CIVIL AVIATION
SAFETY AUTHORITY
AUSTRALIA

Flight Radiotelephone Operator Licence Syllabus of Training

Civil Aviation Safety Authority

Flight Radiotelephone Operator Licence – Syllabus of Training

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Copies of the Syllabus are available from the CASA website at www.casa.gov.au

1. References

Approved by Head, Operational and Flight Crew Licensing Standards Issue 1: October 1996

1.1 Legislation and Medical

- CARs 5.04, 5.51, 5.52, 5.53, 5.61, 5.62, 5.63, 5.66, 5.83, Part 12 Divisions 1 to 3.

1.2 Information

- Flight Radio for Pilots (Aviation Theory Centre)
- VFR (Day) Study Guide for Private Pilot BAK (Bob Tait)
- Flight Rules and Procedures (DH Training Systems).

2.1 Understand the requirements for and privileges of a FROL:

- what requirements must be met to obtain a FROL
- what are the privileges of a FROL
- log book requirements.

2.2 State the function of the following components of a radiotelephone system:

- power source/battery switch, radio master, fuses and circuit breakers
- microphone
- transmitter
- transmitter antenna
- receiver
- receiver antenna
- headphones and speaker.

2.3 In relation to the use of a radiotelephone, describe the following procedures:

- setting up an aircraft radio:
  - (i) use of radio transmit and receive selector switches (VHF/HF, I/C, PA)
  - (ii) turning a radio on
  - (iii) selecting correct frequencies
  - (iv) use of squelch control
  - (v) selection of radio navigation equipment.
- Use of a microphone:
  - (i) correct use of a microphone
  - (ii) use of intercom and public address system
  - (iii) voice activated systems.

2.4 Describe the characteristics of radio waves, wave propagation, transmission and reception:

- radio frequency band ranges (MF, HF, VHF, UHV)
- properties of radio waves
- propagation of paths of radio waves:
  - (i) ground waves
  - (ii) sky waves.

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- factors affecting the propagation of radio waves:
  - (i) terrain
  - (ii) ionosphere
  - (iii) sun spot activity
  - (iv) interference from electrical equipment
  - (v) thunderstorms
  - (vi) power attenuation.
- radio antennas:
  - (i) characteristics of antennas
  - (ii) use of antennas.

2.5 State the Responsibilities of a Flight Radio Operator:

- secrecy of communications
- unauthorised transmissions.

2.6 Demonstrate an understanding of correct phraseology and phonetics:

- standard procedural words and phrases
- pronunciation of phonetic alphabet and numbers
- correct use of aircraft callsigns
- transmission of numbers
- transmission of time
- phrases related to transponder use
- radio test procedure/readability scale
- listening to the radio (avoiding over transmissions)
- establishing and maintaining communications
- clipped transmissions and the consequences.

2.7 State standard radio procedures for:

- all ATC clearances
- Control Zone (CTR) (radar/non-radar)
- Control Area (CTA)
- General Aviation Aerodrome Procedure (GAAP)
- Mandatory Broadcast Zones (MBZ)
- enroute control area (CTA)
- outside CTA (OCTA)
- light signals for control of aerodrome traffic.

2.8 Explain airspace organisation with respect to R/T relevance:

- Control Areas (CTA)
- Control Zones (CTA)
- Military Control Zones
- General Aviation Aerodrome Procedures (GAAP)
- Outside Controlled Airspace
  - (i) Flight Information Areas (FIA)
  - (ii) OCTA Aerodromes - normal, NW, CTAF
- Radar Advisory Services (RAS).

2.9 Explain the information services and methods of reception:

- Automatic Terminal Information Service (ATIS)
- Automatic Enroute Information Service (AERIS).

2.10 State the emergency radio procedures:

- declaring an emergency
- the Distress message (‘Mayday' call)
- the Urgency Message (‘Pan' call)
- priority of calls
- imposition of radio silence
- loss of radio (receiver, transmitter, receiver and transmitter)
- failure to establish, or maintain communications
- Emergency Locator Transmitter (ELT), correct use, rules for activation
- use of 121.5 and 243.0 Mhz
- transmitting "blind".

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3.1 Demonstrate for VHF and HF transmissions:

- the method of operating the communication transmitter and receiver
- changing frequencies, and where provided, alternative methods of frequency change
- operation of equipment provided for emergency communications
- the position of fuses, circuit breakers and emergency power switches affecting the radio installation
- the correct procedure for the conduct of a routine preflight test of an aircraft radiotelephone installation.

3.2 Demonstrate:

- routine fault finding procedure to be used in the event of failure of any portion of R/T equipment
- correct method of fault finding not involving special tools or instruments
- Where monitoring devices are a part of the radio equipment, knowledge of the radio equipment, knowledge of meter readings or other indications of normal operations.

3.3 Identify and describe:

- antenna systems on aircraft for use with R/T equipment and describe the method of tuning a trailing aerial
- position of aircraft battery and describe the method of keeping the battery charged in flight.

3.4 Demonstrate during a flight of at least one hour duration:

- correct use of the R/T system
- correct transmission and reception technique
- correct and timely use of phraseology relevant to the phase of flight
- proper recording of traffic and other alerting transmissions
- correct R/T response to a simulated emergency.

A written or oral theory examination and a practical test must be completed in accordance with CAR 5.63 and notified to CASA on Form 638. The pass mark for each exam/text is 80%.