either the ADF or RNZAF system when contact with Australian/New Zealand based military authorities is required. Neither system provides a civil or military Air Traffic Control Service.

1.2 The ADF MHFCS is centrally controlled by the Defence Communications Station Canberra (DCSC) at the Network Management Facility (NMF) located in Canberra, ACT, Australia.

1.3 The MHFCS system consists of four Transmit and Receive Nodes located at:

EXMOUTH, Western Australia	TOWNSVILLE, Queensland
DARWIN, Northern Territory	RIVERINA, New South Wales

These nodes are remotely controlled from the NMF.

1.4 DCSC provides 5 continuously monitored Voice Contact Net (VCN) frequencies from each of the four nodes as follows:

VCN	Assigned	Dial/Suppressed carrier	Hours of Operation
VCN 1	22869.5kHz	22868kHz	Continuous
VCN 2	5879.5kHz	5878kHz	Continuous
VCN 3	9048.5kHz	9047.0Hz	Continuous
VCN 4	15963.5kHz	15962kHz	Continuous
VCN 5	12173.5kHz	12172kHz	Continuous

1.4.1 Emission: 3K00J3E (Offset - subtract 1.5kHz from assigned)

1.4.2 Discrete frequencies are available as required and allocated after initial contact on the VCN.

1.4.3 Telephone patch facilities between aircraft and ground appointments are available as required, after initial contact on VCN.

1.4.4 Continuous monitoring of military distress frequency 5696kHz.

1.4.5 SELCAL. Available to suitably equipped aircraft/vessels.

1.5 **Hours of Operation**

DCSC - H24.

1.6 **Mode Of Operation**

DCSC is capable of operating independent side band (ISB) or AM modes however, the normal mode of operation is Upper Side Band (USB) or suppressed carrier.

1.7 **Callsign**

DCSC uses the following self evident callsign: “Canberra Control”.

1.8 Telephone/fax contact numbers:

Location	Telephone	Fax
DCSC	+61 2 6263 8126	+61 2 6263 8143

2. RNZAF AIR OPERATIONS COMMUNICATIONS CENTRE AUCKLAND (AOCCAK)

2.1 AOCCAK is a high frequency (3-30MHz) station providing HF communications services to RNZAF, RAAF and other allied aircraft. Visiting military aircraft may use either the ADF or RNZAF system when contact with Australian/New Zealand based military authorities is required. Neither system provides a civil or military Air Traffic Control Service.

2.2 AOCC Auckland is located at RNZAF Whenuapai, Auckland, New Zealand.

2.3 AOCCAK provides 4 General Purpose Net (GPN) frequencies, which consist of the following (note station hours of operation are currently not 24/7):

Assigned	Dial/Suppressed Carrier	Normal Hours of Operation	When 24HR Operations
3033.4kHz	3032kHz	0900-1000Z 1900-2100Z	0900-2100Z
5688.4kHz	5687kHz	1900-1000Z	CONTINUOUS
8975.4kHz	8974kHz	1900-1000Z	CONTINUOUS
11236.4kHz	11235kHz	1900-1000Z	CONTINUOUS
13207.4kHz	13206kHz	2100-0900	2100-0900

2.3.1 Emission 2K80J9W (Offset - Subtract 1.4kHz from assigned).

2.3.2 Discrete frequencies are available as required and allocated after initial contact on the GPN.

2.3.3 Telephone patch facilities between aircraft and ground appointments are available in emergencies or at supervisor's discretion.

2.3.4 SELCAL. Available to suitably equipped aircraft/vessels.

2.4 **Hours of Operation**

AOCCAK - 1900Z - 1000Z daily

2.5 **Mode of Operation**

AOCCAK is capable of operating Independent Side Band (ISB), the normal mode of operation is Upper Side Band (USB) or suppressed carrier.

2.6 **Callsign**

AOCCAK uses the following self evident callsign: “Air Force Auckland”.

2.7 Telephone contact number.

AOCCAK -: +64 9 417 7831.

3. MILITARY HF COMMUNICATIONS

3.1 In addition to that which DCSC supplies, the following HF nets are available:

a. RAAF Butterworth. Aircraft transiting to/from Butterworth may relay message traffic via DCSC. Aircraft requiring HF contact with Butterworth are to make prior arrangement through DCSC.

b. PNGDF General Purpose Network

Location	C/S	Frequencies	HR of OPS
Port Moresby	P2A2	5746(P) LGG 7496(S) LGH 3175 (S) LGF	H24
Lae	P2A3	5746 (P) LGG 7496 (S) LGH 3175 (S) LGF	2200-0700 JO

4. AIR-TO-AIR COMMUNICATIONS - CIVIL

4.1 Interpilot air-to-air communications in Australian FIRs may be conducted on frequency 123.45MHz. Aircraft engaged in flights over remote and oceanic areas, out of range of VHF ground stations, and not in the vicinity of a charted non-controlled aerodrome, should use this channel to exchange operational information. Communications between aircraft on this frequency are restricted to the exchange of information relating to aircraft operations. Communications are to be established by either a directed call to a specific aircraft or a general call, taking into account conditions pertaining to the use of the particular channel. As target aircraft may be guarding more than one frequency, the initial call should include the distinctive channel identification “INTERPILOT” or identification of the air-to-air frequency.

4.2 The following examples illustrate the application of the calling procedures.

a. Qantas 2, SPEEDBIRD 15, INTERPILOT, DO YOU READ?; or

b. ANY AIRCRAFT VICINITY 10S 135E, QANTAS 5, 123.45, OVER.

5. AIR TRAFFIC SERVICES DATALINK SERVICES

5.1 HF SELCAL Check

5.1.1 For aircraft departing Australian airspace, a SELCAL check is not mandatory. However, flight crews wishing to satisfy themselves with HF performance should perform a SELCAL check after departure, but prior to being transferred to CPDLC. The primary HF frequency will be advised with the transfer instruction. The HF operator will confirm the primary and secondary HF frequencies on first contact.

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AIRCRAFT EMERGENCY PROCEDURES

1. RECOMMENDED PROCEDURES FOR ANY EMERGENCY PHASE

1.1 Emergency SSR Codes - EMERGENCY 7700 - RADIO FAILURE 7600

Circumstances	Phraseologies * Denotes pilot transmission
1. Distress message	a.* MAYDAY [MAYDAY, MAYDAY] *followed as necessary by:* *(i) (station addressed)* *(ii) (aircraft identification)* *(iii) (nature of distress condition, e.g. FUEL or EMERGENCY DESCENT)* *(iv) (intentions)* *(v) (position, level and heading)* (vi) *(any other useful information).*
2. Acknowledgement of distress message	
ATC acknowledgement of MAYDAY call	a. ROGER MAYDAY
ATC acknowledgement of MAYDAY on frequency transfer	b. MAYDAY [*(type of emergency)*] ACKNOWLEDGED
Imposition of radio silence	c. STOP TRANSMITTING MAYDAY
ATC broadcast for emergency descent traffic	d. EMERGENCY DESCENT AT *(significant point or location)* ALL AIRCRAFT BELOW *(level)* WITHIN (*distance*) OF (*significant point or navigation aid*) [LEAVE IMMEDIATELY] [*(specific instructions as to direction, heading or track, etc.)*]
Cancellation of distress condition	e.* CANCEL DISTRESS *(information)*
Termination of distress and radio silence	f. DISTRESS TRAFFIC ENDED
3. Urgency message	a.* PAN PAN [PAN PAN, PAN PAN] *followed as necessary by:* *(i) (station addressed)* *(ii) (aircraft identification)* *(iii) (nature of the condition e.g. MEDICAL PRIORITY REQUIRED or WEATHER DEVIATION REQUIRED)* *(iv) (intentions)* *(v) (position, level, heading)* *(vi) (any other useful information).*
ATC acknowledgement of PAN call	b. ROGER PAN
ATC acknowledgement of PAN on frequency transfer	c. PAN [(*type of emergency*)] ACKNOWLEDGED

1.1.1 If no answer to distress/urgency, call/message, use the following appropriate frequencies, broadcasting before changing to the next selected frequency.
   a. Any other aeronautical en route frequency.
   b. 121.5 MHz or 243.0 MHz (R/T): International and Military emergency.
   c. 5696 USB DCSA HFCS distress frequency.
   d. 4125, 6215 and 8291 kHz (R/T, USB): Australian coastal/ship.
   e. 3023 and 5680 kHz. World wide A/G frequencies.
   f. 2182 kHz (R/T): International small ships. DF available.

1.2 **Notification of Emergency Using Datalink**

1.2.1 Depending on the nature of the emergency condition experienced, flight crew should notify ATS of the circumstances by the most efficient means (voice or data link).

1.2.2 If a CPDLC MAYDAY or PAN message is received by the ground system, the controller will respond with the free text uplink message ROGER MAYDAY (PAN). The controller will not expect a ROGER response to the uplink until being notified that the emergency situation has been cancelled or stabilised to the extent that messages are able to continue being exchanged (if data link is considered to be the best communications medium for the situation).

1.2.3 If the emergency situation no longer exists, the pilot should cancel the ADS emergency mode (if activated).

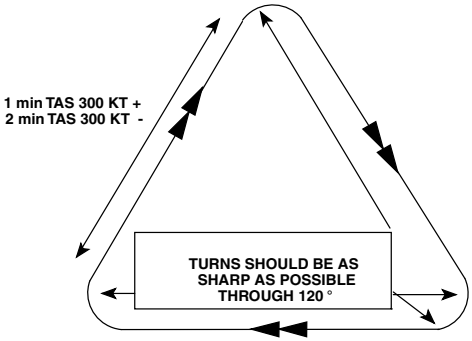
1.3 **Imposition of Silence**

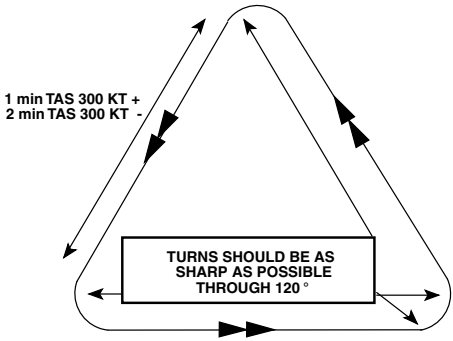
1.3.1 Only the ACFT in distress or the unit in control of distress communications is permitted to impose silence on any station which interferes with distress communications. The call should be addressed to ALL STATIONS or one station only, depending on circumstances. The call should be as follows:
"STOP TRANSMITTING; MAYDAY"

1.4 **Alerting Surveillance Unit (MIL OPS only)**

1.4.1 If in an emergency within coverage of a surveillance unit and unable to make radio contact with any ATS unit and outside civil controlled airspace, the surveillance unit can be alerted as follows:
   a. Switch transponder to emergency, squawk mode 3A, code 7700.
   b. Continue attempts to make communications and monitor the appropriate frequencies (see communications failure instructions for appropriate frequencies).

1.4.2 Fly applicable pattern shown below.





NO TRANSMIT OR RECEIVE

1.4.3 If adopting this procedure:
- a. fly at best endurance speed;
- b. complete at least two patterns before resuming heading;
- c. make turns as tight as practicable;
- d. attempt to maintain VMC to facilitate interception by a shepherd aircraft; and
- e. at night or in VMC, turn on navigation and anti-collision lights.

1.5 **Communication Failure**

1.5.1 In the event of communications failure, maintain terrain clearance throughout all procedures.

1.5.2 **Indications by an Aircraft:**
- a. In Flight
  - (i) during the hours of daylight - by rocking the aircraft's wings; and
  Note: This signal should not be expected on the base and final legs of the approach.
  - (ii) during the hours of darkness - by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.
- b. On the Ground
  - (i) during the hours of daylight: by waggling the aircraft's ailerons or rudder; and
  - (ii) during the hours of darkness: by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

1.5.3 **If VFR in Class G Airspace**
- a. Remain in VMC.
- b. Broadcast Intentions (assume transmitter is operating and prefix calls with "TRANSMITTING BLIND").
- c. Remain VFR in Class G airspace and land at the nearest suitable aerodrome.
- d. Report arrival to ATS if on SARTIME or reporting schedules (SAR telephone number: 1800 815 257).

1.5.4 **If in Controlled/Restricted Airspace or if IFR in any Airspace:**
- a. Squawk 7600
- b. Listen out on ATIS and/or voice modulated NAVAIDs.
- c. Transmit intentions and make normal position reports (assume transmitter is operating and prefix calls with "TRANSMITTING BLIND").

  AND

  if in VMC and are certain of maintaining VMC
- d. Stay in VMC and land at the most suitable aerodrome (note special procedures if proceeding to a Class D).

  OR

  If in IMC or are uncertain of maintaining VMC
- e. If no clearance limit received and acknowledged, proceed in accordance with the latest ATC route clearance acknowledged and climb to planned level.

f. If a clearance limit involving an altitude or route restriction has been received and acknowledged:
   (i) maintain last assigned level, or minimum safe altitude if higher, for three (3) minutes, and/or
   (ii) hold at nominated location for three (3) minutes, then
   (iii) proceed in accordance with the latest ATC route clearance acknowledged, and climb to planned level.

g. If receiving an ATS surveillance service:
   (i) climb to MSA/LSALT, and,
   (ii) if being vectored, maintain last assigned vector for two (2) minutes, then
   (iii) proceed in accordance with the latest ATC route clearance acknowledged.

h. If holding:
   (i) fly one more complete holding pattern, then
   (ii) proceed in accordance with the latest ATC route clearance acknowledged.

Notes:

1. Initial and subsequent actions by the pilot at the time of loss of communications will depend largely on the pilot's knowledge of the destination instrument approaches, the air traffic/airspace situation and meteorological conditions en route and at the destination. Publishing procedures that cover all radio failure circumstances is not possible. The above procedures ensure that ATS and other traffic should be aware of the pilot's ***most likely actions****. Pilots should follow these procedures unless strong reasons dictate otherwise.*

2. In determining the final level to which a pilot will climb after radio failure, ATC will use the level provided on the flight notification, or the last level requested by the pilot and acknowledged by ATC.

1.5.5 **Destination Procedures**:

a. Track to the destination in accordance with flight plan (amended by the latest ATC clearance acknowledged, if applicable).
b. Commence descent in accordance with standard operating procedures or flight plan.
c. Descend to the initial approach altitude for the most suitable instrument approach in accordance with the published procedures.
d. Carry out the approach to the prescribed minima.

Notes:

1. The most suitable approach is normally the approach that facilitates the most accurate track keeping, however, if the pilot is in receipt of ATIS or directed information (e.g. voice modulated navigation aid) that a specific approach is required, that approach should be used.

2. If an approach time has been given by ATC and acknowledged, adhere to this time.

3. When within 25NM of the destination, the pilot may track direct to the IAF for the most suitable approach.

4. At Sydney during Independent Visual Approaches, refer to Sydney/Kingsford Smith entry in FAC section.

1.5.6 **Actions at Minima**

a. If visual at the minima at an uncontrolled aerodrome, continue to land provided that a safe landing can be accomplished. If visual at the minima at a controlled aerodrome continue to land provided that a clearance to land is received via a voice modulated NAVAID and/or light signal from the Tower.
b. If <u>not</u> visual at the minima, depart for a suitable alternate aerodrome.
c. If insufficient fuel is carried to divert to a suitable alternate, the pilot may hold or carry out additional approaches until visual.
d. Certain Class D aerodromes have specific communications failure procedures which are shown at each aerodrome entry in the FAC section

LIGHT SIGNAL	Meaning to ACFT in Flight	Meaning to ACFT on Airfield
STEADY GREEN	Authorised to land if pilot satisfied no collision risk exists	Authorised to takeoff if pilot satisfied no collision risk exists
STEADY RED	Give way to other aircraft and continue circling	Stop
GREEN FLASHES	Return for landing	Authorised to taxi if pilot satisfied no collision risk exists
RED FLASHES	Airfield unsafe - do not land	Taxi clear of landing area in use
WHITE FLASHES	No significance	Return to starting point on airfield

1.6 **Speechless Radar Approach Procedures**

Situation	Transmission
1 Pilot request for Speechless Radar approach when microphone/s are unserviceable (carrier wave only available).	Pilot transmits four (4)separate and distinct unmodulated transmissions of one second duration
2 Pilot responses to subsequent control questions: A. affirmative or acknowledgment, B. negative, C. say again	A. one distinct transmission B. two separate and distinct transmissions C. three separate and distinct transmissions
3 Pilot indication of a further and pertinent unserviceability or an emergency	Five (5) separate and distinct transmissions
4 Pilot indication of abandoning the aircraft	A single continuous transmission as long as practicable. Where possible the transmitter key is to be locked on.
5 Controller requires pilot to indicate when an instruction has been completed	WHEN (condition or instruction is completed) MAKE A TWO SECOND TRANSMISSION

1.6.1 Communication and NAVAID Failure

In the event of complete failure of communications and NAVAIDs, maintain terrain clearance and proceed as follows:

a. If VFR in Class G Airspace
   (i) Remain VMC.
   (ii) Broadcast intentions (assume transmitter is operating and prefix calls with “TRANSMITTING BLIND').
   (iii) Remain VFR in Class G airspace and land at the nearest suitable aerodrome.
   (iv) Report arrival to ATS if on SARTIME or reporting schedules.

b. If in Controlled / Restricted Airspace or if IFR in any Airspace:
   (i) Squawk 7600.
   (ii) Listen out on ATIS and/or voice modulated NAVAIDs.
   (iii) Transmit intentions and normal position reports (assume transmitter is operating and prefix calls with “TRANSMITTING BLIND”). if practicable, leave/avoid controlled/restricted airspace and areas of dense traffic.
   (iv) As soon as possible, establish visual navigation.
   (v) Land at the most suitable aerodrome (note special procedures if proceeding to a Class D - see above).
   (vi) Report arrival to ATS.

1.7 Emergency Change of Level in Controlled Airspace

1.7.1 When an aircraft in controlled airspace is required to make a rapid change of flight level or altitude because of technical trouble, severe weather conditions, or other reasons, the change will be made as follows using urgency message format, stating level changes involved and diversions, if applicable:

a. Squawk SSR Code 7700.
b. Transmit: PANPAN, PANPAN, PANPAN, then
   (i) agency being called,
   (ii) aircraft identification;
   (iii) nature of urgency problem;
   (iv) intention of person in command;
   (v) present position, flight level or altitude and heading; and
   (vi) any other useful information.

1.8 **Pre/Post Impact Actions**

1.8.1 The following actions should be carried out pre-impact:

a. Activate Crew Impact Instruction. If no prescribed drill, check:
   (i) preparation of aircraft for impact;
   (ii) positioning of personnel;
   (iii) activate ELT (see separate section following);
   (iv) crew procedure for directing evacuation of aircraft in orderly manner; and
   (v) ready availability to crew members of charts showing emergency and distress communication facilities; i.e. location, callsign, frequency of:
   aeronautical stations;
   DF stations; and
   coast radio stations guarding international distress frequencies.
b. Instruct passengers that they will be required to
   (i) recognise the absolute authority of the pilot in command;
   (ii) apply safety apparatus as instructed;
   (iii) prepare for impact shock as instructed;
   (iv) don protective clothing;
   (v) make an orderly exit from the aircraft; and
   (vi) remain near the aircraft after the evacuation (at sea, secure life rafts and set sea anchor).

1.8.2 Immediately prior to impact, set radio apparatus for continuous operation unless the additional risk of fire is too great.

1.8.3 The following should be carried out post-impact:

a. Activate post impact instructions.
b. If no prescribed drill, check the following:
   (i) account for all personnel;
   (ii) account for all distress facilities;
   (iii) tend to the injured;
   (iv) try to attract attention (radio, flares, smoke, mirrors, etc.);
   (v) display appropriate visual rescue signals;
   (vi) keep personnel together;
   (vii) utilise passenger resources, i.e. skill, knowledge, effort, etc.;
   (viii) delegate duties as equitably as possible;
   (ix) conserve resources, i.e. water, food, manpower, facilities;
   (x) maintain passenger morale; and
   (xi) ensure ELT is activated.
   (xii) collect all food/water and useful equipment from the aircraft.

1.9 **Inadvertent Activation of Emergency Locator Transmitter (ELT)**

1.9.1 If the ELT has inadvertently been activated for more than 10 secs contact SAR on 1800 815 257.

1.10 **Activation of ELT**

1.10.1 An Emergency Locator Transmitter (ELT) is a valuable search aid if an aircraft is forced down. However, to obtain maximum benefit from the beacon and to assist search aircraft, pilots need to observe a few guidelines for activation of the ELT.

1.10.2 If in water and the beacon is buoyant, the ELT should be activated in the water and allowed to float to the end of the lanyard with the aerial vertical. Do not hoist the ELT up a mast. The performance of an ELT may be degraded if it is raised above the water surface.

1.10.3 Lives may depend on the correct use of the ELT. The manufacturer's instructions should be studied thoroughly, and kept in the aircraft emergency kit.

1.10.4 If you are forced down the following procedure is recommended:

a. Activate the ELT immediately;
b. Where the ELT is permanently installed in the aircraft, activate the beacon *in situ*;
c. Where the ELT is not permanently installed in the aircraft, select an elevated site clear of trees, boulders etc. and reasonably close to the aircraft.
d. Place the beacon on the ground on an earth mat. If an earth mat is not available, place the ELT on the wing of the aircraft or another metal reflective surface.
e. Secure the ELT with rocks, sticks, tape etc. so that the aerial will remain vertical. avoid anything touching the antennae as this will degrade ELT performance.
f. Remain clear of the ELT. Obstacles near the ELT will distort the radiation pattern.
g. An ELT which is damaged or under wreckage may still transmit some signal. (Always activate the ELT).
h. Do not switch off the ELT unless rescue is no longer required.
i. To avoid confusing COSPAS/SARSAT and direction finding equipment, avoid activating two or more ELTs within 1NM of each other.
Note: In many cases, using an earth mat will increase the effective range of a portable ELT by 50%. A simple and effective earth mat can be made by using household aluminium foil to make a 120CM square, folded, and taped to the unit. To use the earth mat, unfold and place it flat on the ground, securing edges with dirt or rocks. Activate the ELT and place it on the mat.

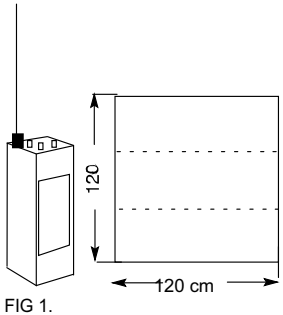


FIG 1.
By joining strips of household aluminium foil, construct a 120cm square.

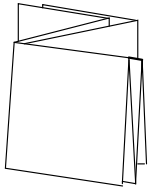


FIG 2
Carefully fold the earth mat to a convenient size.

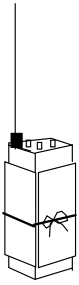


FIG 3.
Tie or tape the folded earth mat to your ELT

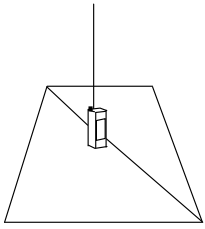


FIG 4
If you are required to use the ELT follow the directions listed under "EMERGENCY ACTIVATION OF ELT"

1.11 **ELT Characteristics**

1.11.1 The following characteristics pertain to ELTs:

a. Frequency 406 MHz (digital) and 121.5 MHz (analog) and, in some instances, 243 MHz.

b. 121.5 and 243MHz modulation.

(i) continuous carrier continuously modulated at the rate of three swept tones per second, no pauses;

(ii) some older marine beacons transmit the carrier on for one second then off for one second, modulation three swept tones per second. This results in the tones being received in evenly spaced groups of three with a distinct one-second pause between groups; and

(iii) some foreign marine beacons vary from the above; e.g. there is a European beacon pulsing in groups of two tones.

1.12 **Reports**

a. report all beacons received;

b. state characteristics;

c. when giving signal heard/strength fade positions, include ACFT level and squelch disabled (MAX hash) information. This is necessary for plotting;

d. advise if signal commenced/ended gradually or abruptly; and

e. do not alter squelch setting unless requested.

Note: Rescue Co-ordination Centres can demonstrate the above signals on request.

2. **AIR SEARCH PATTERNS**

2.1 General

2.1.1 This section is included to assist pilots of aircraft engaged in air search operations. The information is necessarily brief and the SAR Centre recommends that a full preflight briefing be obtained whenever time and/or circumstances permit.

2.2 Visual Search

2.2.1 Visual search patterns are divided into six main groups, which are described briefly below. In the diagrams “S” represents track spacing, i.e, the distance in nautical miles between successive tracks flown by the search aircraft and will be specified by the RCC as part of the briefing or by the assessed visual range of the day.

a. **Trackline Search**- (*See DIAGRAM 1*)

(i) A trackline pattern is most often used in an initial reaction.

(ii) It is very suitable for use by an aircraft available at, or near, the time of a reported distress.

(iii) The assumptions made are that survivors will be found on, or close to, the planned route of the missing craft, that the distressed craft is easily discernible, or that survivors will be capable of signalling should an aircraft be seen or heard.

(iv) It provides a rapid and reasonably thorough coverage of a missing craft's planned route, and the immediately adjacent area.

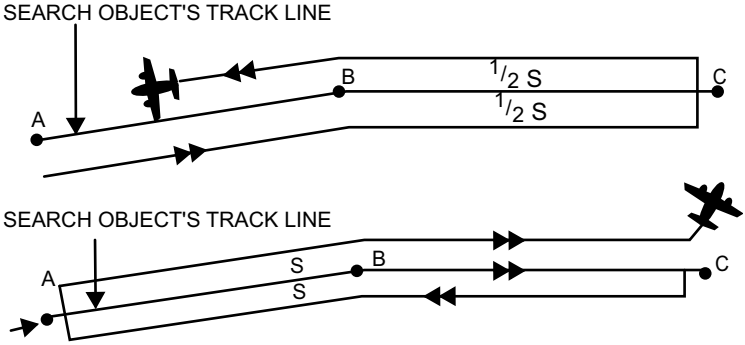


DIAGRAM 1 - TRACKLINE PATTERN

b. **Parallel Track Search**- (*See DIAGRAM 2*)

c. Search legs are aligned parallel to the major axis of the search area.

d. The pattern is best used in rectangular or square areas.
e. This pattern is very suitable for a search conducted over water.

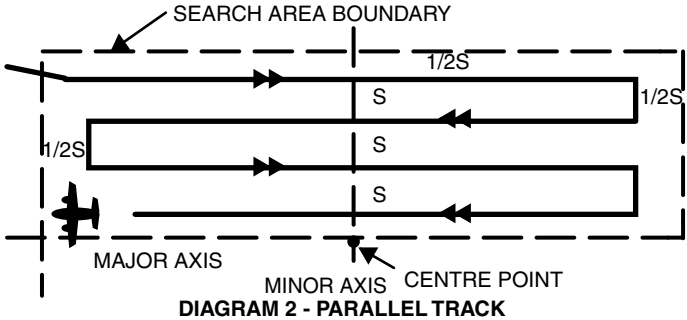
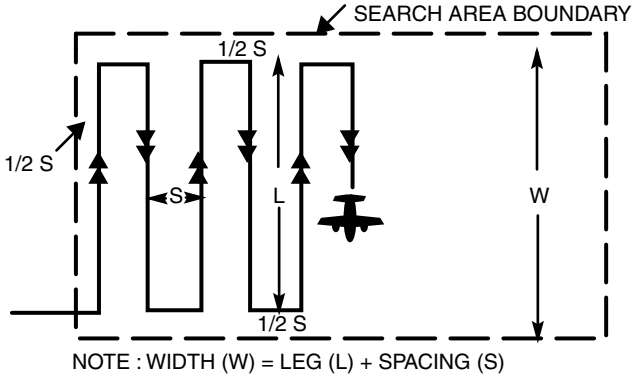


DIAGRAM 2 - PARALLEL TRACK

f. **Creeping Line Search**- (*See DIAGRAM 3*)
(i) The creeping line pattern differs from the parallel track pattern in that the search legs are parallel to the minor axis.



NOTE : WIDTH (W) = LEG (L) + SPACING (S)

DIAGRAM 3 - CREEPING LINE

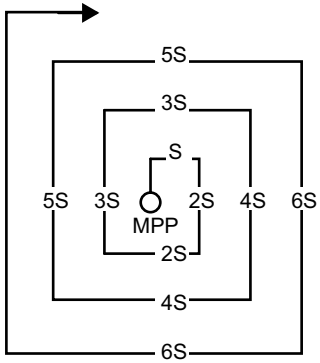


DIAGRAM 4 - SQUARE SEARCH