



## **VHF Airband Radio Operators Endorsement Workbook.**

(Ver 20180319)

### **PILOT DETAILS**

**Name:**.....

**Home Address:**.....

.....

**Telephone:**.....

**Instructor/s:**.....

Welcome. This workbook should be used with the HGFA Airband Operators Endorsement textbook and associated resources. You can use this workbook for revision or as part of a classroom based course.

### 2.1.1 Meets the English language to Aviation English language standard (AEL).

Discuss this requirement with your instructor.

Aviation English language standards are there to ensure that a pilot can be understood by others using Airband radio.

### 2.1.2 – see textbook

### 2.1.3 – see textbook

Identify the following aircraft using the phonetic alphabet.

VH- SFQ \_\_Sierra Fox-trot Quebec\_\_\_\_\_

VH- BXX \_\_\_\_\_

VH- WYZ \_\_\_\_\_

VH- TRE \_\_\_\_\_

VH- JNP \_\_\_\_\_

VH- BZY \_\_\_\_\_

VH- TPJ \_\_\_\_\_

VH- CEG \_\_\_\_\_

VH- JLO \_\_\_\_\_

VH- KGF \_\_\_\_\_

### NUMBERS

Write the correct method of transmitting numbers below.

169.5 \_\_\_\_\_

22.7 \_\_\_\_\_

400 \_\_\_\_\_

5000 \_\_\_\_\_

12,000 \_\_\_\_\_

68 \_\_\_\_\_

49 \_\_\_\_\_

27.8 \_\_\_\_\_

6600 \_\_\_\_\_

#### 2.1.4 State standard radio procedures for outside controlled airspace (OCTA).

A **broadcast** in the vicinity of an aerodrome begins with the aerodrome name followed by the word 'traffic', then your aircraft type and callsign, e.g. **'Corryong traffic, Hang glider two three four five...'**

**Write out the radio call for the following : -**

You are flying a hang glider near Birchip, your HGFA number is 99234, you wish to advise everyone you are flying at 4000 feet.

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You are flying a paraglider 2 miles north of Bright, your HGFA number is 99243, you wish to advise all of your position an altitude of 4000 feet.

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You are flying a microlight at Forbes. You are 5 miles north of Forbes airstrip your Trike Rego is T2-9999 your HGFA number is 99423. You are "in bound" and flying at 1500 feet.

**What frequency do you use for a pilot-to-pilot communication not relevant to other airspace users?**

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#### 2.1.5 State how transmission of time is conducted.

*Transmitting & Understanding TIME*

*Aviation has adopted Universal Co-ordinated Time for use when flying. The rationale behind this is that all too frequently aircraft move between time zones throughout both the world and even within Australia.*

The **24 hour clock** is used within aviation to assist in calculating UTC. When using the 24 hour clock, the beginning of the day commences at 0000hrs whilst the end of the day is written as 2400hrs.

Examples of this conversion of time are found below...

Standard Time	24 hour Clock
8 am	0800
11:52am	1152
1:20pm	1320
3:45pm	1545
9:30pm	2130

Complete the following conversions activity...

3:46am	
	1428
12:05am	
4:20pm	
	2305

Universal Co-ordinated Time is calculated by taking 10 hours (NSW) from the (24 hour) local time – in non daylight savings season. UTC during day light savings is calculated by taking 11 hours from (24 hour) local time.

Examples of this are found below – note all examples are in non daylight savings time.

Local Time	24 hour Time	UTC
1000	1000	0000UTC
1120	1120	0120
1:15pm	1315	0315
9:50pm	2150	1150

Complete the following activity for YOUR time zone : -

Local time	24 hour time	UTC
5:15AM		
11:45AM		
5:50PM		
9:15pm		
10:05PM		

The most common type of TIME related radio transmission you will be required to understand is inbound aircraft with regards to entry time into circuit area. When giving this kind of information over the radio the operator needs only to give the 'minutes past the hour'. For example 15 minutes past two o'clock would be transmitted as...

***'Traffic Tamworth, REX252 is inbound Tamworth on descent through AIT thousand and estimating circuit time WUN FIVE'***

**2.1.6 State how to listen to the radio.**

**Identify the steps to setting up a radio for transmission?**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**2.1.7 State how to establish and maintain communications.**

**Write down 4 things to consider when establishing communications.**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**2.1.8 State the hazards of clipped transmissions and the consequences.**

**What is front end clipping ?**

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**2.1.9 Demonstrate correct procedure for the conduct of a routine pre-flight test of an aircraft radio-telephone, including the following:**

**You can take notes of the practical demonstration here.**

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**2.1.10 Describe the correct procedure for routine fault finding and correction.**

**You can take notes of the practical demonstration here.**

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List 5 things to check whilst doing a radio check

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**2.1.11 State the standard phraseology to be used to report aircraft positions in the circuit and the required calls for local flights.**

*PHRASEOLOGY*

**If a radio operator asks you to 'confirm', what are you being asked to do?**

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**If a radio operator asks you to 'acknowledge' a transmission, what are you being asked to do?**

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If during a radio transmission you make a mistake when identifying which runway you intend on entering what do you do?

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If you are told during a transmission to 'go ahead' what does this mean?

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How do you end transmission with a radio operator?

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Complete the following table: -

<u>Entering 10nm of the aerodrome</u>	Hang glider pilot:	<i>'Corryong traffic, .....</i>
<u>Before launching within 10nm</u> (Call again as soon as you climb out to advise 'airborne' in case the launch call was not heard)	Hang glider pilot:	<i>'Corryong traffic,</i>
<u>Entering 10nm of the aerodrome</u> Respond to other traffic, if appropriate to maintain operational safety and avoid conflict	Hang glider pilot:	<i>'Corryong traffic,.</i>
<u>Report landed</u>	Hang glider pilot:	<i>'Corryong traffic,.</i>

**2.1.12 State the responsibilities of an aeronautical radio operator in relation to the following:**

**(a) secrecy of communications;**

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(b) unauthorised transmissions.

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**2.1.13 Describe the function of each of the following components of an aeronautical radio system:**

(a) power source/battery switch;

(b) radio master;

(c) fuses and circuit breakers;

(d) microphone;

(e) transmitter;

(f) receiver;

(g) antenna;

(h) headphones and speaker.

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**2.1.14 Describe the difference between a distress and an emergency message and the standard phrases used in both cases.**

**Name 3 situations that might lead to a pilot making an emergency radio call?**

1. \_\_\_\_\_

2. \_\_\_\_\_



3. \_\_\_\_\_

**What information would you give over the radio if involved in making a distress call?**

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**If a twin engine aircraft had an engine fire what would you expect to hear on the radio as the pilot reported the incident?**

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**What does this type of call imply?**

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**Why might radio silence be initiated?**

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**2.1.15 Accurately extract radio failure procedures from ERSA.**

**Summarize here: -**

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**2.1.16 In relation to the use of an aeronautical radiotelephone, describe the controls used to transmit and receive, including audio panel selections**

Notes for demonstration to assessor/ instructor : -

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**2.2.1 Describe the basic principles and characteristics of radio waves, wave propagation, transmission and reception for the following:**

**What does VHF stand for?**

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**What frequency range does VHF operate from?**

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**List one advantage of VHF?** \_\_\_\_\_

**List one disadvantage of VHF?** \_\_\_\_\_

**2.2.2 Describe the limitations of VHF and HF signals and factors affecting quality of reception and range of signal**

**What will VHF reception be affected by? Why is VHF reception affected by this?**

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**How do thunderstorms affect VHF transmission?**

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**State the emergency radio procedures for declaring an emergency**

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**State the emergency radio procedures for a Distress message ('Mayday' call)**

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**State the emergency radio procedures for a Urgency Message ('Pan' call)**

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**State the emergency radio procedures for "transmitting blind".**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

## Non towered aerodromes

### State the definition of a Non-towered aerodrome

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### State the mandatory requirements for a Non-towered aerodrome

#### What calls must be made in the vicinity of a Non Towered Aerodrome?

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

#### What must pilots do near an non towered aerodrome?

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#### What are the 6 positional broadcasts that must be made at a Non Towered Aerodrome

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

#### What are the size and limits of a Non towered aerodrome?

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

**Demonstrate the correct syntax for the following radio calls at a non-towered aerodrome**

**Demonstrate taxiing radio call.**

**Use your callsign and assume you are at Corryong**

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**Demonstrate arriving aircraft call.**

**Use your callsign and assume you are 10NM South of Corryong**

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**Demonstrate modified circuit call.**

**Use your callsign and assume you are at Birchip and you are on downwind and are flying in sink**

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**Demonstrate positional broadcast call**

**Use your callsign and assume you are 10NM South of Bright**

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**Demonstrate take off call.**

**Use Microlight with Rego Number T2-9999 and assume you are 10NM South of Tamworth**

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**Demonstrate take off call.**

**Use Microlight with Rego Number T2-8888 and assume you are taking off from Andamooka.**

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**Demonstrate entering runway call.**

Use your callsign and assume you are about to enter a runway that has a compass heading of 030 magnetic ( Cobar )

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**Demonstrate inbound radio call.**

Use your callsign and assume you are inbound to Blackall at 1500FT 10 NM E

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**Demonstrate joining circuit call.**

Use your callsign and assume you are joining the circuit at Dalby and you are at 750Ft AGL

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**Demonstrate straight-in approach call. ?**

*[See section 5.7 of CAAP 166 – 01 - straight in approaches are not recommended.]*

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**Demonstrate joining circuit on base leg call.**

Use your callsign and assume you are turning base for Runway 36 at Balranald

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**Demonstrate over-fly call.**

Use your callsign and assume you are overflying Bourke aerodrome.

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**State when certain radio calls are to be made at a Non-Towered aerodrome.**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

**State the purpose of a Unicom frequency.**

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**What is the typical Unicom frequency?**

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**Where would I find the frequency?**

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**State the definition of an AFRU.**

**What is an AFRU**

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**State what the standard procedures are when it is suspected that you are flying with a non-serviceable radio in the vicinity of a Non-Towered aerodrome.**

**True or False?**

*When the radio operator is able to transmit BUT not receive the operator may commence 'Transmitting Blind'. All radio calls when transmitting blind must begin with the pre-fix... 'Transmitting Blind.'*

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*End of Document.*