Australian Government
Civil Aviation Safety Authority

MULTI-PART
ADVISORY CIRCULAR
AC 64.B-02, AC 91-35 and AC 172-05
v1.0

Radiotelephony manual for flight operations

File ref: D25/464961

December 2025

Audience

This advisory circular (AC) applies to:

- pilots
- air traffic service (ATS) personnel
- any person who is authorised to use an aviation radiocommunication system.

> **Note:** See Multi-Part AC 64.B-01, AC 139-14 and AC 172-04 - *Radiotelephony manual for ground operators*, which provides equivalent guidance aimed at vehicle drivers and ground personal.

Purpose

This AC provides guidance about standard radiotelephony phraseology when using an aeronautical telecommunications system.

For further information

For further information or to provide feedback on this AC, visit CASA's contact us page.

Notifying errors or opportunities for improvement

We want to keep this AC up-to-date and relevant.

If you notice any error or have suggestions for improvement, please submit an improvement to civil aviation safety rules.

> **Note:** Provide enough information for us to properly identify the AC and to understand the issue. You don't have to fill out every field on the form.

Status

This version of the AC is approved by the National Manager, Flight Standards Branch.

Table 1: Status

Version	Date	Details
v1.0	December 2025	Initial Multi-Part AC.

Contents

Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land, water and community, and pays respect to Elders past, present and emerging.

Artwork: James Baban.

1 Reference material

1.1 Acronyms and abbreviations

The acronyms and abbreviations used in this AC are listed in the table below.

Table 2: Acronyms and abbreviations

Acronym/Abbreviation	Description
AC	advisory circular
ACD	airways clearance delivery
ADS-B	automatic dependent surveillance – broadcast
ADS-C	automatic dependent surveillance – contract
AFIS	aerodrome flight information service
AFRU	aerodrome frequency response unit
AIP	aeronautical Information Publication
AMSL	above mean sea level
ATC	air traffic control
ATIS	aerodrome terminal information service
ATS	air traffic service
BA	broadcast area
CA/GRS	certified air/ground radio service
CASR	*Civil Aviation Safety Regulations 1998*
CTAF	common traffic advisory frequency
EHS	enhanced surveillance
ERSA	En-route Supplement – Australia
FIS	flight information service
FL	flight level
GLS	ground-based augmentation system (GBAS - pronounced ‘GEE BAS’) landing system
GNSS	global navigation satellite system
HF	high frequency (3–30 MHz)
hPa	hectoPascal
IFR	instrument flight rules
ILS	instrument landing system (pronounced ‘EYE EL ESS’)

Acronym/Abbreviation	Description
LNAV	lateral navigation (pronounced ‘EL NAV’)
LSALT	lowest safe altitude
MOS	manual of standards
MSA	minimum sector altitude
MVA	minimum vectoring altitude
NVIS	night vision imaging system (pronounced ‘EN VIZ’)
PDC	pre-departure clearance (pronounced ‘PEE DEE SEE’)
POB	persons on board (pronounced ‘PEE OH BEE’)
RA	resolution advisory (pronounced ‘AR AY’)
RAIM	receiver autonomous integrity monitoring
RCR	runway condition report
RNAV	area navigation (pronounced ‘AR NAV’)
RNP	required navigation performance (pronounced ‘AR ENN PEE’)
RNP AR	required navigation performance - authorisation required (pronounced ‘AR ENN PEE AY AR’)
RPA	remotely piloted aircraft (pronounced ‘AR PEE AY’)
RV	runway visibility
RVR	runway visual range
RVSM	reduced vertical separation minimum
RWYCC	runway condition code
SAR	search and rescue (pronounced ‘SAR’)
SFIS	surveillance flight information service
SID	standard instrument departure (pronounced ‘SID’)
SIS	surveillance information service
SKEDS	scheduled reporting times (pronounced ‘SKEDS’)
SMC	surface movement control
SSR	secondary surveillance radar
STAR	standard instrument arrival (pronounced ‘STAR’)
TCAS	traffic alert and collision avoidance system (pronounced ‘TEE CAS’)
TIBA	traffic information broadcasts by aircraft (pronounced ‘TEE BA’)
TORA	take-off run available (pronounced ‘TOR AH’)
UTC	coordinated universal time

Acronym/Abbreviation	Description
VFR	visual flight rules
VHF	very high frequency (30–300MHz)
VMC	visual meteorological conditions
VNAV	vertical navigation (pronounced ‘VEE NAV’)

1.2 Definitions

Terms that have specific meaning within this AC are defined in Table 3. Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by ‘grey shading’. Should there be a discrepancy between a definition given in this AC and the civil aviation legislation, the definition in the legislation prevails.

Table 3: Definitions

Term	Definition
heavy	For wake turbulence categories an aircraft with a maximum certificated take-off mass of 136,000kg or more other than an aircraft listed in the super category.
Mile	A nautical mile.
QNH	An atmospheric pressure adjusted to sea level and measured in hPa so that when QNH is set the altimeter will read elevation AMSL.
SARTIME	The time nominated by a pilot for the initiation of SAR action if a report has not been received by the nominated unit.
SARWATCH	The time for a SAR alert, based on: a. full position reporting procedures; or b. scheduled reporting times (SKED); or c. SARTIME.
standard rate	An ATC instruction for, or acknowledgement of, a rate of climb or descent of not less than 500 feet per minute, except for the last 1,000 feet of level change to an assigned level, which must be made at 500 feet per minute.
super	For wake turbulence categories, an Airbus A380-800 aircraft or any other aircraft type specified as such in Doc 8643, Aircraft Type Designators.

1.3 References

Legislation

Legislation is available on the Federal Register of Legislation website https://www.legislation.gov.au/

Table 4: Legislation references

Document	Title
Part 64 of CASR	Authorisations for non-licensed personnel
Part 91 of CASR	General operating and flight rules
Part 91 MOS	Part 91 (General Operating and Flight Rules) Manual of Standards 2020
Part 172 of CASR	Air traffic service providers
Part 172 MOS	Air traffic services

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from http://store1.icao.int/

Many ICAO documents are also available for reading, but not purchase or downloading, from the ICAO eLibrary (https://elibrary.icao.int/home).

Table 5: ICAO references

Document	Title
Annex 10 Volume II	Annex 10 to the Convention on International Civil Aviation - Aeronautical Telecommunications Volume II - Communication Procedures including those with PANS status
Doc. 4444	Doc 4444 AN/501 titled Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM)
Doc. 8643	Aircraft Type Designators
Doc. 9432	Doc 9432 AN/925 Manual of Radiotelephony

2 Introduction and fundamentals

2.1 About this AC

2.1.1 Radiotelephony is the primary means by which people involved in aviation communicate with each other. Use of correct, precise and standardised phraseology cannot be over-emphasised, as it enhances aviation safety and efficiency. Conversely, non-standard procedures and phraseology can cause misunderstanding and an increased the risk of incidents and accidents.

2.1.2 The advice in this AC is general in nature and does not substitute for or override any legislative requirement to carry a radio or to make radio broadcasts or reports.

2.1.3 Unless there is a regulation specifying a requirement for a particular communication or form of communication, the phrases in this AC are not enforceable in law. Nevertheless, CASA encourages all persons communicating on aeronautical frequencies to follow the recommended phraseologies and to apply best practice short, succinct and relevant communications using standard phrases whenever possible.

2.2 Focus on flight operations

2.2.1 This AC focuses on communications involving pilots, air traffic services (ATS) and information services.

2.2.2 See Multi-Part AC 64.B-01, AC 139-14 and AC 172-04 - Radiotelephony manual for ground operators, which provides equivalent guidance aimed at ground operators (vehicle driver etc).

2.3 Transmitting technique

2.3.1 The following transmitting techniques will help ensure that transmitted speech is clearly and satisfactorily received:

- Before transmitting, check that your radio's volume, squelch and frequency are correct:
- Listen before transmitting
  - Avoid over transmitting other communications
- Be familiar with microphone operating techniques and do not turn your head away from the microphone whilst talking or vary the distance between it and your mouth.
  - Severe distortion of speech may arise from
    - » talking too close to the microphone
    - » touching the microphone with the lips

  or
    - » holding on to the microphone or boom (of a combined headset and microphone system).
- Use a normal, conversational tone and volume of speech with an even rate of speech, SLIGHTLY SLOWER than conversational speed (no more than 100 words per minute).
- Avoid using hesitation markers such as ‘er’ or ‘um’.
- Pause at the beginning and end of a transmission to avoid ‘clipping’ transmissions
- Use standard phraseology and speak slowly and clearly. However, in circumstances where a message cannot be conveyed using standard phraseology, plain language is better than jargon or incorrect phraseology

- Avoid verbal clutter and make only appropriate calls.
  - There is often no need for a transmission unless another aircraft or activity is affecting your flight and you need to alert them to your position and intentions
- However, if a pilot is commencing a flight, or entering a broadcast area, an initial broadcast of position and intentions may be useful.
- Be careful to avoid a 'stuck' microphone button:
  - After transmissions, ensure the button is released after a transmission
  - Stow any hand-held microphone to avoid accidental activation.
  - A stuck microphone/transmit button can be confirm the situation by a persistent radio equipment Tx light or indication.

2.4 Explanation of scenarios

2.4.1 Scenarios shown in this AC are examples that represent ideal or preferred radiotelephony communications in optimum conditions. Fictitious call signs and locations are generally used because this avoids information becoming obsolete or misleading when a location's actual procedures or names change over time. Any similarity with real-life situations is coincidental.

2.4.2 The tables with radiotelephony examples should be read in a linear fashion from top to bottom, with the transmitting station identified by a representative symbol and text as shown in Table 6. Unrelated but similar examples, delineated by a DOUBLE HORIZONTAL LINE, are sometimes included in a single table.

2.4.3 For brevity, the examples show callsigns and numbers in their basic form and natural spelling. For example:

- 'PQR' instead of 'PAPA QUEBEC ROMEO' or 'pah PAH keh BECK ROW me oh'
- '6,000' instead of 'SIX THOUSAND' or SIX TOUSAND'
- 'HEADING 350' instead of 'HEADING THREE FIVE ZERO' or 'HEADING TREE FIFE ZERO'.

Table 6: Key to symbols

Symbol	Representing (for example)	Representative callsign
 pilot	A light aircraft on a VFR flight	**JRG** (VH-JRG – pronounced 'JEW lee ETT ROW me oh GOLF')
 pilot	A light multi-engine aircraft on an IFR flight	**PQR** (VH PQR – pronounced 'pah PAH keh BECK ROW me oh')
 pilot	Large aircraft	**FASTAIR 345** (pronounced 'FASTAIR THREE FORTY FIVE'[1])
 pilot	Light sport, ultralight or microlight aircraft	**JABIRU 1346** (pronounced 'JABIRU THIRTEEN FORTY SIX'[1])
 pilot	Military aircraft	**MILJET**

[1] See section 2.10.6 for explanation of group-form callsigns, such as this example. XXXXXXX Check the references here are correct. XXXXXXX

Symbol	Representing (for example)	Representative callsign
 pilot	Small helicopter	**RST** (VH-RST – pronounced 'ROW me oh see AIR rah TANG go') or POLAIR TWO
 pilot	Large helicopter	**RESCUE ONE**
 RPA	Remotely piloted aircraft (RPA)	**UNMANNED RPA** (pronounced UNMANNED AR PEE AY)
 ATS	Air Traffic Services (air traffic control, flight information service)	Various callsigns for ATS units - see paragraph 2.4.4 below
 AGS	Aeronautical Ground Station (aerodrome flight information service, certified air/ground radio service)	Various callsigns for an aeronautical ground station - see paragraph 2.4.4 below

2.4.4 Ground stations may also be further identified by example call signs as follows:

a. Capricorn Centre – an air traffic service centre providing area control and flight information services

b. Capricorn Approach, Departures, Tower, and Ground - air traffic control units for a major aerodrome

c. Thornhill Approach and Tower - a medium density Class C aerodrome

d. Sunshine Tower – a Class D aerodrome in a regional location

e. Suburbs Tower – a Class D aerodrome supporting high-density training operations and located in a capital city

f. Brisbane Radio {High Frequency (HF) service}

g. Flightwatch

h. Sunny Beach Radio etc.

2.4.5 The title of the ground station addressed is generally omitted from aircraft responses.

2.5 Phonetic alphabet

2.5.1 Table 7 lists the international phonetic alphabet for transmitting letters. Syllables to be emphasised are in UPPER CASE.

Table 7: Phonetic alphabet

Letter	Phonetic letter	Pronunciation
A	ALFA	AL fah
B	BRAVO	BRAH voh
C	CHARLIE	CHAR lee or SHAR lee
D	DELTA	DELL tah
E	ECHO	ECK oh

Letter	Phonetic letter	Pronunciation
F	FOXTROT	FOKS trot
G	GOLF	GOLF
H	HOTEL	ho TELL
I	INDIA	IN dee ah
J	JULIETT	JEW lee ETT
K	KILO	KEY loh
L	LIMA	LEE mah
M	MIKE	MIKE
N	NOVEMBER	no VEM ber
O	OSCAR	OSS cah
P	PAPA	pah PAH
Q	QUEBEC	keh BECK
R	ROMEO	ROW me oh
S	SIERRA	see AIR rah
T	TANGO	TANG go
U	UNIFORM	YOU nee form or OO nee form
V	VICTOR	VIK tah
W	WHISKEY	WISS key
X	X RAY	ECKS ray
Y	YANKEE	YANG key
Z	ZULU	ZOO loo

2.6 Pronouncing numbers

2.6.1 Table 8 lists the phonetic pronunciation of numbers and number terms. In this table, syllables to be emphasised are in UPPER CASE.

Table 8: Pronunciation of numbers

Number	Pronunciation
0	ZE-RO

Number	Pronunciation
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX
7	SEV-en
8	AIT
9	NIN-er
Decimal	DAY-SEE-MAL
Hundred	HUN-dred
Thousand	TOU-SAND

2.7 Transmitting numbers

2.7.1 All numbers, except as detailed in paragraphs 2.7.3 to 2.7.9, should be transmitted by pronouncing each digit separately. Table 9 to Table 11 inclusive show examples of numbers to be transmitted as separate digits.

2.7.2 In an ATS surveillance service environment heading information given by the pilot and heading instructions given by controllers are in degrees magnetic. The word ‘DEGREE’ may be omitted from transmissions if no confusion or ambiguity will result:

Table 9: Headings

Example	Transmitted as	Pronounced as
100	heading one zero zero	HEADING WUN ZE RO ZE RO
080	heading zero eight zero	HEADING ZE RO AIT ZE RO

Table 10: Wind direction and speed

Example	Transmitted as	Pronounced as
300 degrees, 20 knots	wind three zero zero degrees two zero knots	WIND[2] TREE ZE RO ZE RO DEGREES TOO ZE RO KNOTS

[2] The word ‘SURFACE’ may be omitted from transmissions of surface wind direction and speed if no confusion or ambiguity will result.

Example	Transmitted as	Pronounced as
160 degrees, 18 knots - gusting 30 knots	wind one six zero degrees minimum one eight knots maximum three zero knots	WIND WUN SIX ZE RO DEGREES MINIMUM WUN AIT KNOTS MAXIMUM TREE ZE RO KNOTS

Table 11: Runway designators

Example	Transmitted as	Pronounced as
19	Runway one nine	RUNWAY WUN NIN er
06	Runway zero six	RUNWAY ZE RO SIX
19L	Runway one nine left	RUNWAY WUN NIN er LEFT

2.7.3 As shown in Table 12, flight levels are transmitted by pronouncing:

a. for flight levels in whole hundreds, the digit of the whole hundred followed by the word ‘HUNDRED’, otherwise

b. by individual digits.

Table 12: Transmission of flight levels

Example	Transmitted as	Pronounced as
Fight level 180	flight level one eight zero	flight level WUN AIT ZE RO
Flight level 200	flight level two hundred	flight level TOO HUN dred

2.7.4 Altitudes and cloud heights, which contain whole hundreds and whole thousands, are transmitted by pronouncing each digit in the number of hundreds or thousands followed by the word ‘HUNDRED' or ‘THOUSAND' as appropriate. Combinations of thousands and whole hundreds should be transmitted by pronouncing each digit in the number of thousands followed by the word THOUSAND followed by the number of hundreds followed by the word ‘HUNDRED'. See Table 13 and Table 14.

2.7.5 In the transmission of altitudes, the word ‘feet’ is normally omitted, but can be included to prevent confusion.

Table 13: Transmission of altitude

Example	Transmitted as	Pronounced as
800 feet	eight hundred feet	AIT HUN dred feet
3 400	three thousand four hundred	TREE TOU SAND FOW er HUN dred
10,000	one zero thousand	WUN ZEE RO TOU SAND

Table 14: Transmission of cloud height

Example	Transmitted as	Pronounced as
2 200	two thousand two hundred	TOO TOU SAND TOO HUN dred[3]
4 300	four thousand three hundred	FOW er TOU SAND TREE HUN dred

2.7.6 As shown in Table 15, an altimeter setting is transmitted by pronouncing each digit separately except for the case of a setting of 1,000 hPa which is transmitted as ONE THOUSAND. In radio communications, the word 'HECTOPASCAL(S)' is normally omitted.

Table 15: Transmission of altimeter settings

Example	Transmitted as	Pronounced as
984 hPa	QNH nine eight four	QNH NINer AIT FOW er
1,000 hPa	QNH one thousand	QNH WUN TOU SAND
1,014 hPa	QNH one zero one four	QNH WUN ZE RO WUN FOW er
29.95 inches	QNH two nine decimal nine five	QNH TOO NIN er DAY SEE MAL NIN er FIFE

2.7.7 As shown in Table 16, transmissions of transponder code are prefixed with the word 'SQUAWK' and each digit is pronounced separately, except that transponder code containing whole thousands should be transmitted by pronouncing the digit in the number of thousands followed by the word 'THOUSAND'.

Table 16: Transmission of transponder codes

Example	Transmitted as	Pronounced as
2 4 0 0	Squawk two four zero zero	SQUAWK TOO FOW er ZE RO ZE RO
3 7 6 6	Squawk three seven six six	SQUAWK TREE SEV en SIX SIX
2 0 0 0	Squawk two thousand	squawk TOO TOU SAND

2.7.8 As shown in Table 17 and Table 18, transmissions of visibility and runway visual range (RVR) are prefixed by the type of visibility being reported with values containing whole hundreds and whole thousands being transmitted by pronouncing each digit in the number of hundreds or thousands followed by the word 'HUNDRED' or 'THOUSAND' as appropriate. Combinations of thousands and whole hundreds should be transmitted by pronouncing each digit in the number of thousands followed by the word 'THOUSAND' followed by the number of hundreds followed by the word 'HUNDRED'.

Table 17: Transmission of visibility and runway visibility

Example	Transmitted as	Pronounced as
350	runway visibility three five zero	RUNWAY VISIBILITY TREE FIFE ZE RO

[3] In radio communications, the words 'CLOUD' and 'HEIGHT' are normally omitted.

Example	Transmitted as	Pronounced as
1,500	visibility one thousand five hundred	VISIBILITY WUN TOU SAND FIFE HUN dred
3,000	visibility three thousand	VISIBILITY TREE TOU SAND
10 km	visibility one zero kilometres	VISIBILITY WUN ZE RO kilometres

Table 18: Transmission of RVR

Example	Transmitted as	Pronounced as
175	RVR one seven five	RVR WUN SEV en FIFE
700	RVR seven hundred	RVR SEV en HUN dred
1 700	RVR one thousand seven hundred	RVR WUN TOU SAND SEV en HUN dred

2.7.9 When providing information regarding relative bearing in terms of the 12-hour clock, the information should be transmitted by pronouncing the double digits as ‘TEN', ‘ELEVEN', or ‘TWELVE' [O'CLOCK].

2.7.10 As shown in Table 19, numbers containing a decimal point should be transmitted with the decimal point in appropriate sequence being indicated by the word DECIMAL.

2.7.11 For VHF radio frequencies, only the first five digits of the frequency should be transmitted or acknowledged. However, if both the fifth and - if used - sixth digits are zero, only the first four digits should be transmitted or acknowledged.

Table 19: Transmission of numbers with decimal points

Application	Example	Transmitted as	Pronounced as
VHF Frequency – 4 digits	**128.3** *or* **128.30**	one two eight decimal three	WUN TOO AIT DAY SEE MAL TREE
VHF Frequency – 5 digits	**135.75**	one three five decimal seven five	WUN TREE FIFE DAY SEE MAL SEV en FIFE
VHF Frequency – 6 digits	**134.325**	One three four decimal three two[4]	WUN TREE FOW er DAY SEE MAL TREE TOO[4]
QNH (inches)	**29.95 inches**	QNH two nine decimal nine five	QNH TOO NIN er DAY SEE MAL NIN er FIFE
Mach no	**M0.84**	Mach decimal eight four[5]	MACH DAY SEE MAL AIT FOW er

[4] The last digit of the 6-digit radio frequency may be omitted in voice communications.

[5] In voice communications, the leading zero from a Mach number is not transmitted

2.7.12 When transmitting time, each digit should be pronounced separately, as shown in Table 20. Only the minutes of the hour are normally required. However, the hour should be included if there is any possibility of confusion.

Table 20: Transmission of time

Example	Transmitted as	Pronounced as
0803	time zero three or time zero eight zero three	time ZE RO TREE or time ZE RO AIT ZE RO TREE
1300	time one three zero zero	time WUN TREE ZE RO ZE RO
57	time five seven	time FIFE SEV en

Note: Coordinated universal time (UTC) must be referenced when transmitting time.

2.7.13 As shown in Figure 1, pilots may check the time with the appropriate ATS unit. Time checks will be given to the nearest half minute.

Communicator	Communication
 pilot	FASTAIR 345 REQUEST TIME CHECK
 ATS	FASTAIR 345 TIME 0611 *or* FASTAIR 345 TIME 0715 AND A HALF

Figure 1: Time check

2.8 Standard words and phrases

2.8.1 The words and phrases in Table 21 below are commonly used in radiotelephony communications; each with an associated meaning as shown.

Table 21: Standard words and phrases

Word/Phrase	Meaning
ACKNOWLEDGE	Let me know that you have received and understood this message.
AFFIRM	Yes.
APPROVED	Permission for proposed action granted.
BREAK	I hereby indicate the separation between portions of the message *(to be used where there is no clear distinction between the text and other portions of the message)*.
BREAK BREAK	I hereby indicate separation between messages transmitted to different aircraft in a very busy environment.
CANCEL	Annul the previously transmitted clearance.

Word/Phrase	Meaning
CHECK	Examine a system or procedure *(not to be used in any other context – no answer is normally expected)*.
CLEARED	Authorised to proceed under the conditions specified.
CONFIRM	I request verification of: (clearance, instruction, action, information).
CONTACT	Establish communications with …
CORRECT	True *or* Accurate.
CORRECTION	An error has been made in this transmission (or message indicated) the correct version is …
DISREGARD	Ignore.
HOW DO YOU READ?	What is the readability of my transmission? **Note:** See section 2.17 for radio check phraseology
I SAY AGAIN	I repeat for clarity or emphasis
MAINTAIN	Continue in accordance with the condition(s) specified, or in its literal sense, for example: 'Maintain VFR'.
MONITOR	Listen out on (frequency).
NEGATIVE	No *or* Permission is not granted *or* That is not correct *or* Not capable.
OUT	My transmission is ended and I expect no response from you *(not normally used in Very High Frequency (VHF) communication)*.
OVER	My transmission is ended and I expect a response from you *(not normally used in VHF or satellite communications)*.
READ BACK	Repeat all, or the specified part, of this message back to me exactly as received.
RECLEARED	A change has been made to your last clearance and this new clearance supersedes your previous clearance or part thereof.
REPORT	Pass me the following information.
REQUEST	I should like to know or I wish to obtain.
ROGER	I have received all of your last transmission *(under no circumstances to be used in reply to a question requiring read back or a direct answer in the affirmative or negative)*
SAY AGAIN	Repeat all, or the following part, of your last transmission.
SPEAK SLOWER	Reduce your rate of speech.
STANDBY	Wait and I will call you.
UNABLE	I cannot comply with your request, instruction or clearance (normally followed by a reason).

Word/Phrase	Meaning
VERIFY	Check and confirm with originator.
WILCO	I understand your message and will comply with it.
WORDS TWICE	As a request: *Communication is difficult. Please send every word or group of words twice.* As information: *Since communication is difficult every word group of words in this message will be sent twice.*

2.8.2 Some abbreviations, which by common usage have become part of aviation terminology, may be spoken using their constituent letters rather than the phonetic alphabet (e.g. ILS, QNH).

2.8.3 The use of courtesies should be avoided.

2.8.4 The word 'IMMEDIATELY' should only be used when immediate action is required for safety reasons.

2.9 Ground station call signs

2.9.1 Ground stations are identified by the name of the location followed by the service name as shown in Table 22 below.

Table 22: Ground station call signs

Service name	Function
CENTRE	En route area control, surveillance information service (SIS) and flight information service (FIS).
APPROACH	Approach control (where provided as separate service).
DEPARTURES	Departure control (where provided as separate service).
FINAL/DIRECTOR	Surveillance control providing vectors onto final approach.
TOWER	Aerodrome control, or aerodrome and approach control where combined.
GROUND	Surface movement control.
DELIVERY	Clearance delivery to departing aircraft.
INFORMATION	Aerodrome Flight Information Service (AFIS) or Surveillance Flight Information Service (SFIS).
FLIGHTWATCH	FIS.
RADIO	HF communications services or certified air/ground radio service (CA/GRS).

2.9.2 The name of the location or the service may be omitted after satisfactory communications have been established.

2.10 Flight call signs

2.10.1 Australian-registered aircraft on domestic flights should use a relevant call sign described in Table 23, when establishing two-way communications and for subsequent communications on any frequency.

Table 23: Aircraft call signs for domestic flights

Type	Example	Pronounced as
VH-registered aircraft: The last 3 alphanumeric characters of the registration marking	VH-JRG VH-R5B	JEW lee ETT ROW me oh GOLF ROW me oh FIFE BRAH voh
VH-registered aircraft, **but only for first contact on a frequency**: Aircraft type, model or manufacturer's name followed by last 3 alphanumeric characters of the registration marking	CESSNA 172 VH-JRG BONANZA VH-NQT CIRRUS VH-R5B	CESSNA WUN SEV en TEE -TOO JEW lee ETT ROW me oh GOLF BONANZA no VEM ber keh BECK TANG go CIRRUS ROW me oh FIFE BRAH voh
The telephony designator of the aircraft operating agency, followed by the 3 alphanumeric characters of a VH registration marking.	FASTAIR VH-EBI	FASTAIR ECK oh BRAH voh IN dee ah
The telephony designator of the aircraft operating agency, followed by the flight identification. **Note:** These callsigns cannot be abbreviated.	FASTAIR 345 FASTAIR 856D	FASTAIR TREE FOW er TEE-FIFE[6] FASTAIR AIT FIF TEE-SIX DELL tah
For light sport, ultralight or microlight aircraft, the aircraft type followed by the last 4 characters of the aircraft's registration number.	JABIRU 1346	JABIRU THUR TEEN FOW er TEE-SIX[6]
For rotary wing aircraft, the word 'helicopter', followed by the last 3 alphanumeric characters of a VH registration marking. **Note:** The word 'helicopter' is only required on first contact with any frequency.	HELICOPTER ELI	HELICOPTER ECK oh LEE mah IN dee ah
For civil formation flights, the word 'FORMATION' appended at the end of the registration of the formation leader or the telephony designator of the lead aircraft's operating agency.	ABC FORMATION JETSPEED FORMATION	AL fah BRAH voh CHAR lee FORMATION JETSPEED FORMATION
For unmanned aircraft, the word 'UNMANNED', followed by a flight identification based on the aircraft	UNMANNED PRT	UNMANNED pah PAH ROW me oh TANG go

[6] See section 2.11 for an explanation of the 'group form' method for pronouncing strings of numbers in a call sign. XXXXCheck this reference is correct.XXXXXX. Good pick up of an error. Fixed. This text can be deleted.

Type	Example	Pronounced as
manufacturer or model using a maximum of three syllables.		

2.10.2 Foreign-registered aircraft or Australian-registered aircraft on international flights should use a relevant call sign described in Table 24, when establishing two-way communications.

Table 24: Full call signs – foreign aircraft or Australian aircraft on international flights

Type	Example	Pronounced as
The characters corresponding to the registration marking of the aircraft **Note:** The name of the aircraft manufacturer or name of aircraft model may be used as a radiotelephony prefix.	VH-JRG N35826 G-ABCD	VIK tah ho TELL JEW lee ETT ROW me oh GOLF no VEM ber TREE FIFE AIT TOO SIX GOLF AL fah BRAH voh CHAR lee DELL tah
The telephony designator of the aircraft operating agency followed by the last 4 characters of the registration marking of the aircraft	UNITED 5826	UNITED FIFE AIT TOO SIX
The telephony designator of the aircraft operating agency followed by the flight identification	FASTAIR 345	FASTAIR TREE FOW er FIFE

2.10.3 As shown in Table 25, a foreign-registered aircraft or Australian-registered aircraft on an international flight may use an abbreviated call sign after satisfactory communication has been established and provided that no confusion is likely to occur.

Table 25: Abbreviated call signs – foreign aircraft or Australian aircraft on international flights

Type	Example	Pronounced as
The first character of the registration and at least the last 2 alphanumeric characters of the registration marking.	VH-JRG N35826 G-ABCD	VIK tah ROW me oh GOLF NOVEMBER TOO SIX GOLF CHAR lee DELL tah
The telephony designator of the aircraft operating agency, followed by at least the last two characters of the registration marking of the aircraft.	UNITED 26	UNITED TOO SIX
The telephony designator of the aircraft operating agency followed by the flight identification Note: no abbreviated form	FASTAIR 345	FASTAIR TREE FOW er FIFE

2.10.4 A flight should not change its call sign during flight except when directed by ATC due to a likelihood that confusion may occur because of similar call signs. In such cases, ATC may instruct the pilot to change call sign either temporarily or for the remainder of the flight.

2.10.5 The pilot of an aircraft in the Super or Heavy wake turbulence categories should include the word ‘SUPER’ or ‘HEAVY’ respectively immediately after the aircraft call sign in the initial radiotelephony contact with approach, departures, director, or tower.

2.10.6 Where there is potential for callsign confusion due to two or more similar sounding callsigns operating on the same (or grouped together) ATC frequencies, ATC will alert the pilot of each aircraft.

2.10.7 Pilots should take extra care to ensure any communications are intended for their aircraft and not another with a similar callsign.

2.10.8 ATC may also emphasise, or say twice, parts of the callsign or revert from group form to separate digits in callsigns in this situation to assist in differentiation of callsigns.

2.11 Call signs – using group form

2.11.1 ‘Group form’ is the pronunciation of a series of numbers as the whole number, or pairs of numbers they represent rather than pronouncing each separate digit. A number ending in ‘00’ is spoken as ‘HUNDRED’. For three-digit numbers, the second and third numbers are grouped. See Table 26.

2.11.2 Within Australian airspace, ‘group form’ is the preferred means of transmitting call sign or flight number call signs. Group form should also be used for military and other flights that have a root word call sign with numeric suffix.

Table 26: Group form call signs

Call sign	Transmitted as
QLINK 122	QLINK WUN TWEN-TEE-TOO
QANTAS 1220	QANTAS TWELVE TWEN-TEE
Classic 12	CLASSIC TWELVE
Velocity 1300	VELOCITY THUR-TEEN HUN dred
BIRD DOG 021	BIRD DOG ZE RO TWEN-TEE-WUN
Lightning 7014	LIGHTNING SEVEN-TEE FOR-TEEN

2.11.3 Use of ‘group form’ does not invalidate any transmissions made in conventional formats. However, to retain the integrity in the communication between ATS and operators, the identification format used should be consistent.

2.11.4 A pilot not using ‘group form’ in establishing communication, but subsequently addressed by ATS in this format, should adopt the use of ‘group form’ for the remainder of the flight in Australian airspace.

2.11.5 There is no additional abbreviated form when using flight number call signs. The airline designator and all digits of the call sign, including leading zeros, should always be pronounced.

2.12 Registration of radiotelephony designators

2.12.1 Operators wishing to use flight number call signs should obtain approval from Airservices Australia. Application information and materials are available from Airservices Australia website: https://www.airservicesaustralia.com/about-us/our-services/flight-number-call signs/

2.13 Call signs – special task operations

2.13.1 With the agreement of ATS, aircraft engaged in special task operations may use a call sign shown in Table 27, indicative of the nature of the task, with a numerical suffix (if applicable).

Table 27: Call signs – special task operations

Type of operation	Call sign	Flight plan designator
Ambulance	**AMBULANCE**	AM
Coordination of firebombing aircraft	**BIRD DOG**	BDOG
Fire bombing	**BOMBER**	BMBR
Powerline and pipeline survey and construction	**ENERGY**	ENRG
Federal police	**FEDPOL**	FPL
Federal police (priority)	**FEDPOL RED**	FPLR
Night-time NVG firefighting operations	**FIREAIR**	FYRA
General fire support tasks (light rotary)	**FIREBIRD**	FBIR
Remote sensing fire operations	**FIRESCAN**	FSCN
Fire intelligence gathering	**FIRESPOTTER**	SPTR
General fire support tasks (medium rotary)	**HELITAK**	HLTK
Gliding operations	**GLIDER**	GLDR
Lifesaver operations	**LIFESAVER**	LIFE
Media operations	**MEDIA**	MDIA
Validation of instrument procedures	**NAVCHECK**	NVCK
Parks and wildlife service	**PARKAIR**	PKAR
Police	**POLAIR**	POL
Police (priority)	**POLAIR RED**	POLR
Rescue mission	**RESCUE**	RSCU
Aerial survey	**SURVEY**	SVY

2.13.2 For special task operations, aircraft should be assigned call sign suffix numbers based on location of the operating base according to Table 28.

Table 28: Call sign suffix numbers for State and Territory-based special task operations

State/Territory	Suffix numbers
NSW/ACT	Commencing with 2 (e.g. 201, 214, 223).
VIC	Commencing with 3.
QLD	Commencing with 4.
SA	Commencing with 5.
WA	Commencing with 6.

2.13.3 Use of these numbers will ensure flights transiting state borders utilising the same call sign prefix do not duplicate an existing call sign suffix number or flight plan.

2.14 Selection of flight identification numbers and suffixes

2.14.1 When selecting a flight identification number or call sign suffix, operators should avoid using numbers that:

a. end in ‘zero’ or ‘five’, to avoid confusion with headings

b. correlate with potential level utilisation, such as 3,000, 500, 350, emergency SSR codes, such as 7600, 7700, and numerical aircraft types, such as 767, 330.

2.14.2 Flight numbers and call sign suffix numbers should be limited to 2 or 3 characters. The selection of flight numbers should consider flight numbers already in use by the operator and other agencies in or near the intended control environment or operational area.

2.15 Interchange and leased aircraft

2.15.1 Controllers issue traffic information based on familiarity with airline equipment and colour/markings. When an airline dispatches a flight using another company’s aircraft and the pilot does not advise the terminal ATC facility, the possible confusion in aircraft identification can compromise safety.

2.15.2 Consistent with the example in Table 29, pilots flying an ‘interchange’ or ‘leased’ aircraft that do not have the normal colours/markings of the operating company should tell the terminal ATC facility about the situation on first contact.

Table 29: Call signs for interchange and leased aircraft

Methodology	Example
Name of the operating company and aircraft call sign, followed by the company name as displayed on the aircraft, and aircraft type.	VELOCITY THREE ELEVEN AIR NEW ZEALAND INTERCHANGE (or LEASE) BOEING SEVEN EIGHT SEVEN

2.16 Establishment and continuation of communications

2.16.1 The responsibility of establishing communications rests with the station having communications traffic to transmit. When establishing communications, an aircraft should use the full call sign of both the flight as well as the station being contacted. Use of the name of the manufacturer, or of the aircraft model or type, is optional. Pilots can assess whether aircraft type could be helpful to the recipient for recognition or sequencing purposes.

2.16.2 The use of the calling station's call sign and the receiving station's call sign is an invitation to proceed with the transmission. The phrase: 'GO AHEAD' is not to be used in response. Figure 2 shows examples of aircraft establishing communications with other stations.

Communicator	Communication
 pilot	R5B THIS IS JABIRU 1346
 pilot	JABIRU 1346 R5B
 pilot	SUNSHINE TOWER JRG
 ATS	JRG SUNSHINE TOWER
 pilot	UNMANNED RPA OPERATING OVER MINETOWN PIT THIS IS KINGAIR PQR
 RPA	PQR UNMANNED RPA

Figure 2: Establishing communication

2.16.3 The name of the location or the ground station may be omitted if satisfactory communication has been established.

2.16.4 If there is doubt that a message has been correctly received, a repetition of the message should be requested in full or in part as shown in Table 30 below.

Table 30: Repetition of messages

Phrase	Meaning
SAY AGAIN	Repeat entire message.
SAY AGAIN … (item)	Repeat specific item.
SAY AGAIN ALL BEFORE … (the first word satisfactorily received) SAY AGAIN ALL AFTER … SAY AGAIN ALL BETWEEN … AND …	Repeat part of message.

2.16.5 When a station is called but is uncertain of the identity of the calling station, the calling station should be requested to repeat its call sign until the identity is established. Figure 3 illustrates this process.

Communicator	Communication
 pilot	JRG THIS IS HELICOPTER …
 pilot	AIRCRAFT CALLING JRG SAY AGAIN CALLSIGN
 pilot	JRG THIS IS HELICOPTER RST
 pilot	RST JRG
 pilot	THORNHILL TOWER …345
 ATS	STATION CALLING THORNHILL TOWER SAY AGAIN CALL SIGN
 pilot	THORNHILL TOWER FASTAIR 345

Figure 3: Uncertain about identity

2.16.6 The word ‘CORRECTION’ should be used in a transmission to correct an error. As shown in Figure 4, the last correct group or phrase is repeated and then the correct version transmitted.

Communicator	Communication
 pilot	FASTAIR 345 PAMSVILLE 47 FLIGHT LEVEL 330 BIGTOWN 07 CORRECTION BIGTOWN 57
 ATS	FASTAIR 345

Figure 4: Correcting transmissions

2.16.7 If a correction can best be made by repeating the entire message, the operator should use the phrase ‘CORRECTION I SAY AGAIN’ before transmitting the message a second time.

2.16.8 As illustrated in Figure 5, when reception is likely to be difficult, important elements of the message should be spoken twice.

Communicator	Communication
 pilot	THORNHILL TOWER JRG WORDS TWICE PAMSVILLE 2500 PAMSVILLE 2500

Figure 5: Words twice

2.16.9 When instructed, flights must change frequency and contact the specified ATS unit (which may be the same ATS unit), either immediately or at the time or place specified. Figure 6 shows several examples of frequency change transmissions.

Communicator	Communication
 ATS	FASTAIR 345 CONTACT CAPRICORN APPROACH 121.1
 pilot	121.1 FASTAIR 345
 ATS	PQR CONTINUE PRESENT HEADING CONTACT CENTRE 123.5
 pilot	PRESENT HEADING 123.5 PQR
 pilot	*A little later…* CAPRICORN CENTRE PQR FLIGHT LEVEL 250 HEADING 340
 ATS	PQR CAPRICORN CENTRE
 ATS	FASTAIR 345 AT SUNNYTOWN CONTACT CAPRICORN CENTRE 126.0
 pilot	CAPRICORN CENTRE 126.0 AT SUNNYTOWN FASTAIR 345

Figure 6: Frequency change

2.17 Radio test procedures

2.17.1 Test transmissions should take the following form:

a. the identification of the station being called

b. identification of the station calling

c. the words RADIO CHECK

d. the frequency being used.

2.17.2 Replies to test transmissions should be as follows:

a. the identification of the station calling

b. the identification of the station replying

c. information regarding the readability of the transmission.

2.17.3 The readability of the transmission should be classified in accordance with the readability scale in Table 31.

Table 31: Readability scale

Code Number	Meaning
1	Unreadable.
2	Readable now and then.
3	Readable but with difficulty.
4	Readable.
5	Perfectly readable.

2.17.4 Figure 7 shows examples of radio test transmissions and radio checks.

Communicator	Communication
 pilot	SUNSHINE TOWER CESSNA JRG RADIO CHECK 118.1 *or* SUNSHINE TOWER CESSNA JRG HOW DO YOU READ
 ATS	STATION CALLING SUNSHINE TOWER READABILITY TWO TRANSMISSIONS BROKEN *or* JRG SUNSHINE TOWER READABILITY THREE LOUD BACKGROUND WHISTLE *or* JRG SUNSHINE TOWER READABILITY FIVE
 pilot	TRAFFIC PARKS JABIRU 1346 REQUESTING RADIO CHECK PARKS
 pilot	JABIRU 1346 JRG READABILTY FIVE
 pilot	JRG ABIRU 1346

Figure 7: Radio checks

2.17.5 When it is necessary for a ground station to make test signals, either for the adjustment of a transmitter before making a call or for the adjustment of a receiver, such signals must not continue for more than 10 seconds. Test signals should be composed of spoken numbers (one, two, three, etc.) followed by the radio call sign of the station transmitting the test signals.

2.18 Broadcasts of information for both controlled and non-controlled airspace

2.18.1 As shown in Figure 8, ATS provides broadcast services to all flights in both controlled and non-controlled airspace, including the provision of essential flight and weather information.

Communicator	Communication
 ATS	ALL STATIONS CAPRICORN CENTRE RESTRICTED AREA ROMEO 123 ACTIVE AVAILABLE FOR TRANSIT
 ATS	ALL STATIONS CAPRICORN CENTRE SIGMET BRAVO 02 VALID 0800 UNTIL 1200 BRISBANE FIR SEVERE TURBULENCE FORECAST WITHIN THE AREA OF SMALLTOWN ROMER BAT HURST SURFACE TO 9,000 MOVING SOUTH AT 15 KNOTS NO CHANGE
 ATS	ALL STATIONS CAPRICORN CENTRE HAZARD ALERT SMALLTOWN DISABLED AIRCRAFT ON RUNWAY

Figure 8: Information broadcasts

2.18.2 Figure 9 shows examples of broadcasts relating to military en route operations.

Communicator	Communication
 ATS	ALL STATIONS CAPRICORN CENTRE ABRUPT VERTICAL MANOEUVRES BY MILITARY JET AIRCRAFT AT GYRON UP TO FLIGHT LEVEL 150
 ATS	ALL STATIONS CAPRICORN CENTRE LOW LEVEL MILITARY OPERATIONS NOT ABOVE 5,000 TAKING PLACE BETWEEN GYRON AND 15 MILES WEST OF MINETOWN FROM TIME 30 UNTIL TIME 45

Figure 9: Military en-route operations

2.19 Meteorological Conditions

2.19.1 Meteorological information in the form of reports, forecasts or warnings is made available to pilots using the aeronautical mobile service either by broadcast or by directed transmissions. Full details of meteorological services and information are contained in AIP GEN.

2.19.2 Standard meteorological abbreviations and terms should be used, and the information should be transmitted slowly and enunciated clearly in order that the recipient may record such data as is necessary.

2.19.3 Figure 10 shows examples of meteorological reports and reports of inflight conditions.

Communicator	Communication
ATS	ALL STATIONS SPECI CAPRICORN AVAILABLE
pilot	PQR REQUEST SPECI CAPRICORN
ATS	PQR SPECI CAPRICORN ISSUED TIME 0544 WIND 170 DEGREES, 7 KNOTS VISIBILITY 6KM IN RAIN CLOUD SCATTERED 1,200, BROKEN 3,800 TEMPERATURE 18 DEWPOINT 17 QNH 1020
pilot	PQR
ATS	PQR REPORT IN-FLIGHT CONDITIONS
pilot	PQR IN CLOUD
ATS	PQR

Figure 10: Meteorological information

2.20 Visibility

2.20.1 In conditions of reduced visibility at a controlled aerodrome, ATC will provide information about visibility in terms of general visibility observations, runway visibility (RV) observations or runway visual range (RVR) measurements (RVR is provided by electronic sensors).

2.20.2 RV and RVR reports may be reported from multiple locations along the runway. Multiple RV/RVR observations are always representative of the touchdown zone, midpoint zone and the roll-out/stop end zone, respectively. RVR positions not in service or not available should be notified as ‘not available’. An RV report may include the time at which the observation was made. Figure 11 shows examples of various visibility reports.

Communicator	Communication
ATS	PQR VISIBILITY 4,000 METRES
pilot	PQR
ATS	RUNWAY VISIBILITY RUNWAY 10 THRESHOLD 400 METRES MIDPOINT 400 METRES

Communicator	Communication
	STOP END 600 METRES ASSESSED AT TIME 30
 ATS	RVR RUNWAY 03 LEFT THRESHOLD 175 METRES MIDPOINT 200 METRES STOP END 600 METRES
 ATS	FASTAIR 345 RVR RUNWAY 19 650 METRES 700 METRES AND 600 METRES
 pilot	FASTAIR 345

Figure 11: Visibility reports

2.21 Runway surface conditions

2.21.1 At controlled aerodromes, runway surface conditions are reported whenever ATC is informed or becomes aware of the presence of water or contaminants on an operational runway. Conditions are reported by the following methods:

a. by use of runway condition report (RCR) which is assessed by an aerodrome operator and passed to ATC for relay to aircraft

b. by a Tower-assessed report of observed conditions on the aerodrome.

2.21.2 An RCR contains a Runway Condition Code (RWYCC) and information that describes the runway surface condition, i.e., type of contaminants, depth, coverage for each runway third. See Multi-Part AC 91-32 and AC 139-22 ‘Global reporting format - Runway surface condition’ for a full explanation of the assessment and reporting of runway surface conditions

2.21.3 As shown in Figure 12, ATIS is the primary means for communicating runway surface conditions. An RCR will describe conditions for each runway third in the direction of landing/or take-off.

Communicator	Communication
 ATS	CAPRICORN TERMINAL INFORMATION KILO EXPECT INSTRUMENT APPROACH RUNWAY 01 SURFACE CONDITION CODE FIVE, FIVE, FIVE WHOLE RUNWAY WET *{then rest of ATIS}*
 ATS	CAPRICORN TERMINAL INFORMATION KILO EXPECT INSTRUMENT APPROACH RUNWAY 21 LEFT SURFACE CONDITION CODE TWO TWO FIVE STANDING WATER, STANDING WATER, WET DEPTH 10 MILLIMETRES, 10 MILLIMETRES, NOT REPORTED *{then rest of ATIS}*

Figure 12: ATIS reports of runway surface conditions

2.21.4 ATC will only provide RCR information through voice communications to inform about changes to the information provided via ATIS, or when specifically requested by a pilot. Normally, only the change in RWYCC will be communicated. Changes to the contamination type,

contamination depth, and coverage will only be provided upon request by the pilot. ATC will also provide ‘tower observes’ updates as appropriate. Figure 13 shows examples.

Communicator	Communication
ATS	FASTAIR 345 CAPRICORN TOWER RUNWAY 21 RIGHT SURFACE CONDITION CODE TWO FIVE FIVE CLEARED TO LAND
pilot	RUNWAY 21 RIGHT CLEARED TO LAND FASTAIR 345
pilot	FASTAIR 345 REQUEST FULL RUNWAY CONDITION REPORT
ATS	FASTAIR 345 RUNWAY 21 RIGHT SURFACE CONDITION CODE TWO FIVE FIVE FIRST THIRD STANDING WATER DEPTH 5 MILLIMETRES LAST TWO THIRDS WET
pilot	FASTAIR 345 ROGER
ATS	FASTAIR 345 CAPRICORN TOWER RUNWAY 21 RIGHT TOWER OBSERVES RUNWAY IS WET CLEARED TO LAND
pilot	RUNWAY 21 RIGHT CLEARED TO LAND FASTAIR 345

Figure 13: ATC reports of runway surface conditions

2.21.5 As shown in Figure 14, a pilot should advise ATS (and the aerodrome operator at non-controlled aerodromes) about any deterioration or improvement of reported runway surface conditions or braking action. This will alert aerodrome operators that the conditions may have changed from the last report. Additionally, it may provide a safety benefit to alert other pilots in the vicinity.

Communicator	communication
pilot	CENTRE PQR VACATING RUNWAY 12 AT SMALLTOWN BRAKING ACTION IS GOOD TO MEDIUM
ATS	PQR CENTRE ROGER
ATS	FASTAIR 345 BRAKING ACTION REPORTED BY AIRBUS 321 AT TIME 56 – MEDIUM
pilot	FASTAIR 345 ROGER

Figure 14: Reports of braking action

2.22 Wind shear and microbursts

2.22.1 When wind shear or microbursts are forecast or observed, or are reported by a pilot, ATC will warn other pilots until such time as aircraft report the phenomenon no longer exists. At controlled aerodromes this information will initially be passed via radio but will be included on the ATIS.

2.22.2 Pilots should report encounters with wind shear encounters to ATC as following aircraft may not have sufficient performance to recover from the same wind shear encounter.

2.22.3 Figure 15 shows examples of wind shear and microburst alerts and reports.

Communicator	Communication
ATS	RUNWAY 34 LEFT WIND SHEAR ALERT 20 KNOT GAIN 3 MILE FINAL
ATS	RUNWAY 16 LEFT MICROBURST ALERT 32 KNOT LOSS 2 MILE UPWIND
ATS	JRG CAUTION MODERATE WIND SHEAR REPORTED 3 MILE FINAL
pilot	ROGER JRG
pilot	TOWER FASTAIR 345 MODERATE UNDERSHOOT WIND SHEAR ENCOUNTERED WHEN DESCENDING THROUGH 2,000
ATS	FASTAIR 345 ROGER

Figure 15: Wind shear and microbursts

2.22.4 As described in Figure 16, wind shear may sometimes be severe enough to require a pilot to execute a wind shear escape manoeuvre. As soon as possible, ATC should be alerted about the action being taken.

Communicator	Communication
pilot	FASTAIR 345 WIND SHEAR ESCAPE
ATS	FASTAIR 345 ROGER SAFETY ALERT TRAFFIC SIX MILES AHEAD BOEING 787 HEADING EAST AT 4,000
pilot	ROGER FASTAIR 345

Communicator	Communication
 pilot	FASTAIR 345 CLEAR OF WIND SHEAR LEVELING AT 4,000 REQUEST VECTORS FOR ANOTHER APPROACH
 ATS	FASTAIR 345 MAINTAIN 4,000 TURN LEFT HEADING 310 VECTORS FOR FINAL
 pilot	MAINTAIN 4,000 LEFT HEADING 310 FASTAIR 345

Figure 16: Wind shear escape

3 Communications in non-controlled airspace and at non-controlled aerodromes

3.1 Best practice in non-controlled communications

3.1.1 Concise, effective, timely communications can enhance pilot situation awareness in non-controlled airspace and helps to overcome some of the limitations of see and avoid.

3.1.2 Pilots and ground stations are urged not to use aviation communication channels for chatter and unnecessarily announcing every move as this causes congestion and increases the chance of essential communications being missed.

3.2 Operating at a non-controlled aerodrome

3.2.1 The fundamental principle for operating at, or in the vicinity of, a non-controlled aerodrome is for pilots to only make the broadcasts necessary to aid the situation awareness of the pilots of other aircraft operating in the immediate vicinity.

3.2.2 'In the vicinity' is within 10 NM and at a height above the aerodrome that could result in conflict with operations at the aerodrome.

3.2.3 Before arriving at a non-controlled aerodrome, pilots should monitor their radios and broadcast their intentions in accordance with the following:

a. When in the vicinity of an aerodrome published on aeronautical charts, listen and broadcast as necessary on the CTAF (126.7 MHz if not nominated or discrete).

b. When aerodromes are located within a Mandatory Broadcast Area, listen and broadcast as necessary on the frequency for the Mandatory Broadcast Area.

c. In all other cases, CASA recommends that pilots listen and broadcast as necessary on the Area Frequency.

3.2.4 Many aerodromes have an aerodrome frequency response unit (AFRU):

- An AFRU provides pilots with an automatically generated confirmation of any broadcast made on the relevant CTAF
- An AFRU confirmation will be either the name of the aerodrome plus 'CTAF' or, if any aircraft transmissions have been received by the AFRU within the last 5 minutes, a low volume 300 millisecond tone.
- An AFRU helps pilots by confirming they are using the right frequency and making them aware of potential traffic in the area.
- Pilots should be careful not to momentarily break transmission as the AFRU will automatically over-transmit any subsequent broadcast

3.2.5 The following is the standard broadcast format for low and medium performance aircraft operating at a non-controlled aerodrome:

- *(Location)* Traffic.
- Aircraft Type.
- Call sign.
- Flight rules if IFR.

- Position/Level/Intentions
- *(Location).*

3.2.6 Figure 17 and Table 32 show or describe a non-controlled aerodrome annotated with spots or situations where a pilot should consider making a radio transmission to aid situational awareness.

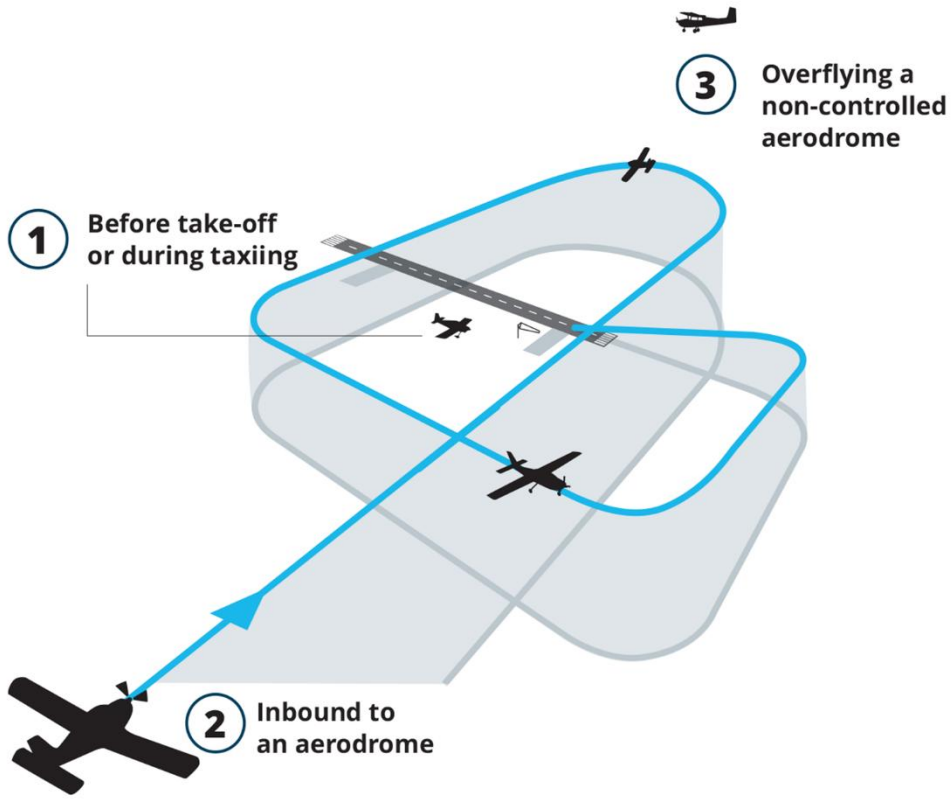

Figure 17: Non-controlled aerodromes - spots where a pilot may consider a radio transmission to enhance situational awareness.

Table 32: Non-controlled aerodrome - situations where a pilot may consider a radio transmission to enhance situational awareness

Situation	Phraseology
1 Before take-off or during taxiing	PARKS TRAFFIC JABIRU 1346 TAXIING RUNWAY 29 FOR CIRCUITS PARKS
2 Inbound to an aerodrome: • at least 10 NM from the aerodrome • more than 10 NM for high performance aircraft or busy aerodromes	PARKS TRAFFIC CESSNA 172 JRG ONE-ZERO MILES NORTH INBOUND ON DESCENT THROUGH 4,200 ESTIMATING CIRCUIT AT THREE SIX PARKS
3 Overflying or in the vicinity of a non-controlled aerodrome but not landing at: • at least 10 NM from the aerodrome	PARKS TRAFFIC CESSNA 172 JRG ONE ZERO MILES NORTH 4,500

Situation	Phraseology
• more than 10 NM for high performance aircraft or busy aerodromes	OVERFLYING ESTIMATE OVERHEAD TWO SIX PARKS

3.2.7 Figure 18 and Table 33show or describe a non-controlled aerodrome annotated with spots or situations where a pilot should make a radio transmission when there is traffic in the area that would benefit from this additional communication.

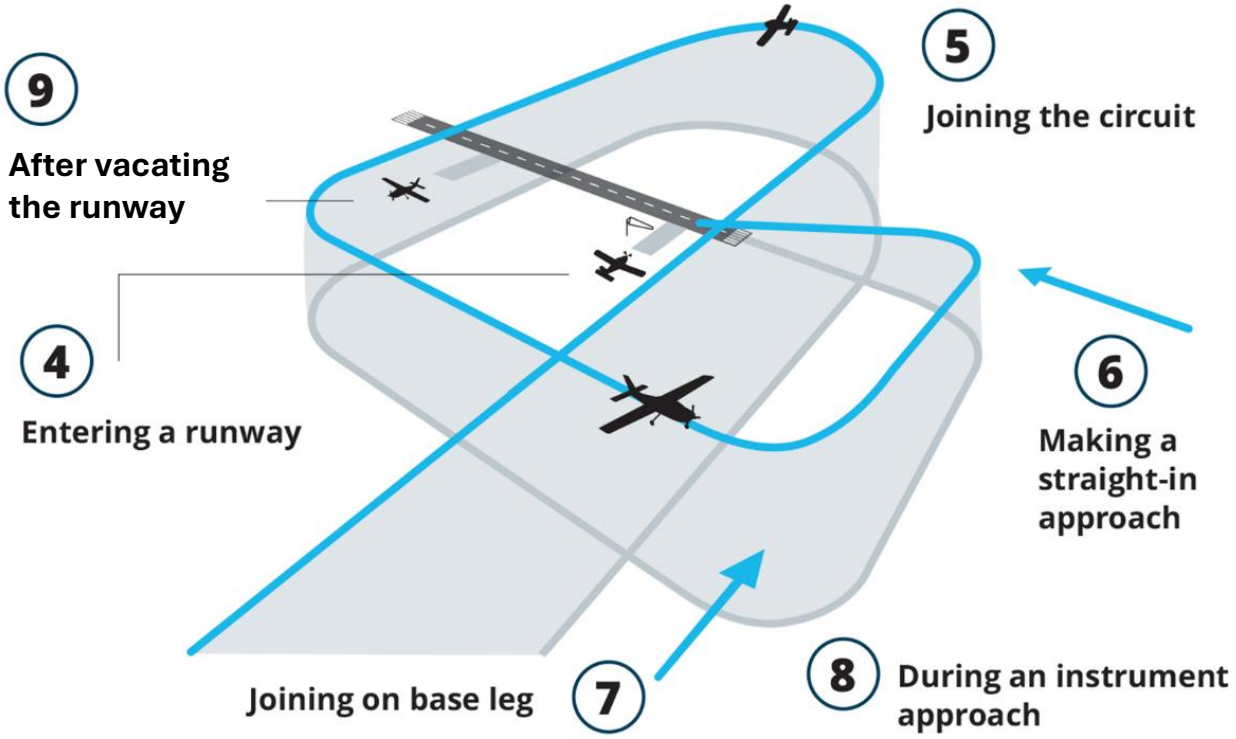

Figure 18: Non-controlled aerodromes - spots where a radio transmission will assist situational awareness if there are other aircraft present

Table 33: Non-controlled aerodromes - situations where a radio transmission will assist situational awareness if there are other aircraft present

Situation	Phraseology
4 Entering a runway	PARKS TRAFFIC CESSNA 172 JRG ENTERING RUNWAY 29 PARKS
5 Joining the circuit	PARKS TRAFFIC CESSNA 172 JRG DESCENDING ON THE DEAD SIDERUNWAY 29 PARKS
6 Making a straight-in approach not less than 3 NM from the threshold	PARKS TRAFFIC CESSNA 172 JRG JOINING 3 NM FINAL

Situation	Phraseology
	FOR STRAIGHT IN APPROACH RUNWAY 29 PARKS
7 Joining on base leg	PARKS TRAFFIC CESSNA 172 JRG JOINING BASE RUNWAY 29 PARKS
8 During an instrument approach either when established at the final approach fix or when commencing the missed approach	PARKS TRAFFIC CESSNA 172 JRG CONDUCTING A MISSED APPROACH RUNWAY 22 TRACKING TO THE EAST CLIMBING TO 3,900 PARKS
9 After vacating the runway	PARKS TRAFFIC JABIRU 1346 RUNWAY 29 VACATED PARKS

3.2.8 The pilot of an aircraft operating at or in the vicinity of a non-controlled aerodrome may encounter another flight arriving at the aerodrome. As shown in Figure 19 below, it may be necessary for the pilots to communicate with each other to ensure safety and smooth operations.

3.2.9 The pilot of an IFR aircraft arriving at a non-controlled aerodrome should tell ATS if switching from the area frequency so that communications are entirely to the CTAF.

Communicator	Communication
 pilot	MINETOWN TRAFFIC AIRBUS 220 FASTAIR 345 IFR 20 MILES NORTH WEST OF MINETOWN PASSING 10,000 TO JOIN DOWNWIND RUNWAY 32 MINETOWN
 pilot	MINETOWN TRAFFIC JABIRU 1346 UPWIND RUNWAY 32 FOR CIRCUITS MINETOWN
 pilot	JABIRU 1346 FASTAIR 345 WILL JOIN DOWNWIND AT 2,000 UNTIL I HAVE YOU IN SIGHT
 pilot	FASTAIR 345 JABIRU 1346 DOWNWIND FOR TOUCH AND GO
 pilot	FASTAIR 345 EARLY DOWNWIND JABIRU 1346, I HAVE YOU IN SIGHT WILL EXTEND DOWNWIND UNTIL YOU ARE CLEAR
 pilot	JABIRU 1346

Communicator	Communication
 pilot	MINETOWN TRAFFIC JABIRU 1346 FINAL RUNWAY 32 TOUCH AND GO MINETOWN
 pilot	MINETOWN TRAFFIC AIRBUS 220 FASTAIR 345 LONG FINAL RUNWAY 32 MINETOWN
 pilot	MINETOWN TRAFFIC JABIRU 1346 AIRBORNE RUNWAY 32 MINETOWN
 pilot	MINETOWN TRAFFIC AIRBUS 220 FASTAIR 345 VACATED RUNWAY 32 MINETOWN

Figure 19: Arrival at a non-controlled aerodrome (including interaction between an IFR and VFR flight)

3.3 Aircraft to aircraft broadcasts

3.3.1 Pilots of radio-equipped aircraft should monitor the appropriate VHF frequency and announce if in potential conflict. Pilots intercepting broadcasts from aircraft which may be in potential conflict should acknowledge by transmitting own call sign and, as appropriate, aircraft type, position, actual level and intentions. Figure 20 shows a typical example of an exchange of traffic information between two aircraft.

Communicator	Communication
 pilot	MINETOWN TRAFFIC KING AIR PQR IFR DEPARTED MINETOWN 30 TRACKING 120 CLIMBING TO 8,000 MINETOWN
 pilot	PQR THIS IS CESSNA 172 JRG 5 MILES SOUTHEAST OF MINETOWN 4,500 ESTIMATING OVERHEAD MINETOWN AT 38 THEN TRACKING NORTHWEST
 pilot	JRG PQR ROGER WILL MAINTAIN 3,500 LOOKING
 pilot	PQR JRG LOOKING
 pilot	JRG PQR I HAVE YOU IN SIGHT WE'VE PASSED AND WELL CLEAR OF EACH OTHER CONTINUING CLIMB

Communicator	Communication
 pilot	PQR JRG ROGER

Figure 20: Traffic information broadcast and exchange

3.4 IFR arrivals at a non-controlled aerodrome

3.4.1 As shown in Figure 21 below, the pilot of an IFR aircraft arriving at a non-controlled aerodrome should tell ATS if switching from the area frequency so that communications are entirely to the CTAF.

Communicator	Communication
 pilot	CENTRE PQR 10 MILES NORTH-EAST OF MINETOWN CHANGING TO CTAF
 ATS	PQR ROGER
 pilot	MINETOWN TRAFFIC KING AIR PQR IFR 10 MILES NORTH-EAST OF MINETOWN PASSING 3,000 POSITIONING FOR STRAIGHT-IN APPROACH RUNWAY 14 MINETOWN

Figure 21: IFR arrival – switching to CTAF

3.5 IFR departures from a non-controlled aerodrome

3.5.1 The pilot of an IFR flight intending to depart from a non-controlled aerodrome should report to ATC on taxiing. If unable to establish contact with ATS, a pilot should broadcast expected ATS reports on the area frequency. These broadcasts are additional to any necessary CTAF calls.

Note: For some flight operations, requirements may apply in regards assured contact with an operator or representative, or a SARTIME for departure.

3.5.2 Reports to ATC are additional to recommended positional broadcasts on the CTAF.

3.5.3 Figure 22 shows typical exchanges between an IFR flight and Centre before departure.

Communicator	Communication
 pilot	CAPRICORN CENTRE PQR
 ATS	PQR CAPRICORN CENTRE

Communicator	Communication
 pilot	PQR IFR KING AIR 4 POB TAXIES MINETOWN FOR THORNHILL RUNWAY 14 REQUEST CLEARANCE
 ATS	PQR SQUAWK 4512 AREA QNH 1014 CLEARED TO THORNHILL VIA MAKIR FLIGHT PLANNED ROUTE FL120 NO REPORTED IFR TRAFFIC
 pilot	CLEARED TO THORNHILL VIA MAKIR FLIGHT PLANNED ROUTE FLIGHT LEVEL 120 SQUAWK 4512 AREA QNH 1014 PQR
 pilot	*PQR makes all standard broadcasts on the CTAF using the format described in paragraph 3.2.5. For example:* MINETOWN TRAFFIC KING AIR PQR IFR TAXING VIA ALFA TO HOLDING POINT RUNWAY 14 MINETOWN

Figure 22: IFR departure from non-controlled aerodrome - pre-departure communications

3.5.4 After departure, communications with Centre will be determined by the existence or otherwise of ATS surveillance in the vicinity of the aerodrome. Figure 23 shows examples for both situations.

Communicator	Communication
 pilot	CENTRE PQR DEPARTURE
 ATS	PQR CENTRE
 pilot	{Identification is NOT expected with the departure report:} PQR DEPARTED MINETOWN 23 TRACKING 310 CLIMBING TO FLIGHT LEVEL 120 ESTIMATING MAKIR 50
 ATS	PQR NO ADDITIONAL TRAFFIC *or* PQR TRAFFIC IS …
 pilot	{Identification is expected with the departure report:} PQR 5 MILES NORTHEAST OF MINETOWN

Communicator	Communication
	PASSING 3,000 CLIMBING TO FLIGHT LEVEL 120 ESTIMATING MAKIR 45
ATS	PQR IDENTIFIED

Figure 23: IFR departure report - surveillance or non-surveillance airspace

3.6 Flights entering controlled airspace

3.6.1 As shown in Figure 24, a IFR or VFR flight wishing to enter or transit controlled airspace should make their request to the appropriate ATS unit in sufficient time to allow ATC to assess the traffic situation and issue a clearance prior to the aircraft reaching controlled airspace.

Communicator	COMMUNICATION
pilot	THORNHILL APPROACH CESSNA 172 JRG
ATS	JRG THORNHILL APPROACH
pilot	JRG VFR CESSNA 172 PARKS FOR THORNHILL 15 MILES NORTHWEST OF THORNHILL MAINTAINING 3,500 RECEIVED SIERRA REQUEST AIRWAYS CLEARANCE
ATS	JRG SQUAWK 1234
pilot	SQUAWK 1234 JRG
ATS	JRG IDENTIFIED CLEARED PRESENT POSITION DIRECT THORNHILL MAINTAIN 3,500
pilot	PRESENT POSITION DIRECT THORNHILL MAINTAIN 3,500 JRG
pilot	SUNSHINE TOWER PQR MAINTAINING 9,000 REQUEST AIRWAYS CLEARANCE
ATS	PQR SUNSHINE TOWER CLEARED TO RIVER TOWN VIA SUNSHINE FLIGHT PLANNED ROUTE MAINTAIN 9,000

Communicator	COMMUNICATION
 pilot	CLEARED TO RIVER TOWN VIA SUNSHINE FLIGHT PLANNED ROUTE MAINTAIN 9,000 PQR

Figure 24: Clearance to enter or transit controlled airspace

3.6.2 As shown in Figure 25, ATC may not be able to immediately issue clearance to enter controlled airspace. This may be because of the prevailing traffic situation.

Communicator	Communication
 ATS	PQR REMAIN OUTSIDE CLASS D AIRSPACE EXPECT 10 MINUTES DELAY DUE TRAFFIC IN TERMINAL AREA
 pilot	REMAIN OUTSIDE CLASS DELTA AIRSPACE PQR
 ATS	JRG REMAIN OUTSIDE CLASS C AIRSPACE REMAIN THIS FREQUENCY SQUAWK 4503
 pilot	REMAIN OUTSIDE CLASS C AIRSPACE SQUAWK 4503 JRG
 ATS	JRG CLEARANCE NOT AVAILABLE REMAIN OUTSIDE RESTRICTED AIRSPACE
 pilot	REMAIN OUTSIDE RESTRICTED AIRSPACE JRG

Figure 25: Clearance not available

3.7 Parachute operations in non-controlled aerodromes

3.7.1 The pilot of an aircraft carrying out parachuting operations should make a broadcast advising the intention to drop parachutists prior to parachutists exiting the aircraft. The broadcast should be made on all relevant frequencies for airspace through which the parachutists may descend.

3.7.2 If the parachuting occurs in the vicinity of a non-controlled aerodrome, an additional broadcast should be made not less than 4 minutes before the parachutists leave the aircraft.

3.7.3 ATC may require the pilot of the aircraft to report when the aircraft and parachutists are clear of controlled airspace.

3.7.4 Figure 26 shows an example of typical broadcasts for a drop occurring entirely within non-controlled airspace or the additional broadcasts made with when parachutists will exit the aircraft within Class C airspace, then descend through non-controlled airspace for landing at a non-controlled aerodrome. See section 8.7 for additional communications with ATC within or through controlled airspace.

Communicator	Communication
 pilot	ATS frequency: ALL STATIONS BACKIST MARCH AREA JRG FLIGHT LEVEL 145 SHORTLY DROPPING SIX PARACHUTISTS AT BACKIST MARCH DROP TIME 14 CTAF: BACKIST MARCH TRAFFIC CESSNA 172 JRG SHORTLY DROPPING SIX PARACHUTISTS ONTO AERODROME FLIGHT LEVEL 145 BACKIST MARCH
 pilot	ATS frequency: ALL STATIONS BACKIST MARCH JRG FLIGHT LEVEL 145 SIX CANOPIES AWAY CTAF: BACKIST MARCH TRAFFIC CESSNA 172 JRG SIX CANOPIES AWAY FOR AERODROME BACKIST MARCH

Figure 26: Parachuting communications in non-controlled airspace

3.8 Uncrewed aircraft communications in non-controlled airspace

3.8.1 Figure 27 shows examples of phraseology for RPAS operations in non-controlled airspace, including operations near an aerodrome and at a point not relatable to an aerodrome.

Communicator	Communication
 RPA	MINETOWN TRAFFIC UNMANNED RPA 2 MILES SOUTH OF THE AERODROME OPERATING OVERHEAD THE SHOPPING VILLAGE CAR PARK NOT ABOVE 400 FEET ABOVE GROUND EXPECTED DURATION 20 MINUTES MINETOWN
 RPA	ALL STATIONS UNMANNED RPA AT RIVERSIDE MINE SITE COMMENCING AERIAL SURVEY OVERHEAD THE PIT NOT ABOVE SIX HUNDRED FEET ABOVE GROUND ESTIMATED COMPLETION TWO FIVE.

Figure 27: Uncrewed aircraft operations

3.9 ATS traffic information for aircraft

3.9.1 As shown in Figure 28, ATS will provide information to IFR flights and VFR aircraft receiving a surveillance information service about known or observed traffic.

Communicator	Communication
 pilot	CENTRE PQR DEPARTED LAVERTON AT 45 TRACKING DIRECT CELSO CLIMBING TO 8,000 ESTIMATING CELSO AT 55
 ATS	PQR CENTRE TRAFFIC - FASTAIR 345 AIRBUS 220 DEPARTED MINETOWN 42 ESTIMATING CELSO AT 52 CLIMBING TO FLIGHT LEVEL 350
 pilot	ROGER PQR

Figure 28: Traffic information

3.10 Non-controlled aerodromes with an aerodrome information service

3.10.1 Aerodrome information services are local flight information services provided at several non-controlled aerodromes. There are several forms of aerodrome information services:

- AFIS
- SFIS
- CA/GRS.

3.10.2 Communications at aerodromes with local flight information services are like those at other non-controlled aerodromes without these services, except that:

a. during hours of operation of the aerodrome information service, a pilot should initiate communication by calling the service '(unit identifier) INFORMATION/RADIO' (as appropriate to the service provided - AFIS, SFIS or CA/GRS)

b. after the initial communication according to subparagraph a., subsequent reports should be addressed to '(location) TRAFFIC'

c. positional reports specified for the 10NM position should instead be made at or before the boundary of the relevant Broadcast Area (BA)

d. the service at some locations requires a departure report for both IFR and VFR aircraft on the BA frequency (see AIP ERSA for the requirements that apply at each location)

e. the service may relay clearances to IFR flights.

3.10.3 Figure 29 shows examples of radio communications at an aerodrome with aerodrome information service.

Communicator	Communication
 pilot	SUNNY BEACH RADIO AIRBUS 220 FASTAIR 345 IFR FOR CAPRICORN TAXIING RUNWAY 20 INFORMATION BRAVO

Communicator	Communication
 AGS	FASTAIR 345 SUNNY BEACH RADIO NO REPORTED TRAFFIC SQUAWK 3412 AIRWAYS CLEARANCE AVAILABLE[7]
 pilot	SQUAWK 3412 READY TO COPY FASTAIR 345
 AGS	FASTAIR 345 CLEARED SUNNY BEACH TO CAPRICORN VIA MAKIR FLIGHT PLANNED ROUTE FLIGHT LEVEL 320
 pilot	SUNNY BEACH TO CAPRICORN VIA MAKIR FLIGHT PLANNED ROUTE FLIGHT LEVEL 320 FASTAIR 345
 pilot	SUNNY BEACH TRAFFIC AIRBUS 220 FASTAIR 345 ENTERING AND BACKTRACKING RUNWAY 20 SUNNY BEACH
 pilot	SUNNY BEACH TRAFFIC AIRBUS 220 FASTAIR 345 ROLLING RUNWAY 20 SUNNY BEACH
 pilot	SUNNY BEACH TRAFFIC AIRBUS 220 FASTAIR 345 DEPARTED 42 PASSING 4,000 CLIMBING TO FLIGHT LEVEL 320 ESTIMATING MAKIR AT 55 SUNNY BEACH
 AGS	FASTAIR 345 CONTACT CAPRICORN CENTRE 120.1
 pilot	CAPRICORN CENTRE 120.1 FASTAIR 345
 pilot	HEADLAND INFORMATION KING AIR PQR 15 MILES NORTHEAST OF HEADLAND PASSING 6,000 POSITIONING FOR STRAIGHT-IN APPROACH RUNWAY 22 INFORMATION CHARLIE
 AGS	PQR HEADLAND INFORMATION THERE ARE THREE AIRCRAFT IN THE CIRCUIT AND ONE FIVE MILES NORTHEAST INBOUND AT 2,000 TO LAND. QNH IS 1013. REQUEST ESTMATE FOR HEADLAND

[7] Some aerodrome information services can relay an SSR code and airways clearance from the relevant Centre.

Communicator	Communication
 pilot	ROGER POSITIONING DEADSIDE TO JOIN CROSSWIND FOR RUNWAY 22 QNH 1013 HEADLAND AT 52 LOOKING FOR TRAFFIC PQR
 pilot	HEADLAND TRAFFIC KING AIR PQR 5-MILE FINAL RUNWAY 20 SUNNY BEACH

Figure 29: Aerodrome information service communications

3.11 Nomination and cancellation of SARTIME

3.11.1 The pilot of a VFR flight intending to use a SARTIME should provide ATS with the following details:

- call sign
- aircraft type
- departure point
- route to be flown
- destination
- POB
- SARTIME.

Note: Only one SARTIME may be current at any time. To prevent the existence of multiple SARTIMEs for aircraft used by more than one pilot, SARTIMEs should be nominated immediately before the start of each flight.

3.11.2 Having nominated a SARTIME, the pilot of a VFR flight must ensure that the SARTIME is cancelled on completion of the flight.

3.11.3 Figure 30 shows examples of a SARTIME nominated and cancelled.

Communicator	Communication
 pilot	FLIGHTWATCH JRG SARTIME DETAILS
 AGS	JRG FLIGHTWATCH
 pilot	CESSNA 172 JRG MONTVILLE DIRECT TO MINETOWN POB 2 SARTIME FOR ARRIVAL MINETOWN 0530
 AGS	JRG ROGER SARTIME FOR ARRIVAL MINETOWN 0530

Communicator	Communication
 pilot	CENTRE JRG LANDED MINETOWN CANCEL SARTIME
 ATS	JRG CENTRE MINETOWN SARTIME CANCELLED

Figure 30: Nominating and cancelling a SARTIME

3.12 Initiation or extension of SARWATCH other than SARTIME

3.12.1 SARWATCH for IFR flights is automatically initiated on first contact with ATC, either taxiing or on departure. No special radiotelephony phrase is used.

3.12.2 As shown in Figure 31 below, pilots of IFR flights conducting local training, an instrument approach, or a holding pattern, may extend their SARWATCH by advising intention to report normal operations at scheduled times.

Communicator	Communication
 pilot	CENTRE PQR CONDUCTING AIRWORK 20 MILE RADIUS OF MONTVILLE SURFACE TO 4,000 OPS NORMAL TIME 30
 ATS	PQR CENTRE NO REPORTED IFR TRAFFIC COPY OPS NORMAL TIME 30
 pilot	PQR

Figure 31: Extending SARWATCH time

3.13 Cancellation of SARWATCH other than SARTIME

3.13.1 As shown in the examples in Figure 32, when cancelling SARWATCH, pilots must include in the transmission:

- the aircraft radio call sign
- place of arrival or point from which SARWATCH services are no longer required
- the words ‘CANCEL SARWATCH’
- If appropriate when communicating with a unit other than the unit with which SARWATCH was nominated — the name of the ATS unit to which the report should be relayed.

Communicator	Communication
 pilot	CENTRE FASTAIR 345 LANDED MINETOWN CANCEL SARWATCH

Communicator	Communication
 ATS	FASTAIR 345 CENTRE MINETOWN SARWATCH TERMINATED
 pilot	BRISBANE RADIO 8843 PQR LANDED MINETOWN CANCEL SARWATCH
 AGS	PQR BRISBANE RADIO SARWATCH CANCELLED WILCO {The radio operator will then pass this information to the appropriate authority to cancel SARWATCH}

Figure 32: Cancelling SARWATCH

3.14 SARTIME for departure

3.14.1 A pilot of an IFR flight may nominate a SARTIME for departure either as part of the arrival report or when submitting flight notification by the phrase ‘SARTIME FOR DEPARTURE’.

3.14.2 An IFR departure report is not sufficient to cancel a SARTIME for departure. Pilots who have nominated a SARTIME for departure must use the phrase ‘CANCEL SARTIME FOR DEPARTURE’ with the departure report.

3.14.3 Figure 33 shows examples of nominating and cancelling a SARTIME for departure.

Communicator	Communication
 pilot	CENTRE PQR CIRCUIT AREA RIDGEVILLE CANCEL SARWATCH SARTIME FOR DEPARTURE 0230
 ATS	PQR RIDGEVILLE SARWATCH TERMINATED SARTIME FOR DEPARTURE 0230
 pilot	CAPRICORN CENTRE PQR DEPARTURE
 ATS	PQR CAPRICORN CENTRE
 pilot	PQR CANCEL SARTIME FOR DEPARTURE DEPARTED RIDGEVILLE AT 20 TRACKING DIRECT MINETOWN CLIMBING TO 8,000 ESTIMATING MAKIR AT 50
 ATS	PQR SARTIME FOR DEPARTURE CANCELLED NO REPORTED IFR TRAFFIC AREA QNH 1011

Communicator	Communication
 pilot	AREA QNH 1011 PQR

Figure 33: Nominating and cancelling a SARTIME for departure

3.15 Non-controlled aerodromes with a UNICOM

3.15.1 Some aerodromes may have a UNICOM, a non-ATS communications service provided to enhance the value of information normally available about a non-controlled aerodrome. A UNICOM typically provides information of a general nature, including information about the aerodrome, basic information on traffic, and basic weather reports. A UNICOM may be temporarily activated to cover a special event at a non-controlled aerodrome. Figure 34 shows a typical radiotelephony exchange between a pilot and a UNICOM.

Communicator	COMMUNICATION
 pilot	{for a special flying event} MOUNT HARBOUR UNICOM CESSNA 172 JRG AT THE DAM 1,000
 AGS	JRG MOUNT HARBOUR UNICOM RUNWAY 14 IN USE QNH 1013 A CHEROKEE AND A JABIRU AHEAD TO LAND
 pilot	RUNWAY 14 QNH 1013 JRG
 pilot	BROWNIE UNICOM CESSNA 172 JRG
 AGS	JRG BROWNIE UNICOM
 pilot	JRG 9 MILES SOUTHEAST FOR LANDING ETA 15 PLEASE ARRANGE FOR THE BOWSER TO MEET ME
 AGS	JRG WILCO

Figure 34: Communication exchange with UNICOM

4 General principles in controlled airspace

4.1 Read back requirements

4.1.1 Section 11.12 of the Part 91 Manual of Standards (MOS) requires a pilot to read back the safety-related parts of any ATC clearance or instruction.

4.1.2 The following parts of a relevant ATC clearance or instruction must always be read back to ATC:

a. ATC route clearances, including any amendments

> **Note:** ATC route clearances include departure, en route, arrival and approach clearances.

b. en route holding instructions

c. route and runway-holding positions specified in a taxi clearance

d. clearances, conditional clearances and instructions to taxi on, enter, line up on, wait on, land on, take off from, hold short of, cross, or backtrack on, any runway

e. the assigned runway or HLS, altimeter settings, Mode A transponder codes, data link logon addresses, altitude instructions, heading and speed instructions

f. radio frequency instructions.

4.1.3 A pilot should acknowledge messages that do not require a read back by transmitting the flight call sign.

4.1.4 For instructions not requiring specific read back, a pilot must acknowledge receipt in a manner that clearly indicates the instructions have been understood and accepted. ‘WILCO’ or ‘ROGER’ suffices in this case.

4.1.5 A read back should be made or requested to verify receipt of an instruction if there is difficulty in reading a transmission.

4.1.6 ATC will listen to the read back to ascertain that the clearance or instruction has been correctly acknowledged and will take immediate action to correct any discrepancies revealed by the read back.

4.1.7 Figure 35 shows examples of communications with associated read backs.

Communicator	Communication
 ATS	JRG QNH 1003
 pilot	QNH 1003 JRG
 ATS	PQR CONTACT GROUND 121.9
 pilot	GROUND 121.9 PQR

Communicator	Communication
 ATS	JABIRU 1346 REPORT PASSING 1,500
 pilot	WILCO JABIRU 1346
 ATS	RST CONTROL SERVICES TERMINATED FREQUENCY CHANGE APPROVED
 pilot	RST
 ATS	JRG CLEARED TO GASTOWN VIA BAVEM FLIGHT PLANNED ROUTE 4,500 SQUAWK 4330
 pilot	GASTOWN VIA BAVEM FLIGHT PLANNED ROUTE 4,500 SQUAWK 4330 JRG

Figure 35: Clearances, instructions and read backs

4.1.8 Figure 36 shows that when a read back is incorrect, the responsible station should transmit the word ‘NEGATIVE’ followed by the correct version.

Communicator	Communication
 ATS	JRG QNH 1003
 pilot	QNH 1013 JRG
 ATS	JRG NEGATIVE QNH 1003
 pilot	QNH 1003 JRG

Figure 36: Incorrect read back

4.1.9 If unable to comply with a clearance or instruction, the pilot should advise the controller using the word ‘UNABLE’ and give the reasons where appropriate. Figure 37 is an example of this.

Communicator	Communication
 ATS	FASTAIR 345 ADVISE IF ABLE TO CROSS SUNNYTOWN AT FLIGHT LEVEL 290
 pilot	FASTAIR 345 UNABLE DUE WEIGHT

Figure 37: Unable to comply

4.1.10 As illustrated in Figure 38, if an ATC clearance, information or instruction must be relayed from ATC to a flight via another flight:

- the relaying party must read back the entire message content to the originator
- key elements of the subsequently relayed message must be read back to the relaying party in accordance with paragraph 4.1.1 and 4.1.2 above.

Communicator	Communication
 ATS	JRG CAPRICORN CENTRE FOR RELAY TO FASTAIR 345 CLIMB TO REACH FLIGHT LEVEL 370 BY UPTOWN
 pilot	JRG FOR FASTAIR 345 CLIMB TO REACH FLIGHT LEVEL 370 BY UPTOWN
 pilot - relaying	FASTAIR 345 JRG CAPRICORN CENTRE CLEARS FASTAIR 345 CLIMB TO REACH FLIGHT LEVEL 370 BY UPTOWN
 pilot - receiving	CLIMB TO REACH FLIGHT LEVEL 370 BY UPTOWN FASTAIR 345
 pilot - relaying	CAPRICORN CENTRE JRG FASTAIR 345 WILCO

Figure 38: Relay

4.2 Amended route or level

4.2.1 When ATS provide an initial airways clearance that is not in accordance with the details currently held by ATC system, ATS will prefix the route and/or cruising level details with the word ‘amended’.

4.2.2 When an issued airways route clearance needs to be changed ATS will prefix the new route with the word ‘RECLEARED’. The level will be stated in all clearance changes regardless of whether there is a change to the cleared level. Figure 39 shows examples of amended clearances and amendments to clearances.

4.2.3 The prefixes ‘AMENDED’ and ‘RECLEARED’ are not used:

a. for SID or STAR clearances

or

b. during normal progressive climb/descent instructions.

4.2.4 If an airways clearance is amended en route, the phrase ‘REST OF CLEARANCE UNCHANGED’ may be used to indicate that the amended route rejoins the original route clearance at the last point specified and the remainder of the clearance remains the same as previously issued.

Communicator	Communication
 ATS	JRG CLEARED TO GASTOWN VIA BAVEM FLIGHT PLANNED ROUTE 4,500 SQUAWK 4330
 pilot	GASTOWN VIA BAVEM FLIGHT PLANNED ROUTE 4,500 SQUAWK 4330 JRG
 ATS	*Later:* JRG RECLEARED DIRECT GASTOWN 4,500
 pilot	DIRECT GASTOWN 4,500 JRG

Figure 39: Amended clearance or recleared

4.3 Level instructions

4.3.1 ‘Level’ is a general term used when referring to altitude or flight level.

4.3.2 Only basic level instructions are detailed in this section. More comprehensive phrases are contained in subsequent parts of the document, in the context in which they are commonly used.

4.3.3 The precise phraseology used in the transmission and acknowledgement of climb and descent clearances will vary, depending upon the circumstances, traffic density, and nature of the flight operations. Care must be taken to ensure that misunderstandings are not generated by the phraseology employed during these phases of flight.

4.3.4 When ATC asks a pilot to ‘REPORT LEVEL', or ‘VERIFY LEVEL', the pilot should report the current level of the aircraft to the nearest 100 feet. However, when asked to ‘REPORT LAST VACATED LEVEL' this should be the last 100-foo interval the aircraft has passed. This is because ATC may apply a vertical separation based on the reported level.

4.3.5 When ATC asks a pilot to report ‘PASSING' a level, the pilot should only report once the aircraft has definitely passed the level requested. This report may used by ATC to apply vertical separation.

4.3.6 The word ‘maintain’ should not be used in an instruction to change level. For level changes, the appropriate phrases are ‘DESCEND TO’ or ‘CLIMB TO’ (as the case may be). However, when there is an expectation that the aircraft will maintain the level or to eliminate confusion, the instruction ‘AND MAINTAIN’ may be included in a climb or descent instruction.

4.3.7 A level instruction may be conditional. For example:

- require a certain rate of climb or descent
- to reach or pass a certain level before a time or point
- restrict level change until after a certain time or point.

4.3.8 In the examples in Figure 40 below, the operations of climbing and descending are interchangeable and examples of only one form are given.

Communicator	Communication
ATS	PQR CLIMB TO FLIGHT LEVEL 110
pilot	CLIMB TO FLIGHT LEVEL 110 PQR
ATS	PQR MAINTAIN 2,500
pilot	MAINTAIN 2,500 PQR
ATS	PQR REPORT PRESENT LEVEL *or* PQR REPORT LEVEL
pilot	PQR PASSING 9,000
ATS	PQR REPORT PASSING 10,000
pilot	WILCO PQR
pilot	PQR PASSING 10,000
ATS	FASTAIR 345 AFTER PASSING BLITY DESCEND TO FLIGHT LEVEL 180
pilot	AFTER PASSING BLITY DESCEND TO FLIGHT LEVEL 180 FASTAIR 345
ATS	FASTAIR 345 DESCEND AT NOT LESS THAN 500 FEET PER MINUTE
pilot	DESCEND AT NOT LESS THAN 500 FEET PER MINUTE FASTAIR 345

Figure 40: Basic level instructions

4.3.9 As illustrated in Figure 41, once given an instruction to climb or descend, a further overriding instruction may be given to a pilot.

Communicator	Communication
ATS	PQR STOP DESCENT AT FLIGHT LEVEL 150

Communicator	Communication
 pilot	STOP DESCENT AT FLIGHT LEVEL 150 PQR
 ATS	JRG CONTINUE CLIMB TO 4,500
 pilot	CLIMB TO 4,500 JRG
 ATS	FASTAIR 345 RECLEARED FLIGHT LEVEL 320
 pilot	RECLEARED FLIGHT LEVEL 320 FASTAIR 345

Figure 41: Overriding level instructions

4.3.10 Occasionally, for traffic reasons, a higher-than-normal rate of climb or descent may be required. Figure 42 shows typical radiotelephony exchanges.

Communicator	Communication
 ATS	FASTAIR 345 EXPEDITE DESCENT TO FLIGHT LEVEL 180
 pilot	WILCO FASTAIR 345
 ATS	FASTAIR 345 CLIMB TO FLIGHT LEVEL 240 EXPEDITE UNTIL PASSING FLIGHT LEVEL 180
 pilot	CLIMB TO FLIGHT LEVEL 240 WILCO FASTAIR 345

Figure 42: Expedited level changes

4.3.11 ATC may provide vertical separation between two climbing (or descending) aircraft, not otherwise separated, using a step-climb/step descent. This reduces the amount of radio transmissions that would otherwise be required in this situation. Instead of specifying a descent rate, ATC may also instruct a domestic pilot to carry out the procedure at ‘STANDARD RATE’. Figure 43 shows an example of a step descent operation.

Communicator	Communication
 ATS	FASTAIR 345 STEP DESCENT AT NOT LESS THAN 1,000 FEET PER MINUTE WITH BIGJET 123 ABOVE DESCEND TO 3,000
 pilot	STEP DESCENT AT NOT LESS THAN 1,000 FEET PER MINUTE DESCEND TO 3000 LEAVING 8,000 FASTAIR 345

Communicator	Communication
ATS	BIGJET 123 STEP DESCENT AT NOT MORE THAN 1,000 FEET PER MINUTE WITH FASTAIR 345 BELOW DESCEND TO 8,000
pilot	STEP DESCENT AT NOT MORE THAN 1,000 FEET PER MINUTE DESCEND TO 8,000 BIGJET 123
pilot	BIGJET 123 APPROACHING 8,000
pilot	FASTAIR 345 LEFT 6,000
ATS	BIGJET 123 DESCEND TO 6,000
pilot	DESCEND TO 6,000 BIGJET 123
ATS	Later… FASTAIR 345 AND BIGJET 123, CANCEL STEP DESCENT
pilot	FASTAIR 345
pilot	BIGJET 123

Figure 43: Step descent

4.4 Use of the word ‘require’

4.4.1 A pilot should use the word ‘REQUIRE’ to notify ATC if a particular operation, runway or other matter is essential to the safe operation of the aircraft. Figure 44 is an example of the use of ‘REQUIRE’.

Note: If the operation, runway or matter is not essential then pilots should use the word ‘REQUEST'.

Communicator	Communication
ATS	JRGTHE TAILWIND ON RUNWAY 34 IS INCREASING TO 8 KNOTS ARE YOU ABLE TO CONTINUE APPROACH OR WOULD YOU PREFER RUNWAY 16?
pilot	JRG REQUIRE RUNWAY 16
ATS	JRG REPOSITION RIGHT DOWNWIND FOR RUNWAY 16

Communicator	Communication
 pilot	RIGHT DOWNWIND RUNWAY 16 JRG

Figure 44: Use of ‘require’

4.5 Essential traffic

4.5.1 ATC issues essential traffic information, among other circumstances, if two controlled flights are not separated by an appropriate separation minimum and separation between those flights is normally required. Essential traffic includes flights which are maintaining own separation and flights affected by a pilot responding to a TCAS RA.

4.5.2 Essential traffic information may include:

a. direction of flight of aircraft concerned

b. type and wake turbulence category (if relevant) of aircraft concerned

c. cruising level of aircraft concerned

d. estimated time over the reporting point or place where the aircraft's flight paths are expected to cross

e. disposition of the traffic in terms of:

i. relative bearing of the aircraft concerned in terms of the 12-hour clock

or

ii. distance from the actual or estimated position of the aircraft concerned

or

iii. actual or estimated position of the aircraft concerned

or

iv. for parallel runway operations, the runway being used by the aircraft concerned.

4.5.3 As shown in Figure 45, messages containing essential traffic information is preceded by ‘TRAFFIC’. The phrase ‘ADDITIONAL TRAFFIC’ is used when information on additional aircraft is passed.

4.5.4 Priority traffic information (except in response to a TCAS RA report) will be prefixed ‘SAFETY ALERT, TRAFFIC', or in surveillance-controlled airspace as part of an ‘AVOIDING ACTION' call. See Section 9.8 for examples of safety alerts.

Communicator	Communication
 ATS	PQR TRAFFIC 12 O'CLOCK 3 NM JRG CESSNA 172 CONDUCTING AIR WORK 5 MILES NORTHEAST OF SMALLVILLE 5,500 AND BELOW
 pilot	LOOKING PQR … PQR TRAFFIC IN SIGHT

Figure 45: Traffic information

4.6 Speed control

4.6.1 ATC may issue a variety of speed control instructions to ensure separation or to efficiently process the flow of air traffic. Figure 46 shows examples of speed control instructions.

Communicator	Communication
 ATS	FASTAIR 345 REPORT SPEED
 pilot	FASTAIR 345 SPEED 250 KNOTS
 ATS	FASTAIR 345 REDUCE SPEED TO 210 KNOTS
 pilot	REDUCE TO 210 KNOTS FASTAIR 345
 ATS	FASTAIR 345 MAINTAIN MACH DECIMAL EIGHT-FOUR OR GREATER.
 pilot	MACH DECIMAL EIGHT-FOUR OR GREATER FASTAIR 345

Figure 46: Speed control instructions

4.6.2 Table 34 lists the phrases used for imposition and relaxation of speed control measures.

Table 34: Speed control phrases

Phrase	Meaning
'REDUCE TO MINIMUM APPROACH SPEED'	Reduce to minimum speed with landing flaps and gear extended.
'REDUCE TO MINIMUM CLEAN SPEED'	Reduce speed to the minimum possible in a clean configuration.
'RESUME NORMAL SPEED'	1. ATC-issued speed restriction no longer applies and no published SID or STAR speed currently applies. 2. Comply with airspace speed limitations and all subsequent published speed restrictions. **Note:** Normal speed is the speed the aircraft would be maintaining had it not been issued an ATC speed restriction.
'NO ATC SPEED RESTRICTIONS'	1. ATC-issued speed restriction no longer applies. 2. Comply with airspace speed limitations. **Note:** ATC does not use this phrase during a SID or STAR operations. Instead see the relevant phrases in section 6.2 and 6.7.
'NO SPEED RESTRICTIONS'	All airspace and ATC speed restrictions are cancelled.

Phrase	Meaning
	Note: ATC does not use this phrase during a SID or STAR operations. Instead see the relevant phrases in section 6.2 and 6.7.

4.7 Change of flight rules

4.7.1 During a flight a pilot may change from IFR to VFR or VFR to IFR. Any changes to the flight plan are to be included in the message. Figure 47 shows typical phraseology for this purpose.

Note: This action does not terminate a flight plan.

Communicator	Communication
pilot	PQR CANCEL IFR REQUEST DESCENT TO TRACK VIA LAKE DAM AND DAMTOWN TO CENTRALTOWN SARTIME FOR ARRIVAL 0645
ATS	PQR IFR CANCELLED OPERATE VFR LEAVE CONTROLLED AIRSPACE DESCENDING REPORT PASSING 9,500 COPIED SARTIME 0645
pilot	OPERATE VFR LEAVE CONTROLLED AIRSPACE DESCENDING WILCO PQR
pilot	PQR CHANGE OF FLIGHT RULES REQUEST IFR CLEARANCE AT CENTRALTOWN THEN DIRECT THORNHILL 8,000 ESTIMATE THORNHILL 47
ATS	PQR OPERATE IFR CLEARED CENTRALTOWN DIRECT THORNHILL 8,000
pilot	OPERATE IFR CENTRALTOWN DIRECT THORNHILL 8,000 PQR

Figure 47: Changing flight rules

4.8 Holding

4.8.1 Details of joining and holding procedures are contained in AIP ENR 1.5. Generally, ATC does not use the phrase ‘NO DELAY EXPECTED’, except in response to direct enquiry about expected holding delay. Figure 48 shows examples of holding instructions.

Communicator	Communication
ATS	FASTAIR 345 HOLD AT POKOM FLIGHT LEVEL 150 EXPECT FURTHER CLEARANCE AT 24
pilot	HOLD AT POKOM FLIGHT LEVEL 150 FASTAIR 345
ATS	PQR HOLD AT UPDUR MAINTAIN 6,000 EXPECTED APPROACH TIME 15
pilot	HOLD AT UPDUR 6,000 PQR
ATS	PQR HOLD AT SMALDO 8,000
pilot	PQR REQUEST SMALDO HOLDING INSTRUCTIONS
ATS	PQR HOLD AT SMALDO INBOUND TRACK 090 DEGREES RIGHT HAND PATTERN OUTBOUND TIME 2 MINUTES MAINTAIN 8,000 EXPECT FURTHER CLEARANCE AT 45
pilot	HOLD AT SMALDO INBOUND TRACK 090 DEGREES RIGHT HAND PATTERN OUTBOUND TIME 2 MINUTES 8,000 PQR

Figure 48: Holding instructions

4.9 Air traffic flow management

4.9.1 Some major airports within Australia may apply Air Traffic Flow Management (AFTM) to manage demand and capacity. ATFM may include management initiatives such as a Ground Delay Program (GDP) and Airport Collaborative Decision Making (A-CDM).

4.9.2 Table 35 shows a variety of radiotelephony communications typically used in ATFM operations.

Table 35: ATFM phraseologies

Situation	Radiotelephony
Calculated Off Block Time (COBT) non-compliance - early request for clearance	FASTAIR 345 PUSH BACK CLEARANCE NOT AVAILABLE DUE FLOW MANAGEMENT EXPECT CLEARANCE AT 55
COBT non-compliance - late request for clearance	PQR YOU ARE NON-COMPLIANT WITH FLOW MANAGEMENT EXPECT AIRBORNE DELAY

Situation	Radiotelephony
Target Off Block Time (TOBT) and Target Start-up Approval Time (TSAT) compliant	FASTAIR 345 PUSHBACK (or START) APPROVED STAND BY FOR GROUND 121.9
TOBT and/or TSAT non-compliant – early request for clearance	PQR START CLEARANCE NOT AVAILABLE DUE FLOW MANAGEMENT EXPECT START AT 10
TOBT non-compliant - late request for clearance	FASTAIR 345 YOU ARE NON-COMPLIANT WITH FLOW MANAGEMENT CONTACT COMPANY FOR NEW TOBT

4.10 Position reports to ATS

4.10.1 A position report normally comprises:

a. aircraft identification

b. position

c. time

d. level

e. next position and ETA.

4.10.2 Position reporting procedures are set out in AIP ENR 1.1. Figure 49 shows examples of position reports at different stages of flight.

Communicator	Communication
 pilot	JRG LAKETOWN 35 6,500 BATTLETOWN 58
 ATS	JRG AREA QNH 1024
 pilot	QNH 1024 JRG
 pilot	JRG DEPARTED BOPTOWN AT 2244 5,500 DIRECT LAKETOWN LAKETOWN 2325 AMEND SARTIME TO 2355
 ATS	JRG AREA QNH 1014 ROGER SARTIME 2355
 pilot	AREA QNH 1014 JRG
 pilot	JRG SQUAWKING 4321 BEACHTOWN 2,500

Communicator	Communication
	REQUEST CLEARANCE TO CAPE SCOT 4,500
ATS	JRG IDENTIFIED 4,500 NOT AVAILABLE DUE TRAFFIC ENTER CONTROLLED AIRSPACE ON TRACK BEACHTOWN TO CAPE SCOT MAINTAIN 2,500 QNH 1010
pilot	ENTER CONTROLLED AIRSPACE ON TRACK BEACHTOWN TO CAPE SCOT MAINTAIN 2,500 QNH 1010 JRG
pilot	JRG POINTTOWN 1,500 REQUEST CLEARANCE TO MOUNT HARBOUR FOR TOUCH AND GO THEN ONWARDS TO LAKETOWN
ATS	JRG TRACK TO MOUNT HARBOUR ENTRANCE MAINTAIN 1,500 RUNWAY 31 QNH 1018 REPORT AT MOUNT HARBOUR ENTRANCE
pilot	MOUNT HARBOUR ENTRANCE 1,500 RUNWAY 31 QNH 1018 WILCO JRG
pilot	THORNHILL APPROACH FASTAIR 345 PASSING 1500 CLIMBING TO FLIGHT LEVEL 330
pilot	PQR DEPARTED SMALLTOWN TIME 18 PASSING 4,000 CLIMBING TO FLIGHT LEVEL 170 ESTIMATING KELSO AT 33
pilot	CAPRICORN CENTRE FASTAIR 345 POSITION
ATS	FASTAIR 345 CAPRICORN CENTRE
pilot	FASTAIR 345 GASTOWN 14 FLIGHT LEVEL 340 SUNNYTOWN 33
ATS	FASTAIR 345

Figure 49: Position reports - IFR

4.10.3 Where distance information is provided in a position report, the distance reference should be included. Figure 50 shows examples of reports about distance.

Communicator	Communication
 pilot	FASTAIR 345 20 DME FROM TOURISTOWN
 pilot	FASTAIR 345 31 GNSS FROM DECOTOWN
 ATS	FASTAIR 345 REPORT 45 GNSS FROM DECOTOWN
 pilot	FASTAIR 345 3 MILES FROM FINAL APPROACH FIX

Figure 50: Distance reports

4.11 GNSS operating integrity

4.11.1 Flight operations and air traffic services, in particular aircraft separation, are critically dependent on accurate aircraft navigation and position fixing. ATS should be notified of any loss of GNSS integrity due to loss of RAIM or RAIM ALERT or any inability to comply with RNP.

4.11.2 Figure 51 shows examples of phraseology relating to GNSS availability, loss of RAIM or unable RNP.

Communicator	Communication
 ATS	PQR REPORT GNSS DISTANCE BRIDGETOWN
 pilot	PQR 26 GNSS BRIDGETOWN NEGATIVE RAIM
 ATS	PQR CONFIRM GNSS NAVIGATION
 pilot	PQR AFFIRM GNSS NAVIGATION *or* PQR GNSS UNAVAILABLE LOSS OF RAIM
 pilot	FASTAIR 345 UNABLE RNP RAIM ALERT
 ATS	FASTAIR 345 ROGER
 pilot	PQR GNSS AVAILABLE

Communicator	Communication
ATS	FASTAIR 345 ROGER

Figure 51: GNSS availability, loss of RAIM or unable RNP

4.12 Automatic Dependent Surveillance - Contract and Controller-Pilot Datalink Communications

4.12.1 As shown in Figure 52, ATC will use voice communications to tell when the Automatic Dependent Surveillance - Contract (ADS-C) services are degraded.

Communicator	Communication
ATS	FASTAIR 345 ADS-C OUT OF SERVICE *or* FASTAIR 345 ADS-CONTRACT OUT OF SERVICE
pilot	FASTAIR 345

Figure 52: ADS-C out of service

4.12.2 Figure 53 shows typical voice communications relating to the status of Controller-Pilot Datalink Communications (CPDLC).

Communicator	Communication
ATS	ALL STATIONS CPDLC FAILURE ALL COMMUNICATIONS ON HF BRISBANE RADIO 8867
ATS	FASTAIR 345 DISREGARD CPDLC CLIMB MESSAGE BREAK CLIMB TO FLIGHT LEVEL 350
ATS	ALL STATIONS RESUME NORMAL CPDLC OPERATIONS
ATS	FASTAIR 345 DISCONNECT CPDLC THEN LOGON TO YANKEE BRAVO BRAVO BRAVO

Figure 53: CPDLC status

5 Operations at a controlled aerodrome

5.1 Automatic Terminal Information Service (ATIS)

5.1.1 At controlled aerodromes, operational information required by aircraft for take-off or landing is broadcast via ATIS on a dedicated frequency or on the voice channel of radio navigation aids. Figure 54 shows a typical example.

Communicator	Communication
 ATS	CAPRICORN TERMINAL INFORMATION ALFA TIME 0850 EXPECT ILS APPROACH RUNWAYS 21 LEFT AND RIGHT WIND 240 DEGREES 12 KNOTS VISIBILITY 5,000 METRES IN RAIN CLOUD SCATTERED AT 1,000, OVERCAST AT 1,800 TEMPERATURE 12 QNH 1011 ON FIRST CONTACT WITH GROUND OR APPROACH NOTIFY RECEIPT OF ALFA

Figure 54: Typical ATIS broadcast

5.1.2 Outside the hours of tower activation, operational information of an unchanging nature may be broadcast over ATIS.

5.1.3 Pilots are expected, on first contact with the unit providing surface movement or approach control services, to acknowledge receipt of current information by quoting the code letter of the broadcast.

5.1.4 At non-controlled aerodromes with an AFIS or CA/GRS, essential aerodrome information may be provided by an Automatic Aerodrome Information Service (AAIS) broadcast on a dedicated frequency (similar to ATIS).

5.2 Departure information

5.2.1 Where ATIS is not available the pilot may ask for current aerodrome information before requesting airways clearance. Figure 55 shows a typical exchange.

Communicator	Communication
 pilot	THORNHILL TOWER KINGAIR PQR REQUEST DEPARTURE INFORMATION
 ATS	PQR THORNHILL TOWER RUNWAY 28 WIND 290 DEGREES 14 KNOTS QNH 1022 TEMPERATURE 21

Communicator	Communication
 pilot	QNH 1022 JRG

Figure 55: Pre-departure information

5.3 Airways Clearances

5.3.1 An airways clearance is a clearance, issued by ATC, to operate in controlled airspace along a designated track or route at a specified level to a specified point or flight planned destination. An airways clearance is not an instruction or permission to take-off or to enter an active runway.

5.3.2 ATC will append the phrase ‘FLIGHT PLANNED ROUTE’ to the initial airways clearance if the route after the initial waypoint is identical to that filed in the flight notification. Figure 56 shows an example of an airways clearance.

Communicator	Communication
 ATS	JRG CLEARED TO GASTOWN VIA BAVEM FLIGHT PLANNED ROUTE 4,500 SQUAWK 4330
 pilot	GASTOWN VIA BAVEM FLIGHT PLANNED ROUTE 4,500 SQUAWK 4330 JRG
 ATS	FASTAIR 345 CLEARED TO LOS ANGELES VIA BOLDO FLIGHT PLANNED ROUTE BOLDO FOUR DEPARTURE CLIMB VIA SID TO 8,000 SQUAWK 4561
 pilot	CLEARED TO LOS ANGELES VIA BOLDO FLIGHT PLANNED ROUTE BOLDO FOUR DEPARTURE CLIMB VIA SID TO 8,000 SQUAWK 4561 FASTAIR 345

Figure 56: Airways clearance

5.3.3 Any airways clearance with a SID will include a level assignment prefixed by the key phrase ‘CLIMB VIA SID’. This reinforces the need for the flight to comply with speed and level restrictions specified for the SID procedure.

5.3.4 At aerodromes with Airways Clearance Delivery (ACD), where a pre-departure clearance (PDC) has not been received, pilots should contact clearance delivery for their airways clearance.

5.4 Departing or arriving without flight notification

5.4.1 VFR flights should normally submit a flight notification for operations to or from controlled aerodromes. However, if departing without submitting a flight notification, a pilot should initiate contact with ATC with aircraft call sign and:

- ‘DEPARTURE DETAILS’
- ‘TRAINING AREA DETAILS’
- ‘CIRCUIT DETAILS’ (as appropriate)

and then await a response from ATC before making the full request.

5.4.2 Similarly, an airborne aircraft in non-controlled airspace may contact ATC to pass ‘FLIGHT DETAILS INBOUND’ or ‘FOR TRANSIT’ and request clearance.

5.4.3 Figure 57 shows examples for both departing and arriving flights.

Note: The phraseologies in this subsection do not apply at Class D aerodromes in capital city locations. For these aerodromes, see section 5.8.1 of this AC.

Communicator	Communication
 pilot	SUNSHINE TOWER JRG DEPARTURE DETAILS
 ATS	JRG SUNSHINE TOWER
 pilot	JRG VFR TO WESTVILLE VIA THE BLUFF 1,500 INFORMATION ALFA REQUEST TAXI
 ATS	JRG CLEARED TO THE BLUFF 1,500 SQUAWK 5432 TAXI TO HOLDING POINT ALFA, RUNWAY 07
 pilot	CLEARED TO THE BLUFF 1,500 SQUAWK 5432 HOLDING POINT ALFA, RUNWAY 07 JRG
 pilot	SUNSHINE TOWER JRG FLIGHT DETAILS INBOUND
 ATS	JRG SUNSHINE TOWER
 pilot	CESSNA 172 JRG 5 MILES NORTH OF POINT HOCKS 2,500 INBOUND INFORMATION ECHO
 ATS	JRG CLEARED POINT HOCKS DIRECT TO SUNSHINE 2,500
 pilot	POINT HOCKS DIRECT TO SUNSHINE 2,500 JRG

Figure 57: Departing or arriving aircraft– no details

5.5 Taxi instructions

5.5.1 In all cases, pilots of departing aircraft must state the location of the aircraft when requesting engine start, push back, or taxi clearance.

5.5.2 A departing flight wishing to operate off a non-duty runway should request this on first contact with ATC, be it the start, pushback, or taxi request.

5.5.3 Pilots of civil VFR training flights should advise ‘DUAL’ or ‘SOLO’, as appropriate, when requesting clearance.

5.5.4 Requests for a reduced length for take-off or backtrack from a runway entry point must be included in the request for taxi clearance, along with any other intentions of a pilot which are significant to ATC.

5.5.5 Taxi instructions issued by a controller will always contain a clearance limit, which is the point at which the aircraft must stop unless further permission to proceed is given. The clearance limit may not necessarily be a position from which an aircraft can enter the runway for departure, or enter the apron, but may be some other position on the aerodrome depending on prevailing circumstances. Taxi instructions may also include a taxi route.

5.5.6 A taxi clearance will not include positions beyond a required holding position.

5.5.7 A pilot must receive an explicit instruction from ATC before entering or crossing ANY runway, even if that runway is not currently in use for take-off or landing. Accordingly, specific ATC instruction is required:

- After landing, if intending to vacate the landing runway onto another runway.
- If the taxi route to the departure runway crosses a runway,
- When issuing clearances to aircraft to cross a runway, ATC may require a pilot to report when the aircraft has vacated the runway.

5.5.8 Figure 58 shows examples of different forms of taxi instructions.

Communicator	Communication
 pilot	FASTAIR 345 HEAVY BAY 2 INFORMATION CHARLIE REQUEST TAXI
 ATS	FASTAIR 345 HEAVY TAXI TO HOLDING POINT GOLF ONE VIA ALFA
 pilot	HOLDING POINT GOLF ONE VIA ALFA FASTAIR 345
 pilot	SUBURBS TOWER JRG, CESSNA 172 SOUTH SIDE OF THE HANGARS FOR CIRCUITS SOLO REQUEST TAXI INFORMATION DELTA
 ATS	JRG TAXI TO HOLDING POINT ALFA FIVE, RUNWAY 26 RIGHT
 pilot	HOLDING POINT ALFA FIVE, RUNWAY 26 RIGHT JRG

Communicator	Communication
 pilot	SUBURBS TOWER JRG, CESSNA 172 SOUTH SIDE OF THE HANGARS FOR THE TRAINING AREA DUAL REQUEST TAXI INFORMATION ECHO
 ATS	JRG TAXI TO HOLDING POINT ALFA FIVE, RUNWAY 26 LEFT
 pilot	JRG REQUEST RUNWAY 20
 ATS	JRG BEHIND THE SENECA ON YOUR LEFT TAXI TO HOLDING POINT MIKE CHANGE OF RUNWAY 20
 pilot	BEHIND THE SENECA TAXI TO HOLDING POINT MIKE RUNWAY 20 JRG
 ATS	JRG AT ALFA FIVE, CROSS RUNWAY 26 RIGHT
 pilot	AT ALFA FIVE, CROSS RUNWAY 26 RIGHT JRG
 pilot	SUBURBS TOWER JRG, CESSNA 172 INFORMATION BRAVO REQUEST TAXI
 ATS	JRG SUBURBS TOWER TAXI TO HOLDING POINT ALFA ONE RUNWAY 18 RIGHT VIA TAXIWAY ALPHA
 pilot	RUNWAY 18 RIGHT REQUEST INTERSECTION ALFA TWO
 ATS	JRG TAXI TO HOLDING POINT ALFA TWO
 pilot	TAXI TO HOLDING POINT ALFA TWO JRG
 ATS	PQR EXPEDITE TAXI TRAFFIC ON FINAL RUNWAY 14 REPORT RUNWAY VACATED
 pilot	EXPEDITING PQR
 pilot	PQR RUNWAY VACATED

Communicator	Communication
ATS	PQR

Figure 58: Taxi instructions

5.5.9 A pilot who is unsure about their taxi instructions should not hesitate to seek assistance from ATC. Figure 59 is an example of a pilot seeking and then receiving detailed taxi instructions.

Communicator	Communication
ATS	JRG TAXI TO HOLDING POINT ALFA ONE
pilot	JRG REQUEST DETAILED TAXI INSTRUCTIONS
ATS	JRG TURN LEFT ENTER TAXIWAY ALFA CONTINUE THE FULL LENGTH OF TAXIWAY ALFA ALFA ONE IS THE LAST HOLDING POINT ON THE RIGHT.
pilot	TURN LEFT ENTER TAXIWAY ALFA TO HOLDING POINT ALFA ONE JRG

Figure 59: Detailed taxi instructions

5.5.10 As shown in the example in Figure 60, where a flight acknowledges receipt of the ATIS broadcast or acknowledges receipt of conditions just recently broadcast to other aircraft, the controller does not need to pass departure information to the pilot when giving taxi instructions.

Communicator	Communication
pilot	CAPRICORN GROUND FASTAIR 345 BAY 6 REQUEST TAXI INFORMATION DELTA
ATS	FASTAIR 345 BEHIND THE BOEING 777 PASSING LEFT TO RIGHT TAXI TO HOLDING POINT ALFA ONE RUNWAY 29
pilot	BEHIND THE BOEING 777 TAXI TO HOLDING POINT ALFA ONE TRAFFIC IN SIGHT FASTAIR 345

Figure 60: No repeat of departure information

5.5.11 As shown in the examples in Figure 61, a flight may request or be offered departure from a runway intersection other than at the threshold.

Communicator	Communication
pilot	FASTAIR 345 INFORMATION ROMEO REQUEST TAXI

Communicator	Communication
	INTERSECTION DEPARTURE FROM BRAVO
 ATS	FASTAIR 345 TAXI TO HOLDING POINT BRAVO RUNWAY 29
 pilot	TAXI TO HOLDING POINT BRAVO RUNWAY 29 FASTAIR 345
 ATS	PQR INTERSECTION DEPARTURE AVAILABLE FROM CHARLIE 1,600 METRES REMAINING
 pilot	PQR ACCEPT CHARLIE INTERSECTION DEPARTURE
 ATS	PQR TAXI TO HOLDING POINT CHARLIE RUNWAY 29
 pilot	HOLDING POINT CHARLIE RUNWAY 29 PQR

Figure 61: Intersection departures

5.6 Pre-departure manoeuvring

5.6.1 At aerodromes with separate surface movement control (SMC) (‘Ground’) and aerodrome control (‘Tower’), aircraft should automatically change from the SMC frequency to the Tower frequency:

a. in the holding bay

or

b. close to, or at, the runway-holding position of the nominated runway, when ready for take-off.

5.6.2 As shown in Figure 62, SMC may sometimes initiate the transfer to Tower.

Communicator	Communication
 ATS	FASTAIR 345 CONTACT TOWER 118.1
 pilot	118.1 FASTAIR 345

Figure 62: Switching to Tower

5.6.3 Since misunderstandings in the granting and acknowledgement of take-off clearances can result in serious consequences, meticulous care has been taken to ensure that the phraseology to be employed during the pre-departure manoeuvres cannot be interpreted as a take-off clearance.

5.6.4 As far as practicable, pilots should carry out engine and other pre-take-off checks in time that the ready call can be made when approaching the holding point. Figure 63 shows an example.

5.6.5 Generally, ATC will only use the phrase ‘LINE UP AND WAIT’ if there may be a delay whilst in the lined-up position.

Communicator	Communication
 pilot	SUNSHINE TOWER PQR READY
 ATS	PQR SUNSHINE TOWER LINE UP *or* PQR SUNSHINE TOWER LINE UP AND WAIT
 pilot	LINE UP PQR *or* LINE UP AND WAIT PQR

Figure 63: Reporting ready

5.6.6 Conditional clearances affecting the active runway will only be used when both the pilot and the controller have the conflicting traffic in sight, and the traffic causing the conditional clearance is the first to pass the affected aircraft. In case of doubt, ATC may require a sighting report before issuing a conditional clearance. As shown in Figure 64, when the conditional clearance involves a departing aircraft and an arriving aircraft, or two departing aircraft, the clearance will be given as follows:

a. call sign

b. the condition

c. the clearance

d. a brief reiteration of the condition.

Communicator	Communication
 ATS	FASTAIR 345 BEHIND THE LANDING DASH 8 ON SHORT FINAL LINE UP AND WAIT BEHIND
 pilot	BEHIND THE LANDING DASH 8 LINE UP AND WAIT BEHIND FASTAIR 345
 ATS	FASTAIR 345 BEHIND THE DEPARTING 737 LINE UP BEHIND
 pilot	BEHIND THE DEPARTING 737 LINE UP BEHIND FASTAIR 345

Figure 64: Conditional clearances

5.7 Take-off procedures and departure instructions

5.7.1 Receipt of an airways clearance or a departure instruction is not an instruction or permission to take-off or to enter an active runway. The phrase ‘TAKE-OFF’ is only used by ATC to clear a flight for take-off, or to cancel a take-off clearance. In other situations, ATC and pilots should use different words such as ‘TORA’ (pronounced ‘TOR-AH’ - for communications about take-off run available), ‘DEPARTURE’, or ‘AIRBORNE’, as appropriate.

5.7.2 Figure 65 shows examples of take-off clearances. During multiple runway operations where the possibility of confusion exists, the runway designator will be stated. The runway designator may also be stated if it is necessary to emphasise the runway to be used. For parallel runway operations on discrete frequencies, at Class D aerodromes, the runway designator may be omitted.

Communicator	Communication
pilot	CAPRICORN TOWER FASTAIR 345 READY
ATS	FASTAIR 345 CAPRICORN TOWER CLEARED FOR TAKE-OFF
pilot	CLEARED FOR TAKE-OFF FASTAIR 345
ATS	FASTAIR 345 RUNWAY 23 LEFT CLEARED FOR TAKE-OFF
pilot	RUNWAY 23 LEFT CLEARED FOR TAKE-OFF FASTAIR 345
pilot	SUBURBS TOWER JRG READY
ATS	JRG SUBURBS TOWER CLEARED FOR TAKE-OFF MAKE LEFT TURN
pilot	CLEARED FOR TAKE-OFF LEFT TURN JRG

Figure 65: Cleared for take-off

5.7.3 As shown in Figure 66, if ATC is unable to issue a take-off clearance the reason will be given, if needed. For example, if it might not be clear to the pilot.

Communicator	Communication
pilot	PQR READY
ATS	PQR HOLD POSITION AWAITING DEPARTURE INSTRUCTIONS

Communicator	Communication
 pilot	HOLD POSITION PQR

Figure 66: Unable to issue take-off clearance

5.7.4 As shown in Figure 67, for traffic reasons, it may be necessary for the aircraft to take-off with no delay, including after lining up.

Communicator	Communication
 ATS	FASTAIR 345 ARE YOU READY FOR IMMEDIATE DEPARTURE
 pilot	FASTAIR 345 AFFIRM
 ATS	FASTAIR 345 TRAFFIC ON FOUR MILE FINAL CLEARED FOR IMMEDIATE TAKE-OFF
 pilot	CLEARED FOR IMMEDIATE TAKE-OFF FASTAIR 345
 ATS	FASTAIR 345 LINE UP BE READY FOR IMMEDIATE DEPARTURE
 pilot	LINE UP FASTAIR 345
 ATS	FASTAIR 345 TRAFFIC 3 MILE FINAL RUNWAY 18 CLEARED FOR IMMEDIATE TAKE-OFF
 pilot	RUNWAY 18 CLEARED FOR TAKE-OFF FASTAIR 345

Figure 67: Immediate take-off

5.7.5 In poor visibility the controller may request the pilot to report when airborne.

5.7.6 At aerodromes where land and hold short operations (LAHSO) are in use, ATC will tell the pilot of a departing aircraft about any aircraft instructed to hold short of the crossing runway. Figure 68 is an example of a typical LAHSO take-off instruction.

Communicator	Communication
 ATS	FASTAIR 345 BOEING 737 LANDING ON THE CROSSING RUNWAY WILL HOLD SHORT RUNWAY 27 CLEARED FOR TAKE-OFF
 pilot	RUNWAY 27 CLEARED FOR TAKE-OFF FASTAIR 345

Figure 68: LAHSO take-off instruction

5.7.7 Figure 69 shows examples of departure instructions that may be given with the take-off clearance.

Communicator	Communication
ATS	PQR TRACK EXTENDED CENTRE LINE 240 DEGREES TO 3,000 BEFORE TURNING RIGHT RUNWAY 24 CLEARED FOR TAKE-OFF
pilot	EXTENDED CENTRE LINE 240 DEGREES TO 3,000 RIGHT TURN RUNWAY 24 CLEARED FOR TAKE-OFF PQR
ATS	JRG CLEARED FOR TAKE-OFF MAKE RIGHT TURN
pilot	CLEARED FOR TAKE-OFF RIGHT TURN JRG
ATS	PQR MAINTAIN RUNWAY HEADING VISUAL CLIMB TO 3,000 CLEARED FOR TAKE-OFF
pilot	RUNWAY HEADING VISUAL CLIMB TO 3,000 CLEARED FOR TAKE-OFF PQR
ATS	PQR TRACK OUTBOUND ON THE 360 GNSS TRACK FROM THORNHILL CLIMB TO 4,000 CLEARED FOR TAKE-OFF MAKE LEFT TURN
pilot	360 GNSS TRACK FROM THORNHILL CLIMB TO 4,000 CLEARED FOR TAKE-OFF LEFT TURN PQR
ATS	FASTAIR 345 CAPRICORN TOWER ASSIGNED HEADING RIGHT 280 CLIMB VIA SID TO 4,000 RUNWAY 19 CLEARED FOR TAKE-OFF
pilot	ASSIGNED HEADING RIGHT 280 CLIMB VIA SID TO 4,000 RUNWAY 19 CLEARED FOR TAKE-OFF FASTAIR 345

Figure 69: Departure instructions

5.7.8 Figure 70 shows example of when, due to unexpected traffic developments or a departing aircraft taking longer to take off than anticipated, it is occasionally necessary to rescind the take-off clearance or quickly free the runway for landing traffic. In these situations, the pilot must acknowledge the instruction with call sign and intentions.

Communicator	Communication
ATS	FASTAIR 345 TAKE-OFF IMMEDIATELY OR HOLD SHORT OF RUNWAY
pilot	HOLDING SHORT FASTAIR 345
ATS	FASTAIR 345 TAKE-OFF IMMEDIATELY OR VACATE RUNWAY
pilot	TAKING OFF FASTAIR 345

Figure 70: Rescinding or expediting take-off clearance

5.7.9 As shown in Figure 71, when a safety critical situation develops after an aircraft has been cleared for take-off, the pilot may be instructed to cancel or abort the take-off. A cancellation of take-off clearance will only be issued if the aircraft has not commenced its take-off. A ‘STOP IMMEDIATELY' instruction will be used if the aircraft has already commenced its take-off. An instruction to ‘STOP IMMEDIATELY' will only be used in when an aircraft is in imminent danger.

Note: The ultimate decision to abort the take-off remains with the pilot.

Communicator	Communication
ATS	PQR HOLD POSITION CANCEL I SAY AGAIN CANCEL TAKE-OFF VEHICLE ON THE RUNWAY
pilot	HOLDING PQR
ATS	FASTAIR 345 STOP IMMEDIATELY FASTAIR 345 STOP IMMEDIATELY TRUCK ENTERING THE RUNWAY
pilot	STOPPING FASTAIR 345

Figure 71: Emergency cancellation of take-off clearance

5.7.10 As shown in Figure 72, a pilot rejecting a take-off should tell the tower, as soon as practicable, giving the reason, if relevant.

Communicator	Communication
pilot	FASTAIR 345 STOPPING RUNWAY 24

Communicator	Communication
ATS	FASTAIR 345 ROGER
pilot	FASTAIR 345 WE HAD A MINOR ISSUE WITH THE LEFT ENGINE NO URGENCY REQUEST RETURN TO APRON
ATS	FASTAIR 345 TAKE NEXT RIGHT
pilot	NEXT RIGHT FASTAIR 345

Figure 72: Information after rejected take-off

5.8 Frequency management after take-off

5.8.1 Class D aerodromes

5.8.1.1 After take-off at a Class D aerodrome, pilots should remain on the tower frequency until:

a. vacating Class D airspace

or

b. the tower instructs the pilot to contact another ATS unit

or

a. if operating in the local circuit – until after the final landing.

5.8.2 Class C aerodromes

5.8.2.1 If departing from a Class C aerodrome (not remaining in the circuit), pilots should remain on aerodrome frequency until:

a. the tower instructs the pilot to contact Approach/Departures

or

b. if departure instructions include a transfer frequency once airborne — after take-off checks have been completed, at which point the pilot should transfer to the specified frequency

or

c. if operating in the local circuit – until after the final landing.

5.9 VFR local operations at a Class D aerodrome

5.9.1 As shown in Figure 73, at a Class D aerodrome, a clearance to take-off is a clearance to operate within or depart the control zone into Class G airspace in accordance with the ready report.

Communicator	Communication
pilot	SUBURBS TOWER JRG

Communicator	Communication
	READY FOR CIRCUITS
ATS	JRG SUBURBS TOWER CLEARED FOR TAKE-OFF
pilot	CLEARED FOR TAKE-OFF JRG
pilot	JRG DOWNWIND TOUCH AND GO
pilot	SUBURBS TOWER JRG READY FOR CROSSWIND DEPARTURE TO THE TRAINING AREA
ATS	JRG SUBURBS TOWER CLEARED FOR TAKE-OFF
pilot	CLEARED FOR TAKE-OFF JRG

Figure 73: VFR departures at Class D aerodromes

5.10 Departure from a Class D aerodrome

5.10.1 At aerodromes with a Class D tower service, where the tower also provides a procedural approach control service, a departing aircraft should remain on the tower frequency and make a departure report to ATC. Figure 74 shows an example.

Communicator	COMMUNICATION
pilot	PQR DEPARTURE
ATS	PQR
pilot	PQR DEPARTED AT TIME 57 TRACKING TO INTERCEPT 340 TRACK TO SMALLTOWN PASSING 3,400 CLIMBING TO 6,000
ATS	PQR AT 20 MILES, CONTACT CAPRICORN CENTRE 126.0
pilot	AT 20 MILES, CONTACT CAPRICORN CENTRE 126.0 PQR
pilot	PQR DEPARTURE
ATS	PQR

Communicator	COMMUNICATION
 pilot	PQR DEPARTED AT TIME 57 TRACKING VIA SPRKL ONE DEPARTURE PASSING 3,400 CLIMBING TO 6,000
 ATS	PQR REPORT PASSING 4,500
 pilot	PQR

Figure 74: Departure at a Class D aerodrome

5.11 Special VFR departures

5.11.1 As shown in Figure 75, the pilot of a VFR aircraft may request a Special VFR clearance when conditions are below VFR minima. In requesting a Special VFR clearance, pilots should tell ATC the weather condition (cloud ceiling, visibility or both) that necessitates the clearance. The latter informs ATC whether separation must be provided between the aircraft and other aircraft operating on a special VFR clearance.

Communicator	Communication
 pilot	SUBURBS TOWER JRG REQUEST DEPART THE CONTROL ZONE TO THE SOUTH 1,500 SPECIAL VFR DUE CEILING
 ATS	JRG SUBURBS TOWER LEAVE CONTROL ZONE TO THE SOUTH NOT ABOVE 1,500 SPECIAL VFR CLEARED FOR TAKE-OFF
 pilot	LEAVE CONTROL ZONE TO THE SOUTH NOT ABOVE 1,500 SPECIAL VFR CLEARED FOR TAKE-OFF JRG

Figure 75: VFR departures

5.12 Helicopter operations

5.12.1 As shown in Figure 76, unique phraseology is used for helicopter operations, particularly when take-off and landing takes place on surfaces other than runways.

Communicator	Communication
 pilot	SUBURBS TOWER HELICOPTER RST REQUEST AIR TAXI FROM THE APRON TO THE FUELLING POINT
 ATS	RST SUBURBS TOWER AIR TAXI FROM THE APRON TO THE FUELLING POINT

Communicator	Communication
	TRAFFIC CESSNA 150 ON TAXIWAY CHARLIE
 pilot	AIR TAXI FROM THE APRON TO THE FUELLING POINT TRAFFIC IN SIGHT RST
 pilot	RST PAD ALFA READY
 ATS	RST PAD ALFA CLEARED FOR TAKE-OFF
 pilot	PAD ALFA CLEARED FOR TAKE-OFF RST
 pilot	RST AT THE HANGARS READY FOR DEPARTURE
 ATS	RSTDEPARTURE APPROVED REPORT AIRBORNE
 pilot	DEPARTURE APPROVED WILCO RST
 pilot	RST AIRBORNE
 ATS	RST
 ATS	RESCUE TWO CLEARED VISUAL APPROACH FOR ST STEPHENS HOSPITAL REPORT ON THE GROUND
 pilot	CLEARED VISUAL APPROACH FOR ST STEPHENS HOSPITAL WILCO RESCUE TWO

Figure 76: Helicopter clearances

5.13 VFR arrival at a Class D aerodrome

Note: The radiotelephony for a VFR arriving at a Class C aerodrome is described in Chapter 6 – Radio communications with approach .

5.13.1 The initial call to aerodrome control requesting clearance to enter a Class D control zone must be made in sufficient time to allow the controller to assess the VFR and IFR traffic situation and issue a clearance or instructions prior to the aircraft reaching the control zone boundary. Pilots must request a Special VFR clearance when conditions are below VFR minima, and approval to operate in the control zone should not be assumed.

5.13.2 As show in Figure 77, arrival clearances may include circuit joining instructions or plain language instructions.

Communicator	Communication
 pilot	SUBURBS TOWER JRG, CESSNA 172 POINT HOCKS 2,500 INBOUND INFORMATION DELTA
 ATS	JRG OVERFLY TO JOIN DOWNWIND RUNWAY 36 LEFT 1,500 REPORT OVERHEAD
 pilot	OVERFLY TO JOIN DOWNWIND RUNWAY 36 LEFT 1,500 WILCO JRG
 pilot	CAPRICORN TOWER HELICOPTER RST NORTH PIER INBOUND REQUEST COASTAL NOT ABOVE 500 FEET INFORMATION TANGO
 ATS	RST CLEARED COASTAL SOUTHBOUND NOT ABOVE 500 HOLD NORTH OF THE EXTENDED RUNWAY CENTRELINE
 pilot	CLEARED COASTAL SOUTHBOUND NOT ABOVE 500 HOLD NORTH OF THE EXTENDED RUNWAY CENTRELINE RST

Figure 77: VFR arrivals

5.14 Clearance by establishment of two-way communications

5.14.1 Two-way communications established between a pilot and ATC constitutes a clearance for the aircraft to enter Class D airspace.

5.14.2 To establish two-way communications the pilot must initiate communications and advise current position, altitude, intention, ATIS received and any requests.

5.14.3 If ATC acknowledges the initial communications with only the aircraft's call sign, two-way communications have been established, and the pilot is expected to:

a. fly the track, level and intentions stated when initiating two-way communications

b. comply with any subsequent ATC instructions

c. for an arriving aircraft if ATC does not issue a specific level instruction — descend as necessary to join the aerodrome traffic circuit.

5.14.4 If ATC acknowledges the initial communications with the aircraft call sign and instructions, two-way communications have been established, and the pilot is expected to:

a. comply with the issued instructions

and

b. if no level instruction is issued, descend as necessary to join the aerodrome traffic circuit.

5.14.5 If ATC acknowledges the initial communications without using the aircraft's call sign and instructions, two-way communications have NOT been established. The pilot is expected to remain outside Class D airspace and either:

a. wait for an opportune moment to re-attempt a clearance request

or

b. await communications or instructions from ATC.

5.14.6 Figure 78 illustrates typical radiotelephony exchanges in establishing two-way communications.

Communicator	Communication
 pilot	SUNSHINE TOWER JRG, CESSNA 172 POINT HOCKS 2,500 INBOUND INFORMATION DELTA
 ATS	JRG SUNSHINE TOWER
Explanation	*JRG has an implied clearance to track from Point Hocks to the aerodrome, maintain 2,500 ft until descending to circuit altitude and positioning to join the circuit for the runway specified in ATIS Delta*
 pilot	SUNSHINE TOWER JRG, CESSNA 172 POINT HOCKS 2,500 INBOUND INFORMATION DELTA
 ATS	JRG SUNSHINE TOWER TRACK DIRECT SUNSHINE OVERFLY JOIN RIGHT DOWNWIND 1,500 REPORT OVERHEAD
 pilot	DIRECT SUNSHINE OVERFLY JOIN RIGHT DOWNWIND 1,500 WILCO JRG
Explanation	*JRG has received an explicit clearance and must comply with that clearance*
 pilot	CAC JRG, CESSNA 172 POINT HOCKS 2,500 INBOUND INFORMATION DELTA
 ATS	AIRCRAFT CALLING SUNSHINE TOWER STANDBY
Explanation	*JRG has not established communications does not have an implied clearance and must remain outside Class D airspace*
 pilot	SUNSHINE TOWER JRG, CESSNA 172 POINT HOCKS

Communicator	Communication
	2,500 INBOUND INFORMATION DELTA
ATS	JRG REMAIN OUTSIDE CLASS DELTA AIRSPACE SHORT DELAY FOR CLEARANCE DUE TRAFFIC
pilot	REMAIN OUTSIDE CLASS DELTA AIRSPACE JRG
Explanation	*JRG has been given a directed instruction and must remain outside Class D airspace*

Figure 78: Establishing two-way communications

5.15 Aerodrome traffic circuit

5.15.1 As shown in Figure 79, ATC will issued circuit joining instructions as necessary to enable a pilot to sight other aircraft and position in a safe and orderly manner into the circuit.

Communicator	Communication
ATS	JRG JOIN RIGHT DOWNWIND RUNWAY 24 REPORT SIGHTING CESSNA 172 DOWNWIND
pilot	JOIN RIGHT DOWNWIND RUNWAY 24 TRAFFIC IN SIGHT JRG
ATS	JRG NUMBER TWO FOLLOW THE CESSNA
pilot	NUMBER TWO FOLLOW THE CESSNA JRG
ATS	JRG JOIN DOWNWIND RUNWAY 09 NUMBER TWO FOLLOW THE TECNAM ON BASE
pilot	JOIN DOWNWIND RUNWAY 09 LOOKING JRG
pilot	JRG DOWNWIND FLAPLESS APPROACH TRAFFIC IN SIGHT.
ATS	JRG FLAPLESS APPROACH APPROVED
pilot	JRG UPWIND FOR GLIDE APPROACH
ATS	JRG GLIDE APPROACH APPROVED

Communicator	Communication
 ATS	JRG JOIN BASE RUNWAY 16 REPORT SIGHTING A SAAB 340 ON FOUR MILE FINAL
 pilot	JOIN BASE RUNWAY 16 LOOKING JRG
 pilot	JRG NEGATIVE CONTACT WITH THE SAAB
 ATS	JRG THE SAAB IS YOUR 11 O'CLOCK LOW, TWO MILE FINAL
 pilot	JRG TRAFFIC IN SIGHT
 ATS	JRG NUMBER TWO FOLLOW THE SAAB
 pilot	NUMBER TWO FOLLOW THE SAAB JRG
 ATS	JRG ESTABLISHED ON RIGHT DOWNWIND CLEARED VISUAL APPROACH
 pilot	ESTABLIASHED ON RIGHT DOWNWIND CLEARED VISUAL APPROACH JRG

Figure 79: Circuit joining instructions

5.15.2 As per the example in Figure 80, pilots – having joined the traffic circuit – make routine reports as required.

Communicator	Communication
 pilot	JRG DOWNWIND
 ATS	JRG NUMBER TWO FOLLOW CHEROKEE ON BASE
 pilot	FOLLOW THE CHEROKEE ON BASE TRAFFIC IN SIGHT JRG
 ATS	JRG REPORT BASE
	WILCO JRG *Later…* JRG BASE

Figure 80: Circuit position reports

5.15.3 As shown in Figure 81, it may be necessary for ATC to sequence the traffic in the circuit or issue delaying or expediting instructions.

Communicator	Communication
ATS	JRG EXTEND DOWNWIND REPORT SIGHTING A DASH 8 ON A 4 MILE FINAL
pilot	EXEND DOWNWIND JRG HAS TRAFFIC IN SIGHT
ATS	JRG NUMBER TWO FOLLOW THE DASH 8 CAUTION WAKE TURBULENCE
pilot	NUMBER TWO FOLLOW THE DASH 8 JRG
ATS	JRG FOR SEQUENCING MAKE ONE RIGHT ORBIT REPORT COMPLETE
pilot	MAKE ONE RIGHT ORBIT WILCO JRG
ATS	JRG NUMBER ONE REQUEST CLOSE APPROACH TRAFFIC IS A BARON ON SIX MILE FINAL
pilot	MAKE CLOSE APPROACH JRG

Figure 81: Circuit sequencing instructions

5.15.4 It is sometimes necessary for ATC to instruct a pilot to manipulate the aircraft or use aircraft lighting to aid identification or to confirm actions. Table 36 below shows a selection of phrases that may be used for this purpose.

Table 36: Communication by visual action

Circumstances	Communication
Identification of Aircraft ATS	SHOW LANDING LIGHT
Acknowledgment by Visual Means ATS	a. ACKNOWLEDGE BY MOVING AILERONS (or RUDDER). b. ACKNOWLEDGE BY ROCKING WINGS. c. ACKNOWLEDGE BY FLASHING LANDING LIGHTS.

5.16 Final approach and landing

5.16.1 If requested, a ‘final’ report is made when a flight turns onto final approach. If the turn onto final is made at a distance greater than four miles from touchdown, a ‘LONG FINAL’ or ‘(*distance*) FINAL' report is made.

5.16.2 During multiple runway operations where the possibility of confusion exists, the runway designator will be stated. The runway designator may also be stated if it is necessary to emphasise the runway to be used. For parallel runway operations on discrete frequencies, at Class D aerodromes, the runway designator may be omitted.

5.16.3 Figure 82 shows examples of radiotelephony exchanges relating to final approach and landing.

Communicator	COMMUNICATION
 pilot	JRG FINAL
 ATS	JRG RUNWAY 36 LEFT CLEARED TO LAND
 pilot	RUNWAY 36 LEFT CLEARED TO LAND JRG
 ATS	PQR CONTINUE APPROACH
 pilot	CONTINUE APPROACH PQR
 pilot	PQR SHORT FINAL
 ATS	PQR CLEARED TO LAND
 pilot	CLEARED TO LAND PQR
 pilot	CAPRICORN TOWER FASTAIR 345 10 MILE FINAL
 ATS	FASTAIR 345 CAPRICORN TOWER CONTINUE APPROACH
 pilot	CONTINUE APPROACH FASTAIR 345
 ATS	FASTAIR 345 WIND 240 DEGREES 20 KNOTS RUNWAY 24 CLEARED TO LAND
 pilot	RUNWAY 24 CLEARED TO LAND FASTAIR 345

Figure 82: Final approach

5.16.4 At aerodromes where LAHSO is in use, ATC will issue instructions for the landing aircraft to hold short of the runway intersection and will provide pertinent traffic information. ATC may rescind the hold short requirement if the full runway length becomes available. Figure 83 shows examples of LAHSO landing instructions.

Communicator	Communication
ATS	FASTAIR 345 WIND 320 DEGREES 5 KNOTS AIRBUS 330 DEPARTING ON CROSSING RUNWAY HOLD SHORT RUNWAY 27 RUNWAY 34 CLEARED TO LAND
pilot	HOLD SHORT RUNWAY 27 RUNWAY 34 CLEARED TO LAND FASTAIR 345
ATS	FASTAIR 345 FULL RUNWAY LENGTH NOW AVAILABLE
pilot	FASTAIR 345

Figure 83: LAHSO landing instructions

5.16.5 Figure 84 shows an example of a flight on final approach being issued a landing clearance despite not being in the sight of the aerodrome controller.

Communicator	Communication
pilot	FASTAIR 345 5 MILES
ATS	FASTAIR 345 NOT IN SIGHT – CLEARED TO LAND RUNWAY 06
pilot	CLEARED TO LAND RUNWAY 06 FASTAIR 345

Figure 84: Landing – not in sight

5.16.6 As shown in Figure 85, ATC may ask the pilot of a civil aircraft to confirm gear position if there is doubt that the landing gear is fully extended or whenever a general aviation aircraft with retractable undercarriage has experienced abnormal operations. ATC will also request gear check reports with landing clearances for all military aircraft. See Section 5.22 of this AC.

Communicator	COMMUNICATION
pilot	FASTAIR 345 FINAL
ATS	FASTAIR 345 CHECK WHEELS

Communicator	COMMUNICATION
 pilot	GEAR DOWN [or THREE GREEN] FASTAIR 345

Figure 85: Landing gear checks

5.16.7 As shown in Figure 86, a pilot may request to fly past the control tower or other observation point for the purpose of visual inspection from the ground.

Communicator	Communication
 pilot	FASTAIR 345 UNSAFE LEFT GEAR INDICATION REQUEST LOW APPROACH FOR GEAR OBSERVATION
 ATS	FASTAIR 345 DESCEND NOT BELOW 500 CLEARED LOW APPROACH RUNWAY 27 REPORT FINAL
 pilot	DESCEND NOT BELOW 500 CLEARED LOW APPROACH RUNWAY 27 WILCO FASTAIR 345

Figure 86: Landing gear inspection

5.16.8 If a low approach is made for the purpose of observing the undercarriage, ATC (with possible assistance of ARFF or ARO personnel) will provide the apparent position of the landing gear. As these people are not qualified on the aircraft, they are unable to confirm the 'locked' status of the landing gear. One of the following replies could be used to describe its condition (these examples are not exhaustive):

a. 'LANDING GEAR APPEARS DOWN'

b. 'RIGHT (OR LEFT, OR NOSE) WHEEL APPEARS UP (OR DOWN)'

c. 'WHEELS APPEAR UP'

d. 'RIGHT (OR LEFT, OR NOSE) WHEEL DOES NOT APPEAR DOWN (OR UP)'.

5.17 After landing

5.17.1 After landing, pilots should remain on aerodrome control frequency until clear of the runway-in-use, then, unless otherwise instructed, contact SMC on the appropriate frequency with advice of intended location on the aerodrome, and obtain a taxi clearance. Figure 87 shows examples of radiotelephony after landing.

Communicator	Communication
 ATS	FASTAIR 345 TAKE FIRST RIGHT *or* FASTAIR 345 VACATE AT KILO VACATING CONTACT GROUND 121.9

Communicator	Communication
pilot	FIRST RIGHT FASTAIR 345 *or* VACATE AT KILO GROUND 121.9 VACATING FASTAIR 345
pilot	CAPRICORN GROUND FASTAIR 345 FOR BAY 7
ATS	FASTAIR 345 CAPRICORN GROUND TAXI TO BAY 7 VIA ALFA
pilot	BAY 7 VIA ALFA FASTAIR 345
ATS	JRG CONTINUE TO THE END VACATE LEFT
pilot	CONTINUE TO THE END VACATE LEFT JRG
pilot	SUNSHINE GROUND JRG
ATS	JRG SUNSHINE GROUND TAXI TO AERO CLUB VIA BRAVO
pilot	TAXI TO THE AERO CLUB VIA BRAVO JRG

Figure 87: Instructions after landing

5.18 Go around or missed approach

5.18.1 ATC may instruct a flight to go around if the runway is not available for landing, or to ensure separation or avoid an unsafe situation. When an aircraft on an instrument approach cannot complete its approach, ATC may instruct the aircraft to make ‘MISSED APPROACH’. As shown in Figure 88, transmissions to aircraft will be brief and kept to a minimum.

Communicator	Communication
pilot	JRG FINAL
ATS	JRG GO AROUND MAKE LEFT CIRCUIT
pilot	GO AROUND LEFT CIRCUIT JRG
ATS	FASTAIR 345 DUE RUNWAY OCCUPIED, MAKE MISSED APPROACH

Communicator	Communication
 pilot	MISSED APPROACH FASTAIR 345
 ATS	FASTAIR 345 TURN RIGHT HEADING 360 CLIMB TO 3,000
 pilot	RIGHT HEADING 360 CLIMB TO 3,000 FASTAIR 345

Figure 88: ATC-initiated go around or missed approach

5.18.2 Figure 89 shows that the phrase ‘GOING AROUND’ would be used by a pilot when initiating a go around. ‘’

Communicator	Communication
 pilot	PQR GOING AROUND
 ATS	PQR ROGER

Figure 89: Pilot-initiated Go around

5.19 Training manoeuvres

5.19.1 Pilots may request a variety of training manoeuvres, including:

a. a low approach followed by go around

b. a touch and go – whereby an aircraft lands and takes off without coming to a stop

c. a stop and go – whereby an aircraft lands, stops momentarily on the runway then takes off again

d. for an IFR flight, a precision approach involving a coupled or autoland operation in conditions where ATC is not required to protect the ILS critical or sensitive area

5.19.2 A pilot may also request and be assigned ‘THE OPTION’; that is the option for a low approach, touch and go, full stop, stop and go, or go around.

5.19.3 Figure 90 shows examples of training manoeuvres.

Communicator	Communication
 pilot	PQR REQUEST LOW APPROACH RUNWAY 09 FOR TRAINING
 ATS	PQR RUNWAY 09 CLEARED LOW APPROACH
 pilot	RUNWAY 09 CLEARED LOW APPROACH PQR

Communicator	Communication
pilot	JRG DOWNWIND TOUCH AND GO
ATS	JRG RUNWAY 11 CENTRE CLEARED TOUCH AND GO
pilot	RUNWAY 11 CENTRE CLEARED TOUCH AND GO JRG
pilot	JRG DOWNWIND TOUCH AND GO
ATS	JRG FULL STOP DUE TRAFFIC RUNWAY 11 LEFT CLEARED TO LAND
pilot	RUNWAY 11 LEFT CLEARED TO LAND JRG
pilot	JRG REQUEST THE OPTION
ATS	JRG CLEARED FOR THE OPTION
pilot	CLEARED FOR THE OPTION JRG
pilot	*After touchdown:* JRG ROLLING
pilot	FASTAIR 345 REQUEST PRACTICE AUTOLAND
ATS	FASTAIR 345 ROGER ILS CRITICAL AREA NOT PROTECTED

Figure 90: Training manoeuvres

5.20 Wake turbulence, jet blast and rotor down wash

5.20.1 As shown in Figure 91, ATC may warn aircraft about the effects of wake turbulence, jet blast or rotor wash, as appropriate. ATC will also issue a wake turbulence caution if:

a. a pilot of a flight is required to follow or maintain own separation from a preceding aircraft of a higher wake turbulence category

   or

b. it is likely that a wake turbulence separation standard will be infringed (for example, as a result of an unexpected go around.

Communicator	Communication
ATS	JRG NUMBER TWO FOLLOW THE A320 ON FINAL CAUTION WAKE TURBULENCE
ATS	JRG CAUTION JET BLAST 737 IN BAY 20 CONDUCTING ENGINE TESTING
ATS	JRG CAUTION DOWNWASH SIKORSKY S92 HOVER-TAXING ON TAXIWAY BRAVO

Figure 91: Aircraft turbulence warnings

5.20.2 As shown in Figure 92, the pilot of a departing aircraft may, in VMC by day, request waiver of the normal wake turbulence separation standards. This indicates to ATC that the pilot accepts total responsibility for providing their own wake turbulence separation.

Note: ATC will only waive the application of wake turbulence separation when the preceding aircraft is in the medium wake turbulence category. ATC is not permitted to waive wake turbulence separation if the preceding aircraft is in the heavy or super category.

Communicator	Communication
ATS	PQR HOLD POSITION 2 MINUTES DELAY DUE WAKE TURBULENCE
pilot	PQR REQUEST WAIVER
ATS	PQR ROGER CAUTION WAKE TURBULENCE DUE PRECEDING BOEING 737 CLEARED FOR TAKE-OFF
pilot	ROGER CLEARED FOR TAKE-OFF PQR

Figure 92: Wake turbulence waiver

5.21 Operations at major airports

5.21.1 Predeparture clearance

5.21.1.1 As shown in the example in Figure 93, IFR aircraft departing from a major aerodrome may receive their airways clearance in digital form as a ‘pre-departure clearance’ (PDC). If a flight has been issued a PDC, the following items should be read back on the ACD frequency, or SMC frequency if ACD is not in operation, prior to pushback or taxi request:

a. the assigned SID, including runway and transition (if issued)

b. transponder code

c. additional requirements specified in the PDC

d. current parking position/bay.

Communicator	Communication
 pilot	CAPRICORN DELIVERY FASTAIR 345 PDC READ BACK
 ATS	FASTAIR 345 CAPRICORN DELIVERY
 pilot	FASTAIR 345 BOLDOK FOUR DEPARTURE SQUAWK 4561 BAY 4 INFORMATION BRAVO
 **ATS**	FASTAIR 345

Figure 93: Pre-departure clearance

5.21.2 Start clearance

5.21.2.1 When advised on the ATIS or in ERSA, start clearances are used to reduce engine running times and ground congestion. Along with the request, the pilot will state the location of the aircraft and acknowledge receipt of the ATIS broadcast. Figure 94 shows a typical exchange.

Communicator	Communication
 pilot	CAPRICORN GROUND FASTAIR 345 BAY 4 INFORMATION BRAVO REQUEST START
 ATS	FASTAIR 345 START APPROVED
 pilot	FASTAIR 345

Figure 94: Start up

5.21.3 Pushback

5.21.3.1 At some aerodromes, aircraft are parked nose-in to the terminal and must be pushed backwards before they can taxi for departure. Requests for pushback are to be made according to local procedures. Unless specifically excluded in the ERSA, by NOTAM or by ATC, a clearance to pushback implies a clearance to start. See Figure 95 for examples.

Communicator	Communication
 pilot	CAPRICORN GROUND FASTAIR 345 REQUEST PUSHBACK
 ATS	FASTAIR 345 GROUND PUSHBACK APPROVED

Communicator	Communication
	OR FASTAIR 345 GROUND PUSHBACK AT OWN DISCRETION
 pilot	FASTAIR 345
 ATS	FASTAIR 345 GROUND PUSHBACK APPROVED, TAIL SOUTH
 pilot	PUSHBACK APPROVED, TAIL SOUTH FASTAIR 345
 ATS	PQR PUSH BACK CLEARANCE NOT AVAILABLE DUE FLOW MANAGEMENT EXPECT CLEARANCE AT TIME 50
 pilot	ROGER PQR

Figure 95: Pushback

5.22 Military aircraft at civil aerodromes

5.22.1 Figure 96 shows examples of phraseology involving military operations at an aerodrome. ATC will request gear check reports from all military aircraft.

Communicator	Communication
 pilot	THORNHILL TOWER MILJET ONE TRACKING FOR RIGHT INITIAL
 ATS	MILJET ONE THORNHILL TOWER REPORT RIGHT INITIAL
 pilot	WILCO MILJET ONE
 pilot	MILJET ONE RIGHT INITIAL
 ATS	MILJET ONE CHEROKEE ON BASE PITCH LONG
 pilot	TRAFFIC IN SIGHT PITCH LONG MILJET ONE
 pilot	MILJET ONE BASE THREE GREENS
 ATS	MILJET ONE CLEARED TO LAND CHECK WHEELS

Communicator	Communication
 pilot	CLEARED TO LAND MILJET ONE (*Activates beeper*) (*or* THREE GREENS)

Figure 96: Military aircraft operations at aerodrome

5.23 Operation of a remotely piloted aircraft system (RPAS) at a controlled aerodrome

5.23.1 At time of writing, only telephone communications are used for approved remotely piloted aircraft systems (RPAS) operations at or in close proximity to a controlled aerodrome. Nevertheless, if an RPAS pilot or operator is authorised and required to communicate with ATC via radiotelephony, it is expected crewed aircraft phraseologies will be used.

5.23.2 See 3.8 for RPAS aircraft communications in non-controlled airspace.

6 Radio communications with approach or departures control

6.1 Departures

6.1.1 At some aerodromes both arrivals and departures are handled by a single controller on a single frequency. At busier aerodromes arrivals and departures may be handled by separate controllers on separate frequencies.

6.1.2 In addition to the ATC airways clearance, instructions for separation purposes may be issued prior to or after take-off.

6.1.3 Unless departure instructions include a transfer frequency once airborne, pilots should remain on the aerodrome control frequency until instructed to transfer to another frequency. If departure instructions include a transfer frequency, a pilot should transfer to that frequency after completion of after take-off checks.

6.1.4 As shown in Figure 97, a flight departing from an aerodrome with approach surveillance control services should include their present level when establishing contact with Approach or Departures. This enables ATC to verify the aircraft's pressure altitude information or ‘Mode C'.

Communicator	Communication
 pilot	THORNHILL APPROACH JRG PASSING 1,200 CLIMBING TO 3,500
 ATS	JRG THORNHILL APPROACH IDENTIFIED
 pilot	CAPRICORN DEPARTURES FASTAIR 345 TURNING LEFT HEADING 340 PASSING 1,500 CLIMBING TO FLIGHT LEVEL 170 *or* CAPRICORN APPROACH FASTAIR 345 TRACKING EXTENDED CENTRELINE PASSING 1,500 CLIMBING TO 10,000
 ATS	FASTAIR 345 CAPRICORN DEPARTURES IDENTIFIED

Figure 97: Departing an aerodrome with ATS surveillance service

6.2 Standard instrument departure procedures

6.2.1 As shown in Figure 98, ATC uses the key phrase ‘CLIMB VIA SID TO’ in standard instrument departure (SID) operations to assign a level and to require the aircraft to comply with the lateral profile of, and any speed or level restrictions published for, the particular SID procedure.

Communicator	Communication
pilot	CAPRICORN DEPARTURES FASTAIR 345 PASSING 1,200 CLIMBING TO 6,000
ATS	FASTAIR 345 CAPRICORN DEPARTURES IDENTIFIED CLIMB VIA SID TO 10,000
pilot	CLIMB VIA SID TO 10,000 FASTAIR 345
ATS	FASTAIR 345 CLIMB VIA SID TO FLIGHT LEVEL 150
pilot	CLIMB VIA SID TO FLIGHT LEVEL 150 FASTAIR 345

Figure 98: Typical 'CLIMB VIA SID TO' communication

Note: If an aircraft on a SID is at a point where there are no further charted speed or altitude restrictions, ATC will issue level instructions as 'CLIMB TO …'.

6.2.2 As shown in Figure 99, during a departure via a SID, ATC may tactically cancel a particular SID restriction.

Communicator	Communication
ATS	FASTAIR 345 CLIMB VIA SID TO 9,000 CANCEL LEVEL RESTRICTIONS
pilot	CLIMB VIA SID TO 9,000 CANCEL LEVEL RESTRICTIONS FASTAIR 345
ATS	FASTAIR 345 CLIMB VIA SID TO FLIGHT LEVEL 160 CANCEL LEVEL RESTRICTION AT AMBLE
pilot	CLIMB VIA SID TO FLIGHT LEVEL 160 CANCEL LEVEL RESTRICTION AT AMBLE FASTAIR 345
ATS	FASTAIR 345 CLIMB VIA SID TO FLIGHT LEVEL 140 CANCEL SPEED RESTRICTIONS
pilot	CLIMB VIA SID TO FLIGHT LEVEL 140 CANCEL SPEED RESTRICTIONS FASTAIR 345
ATS	FASTAIR 345 CLIMB VIA SID TO FLIGHT LEVEL 140 CANCEL LEVEL AND SPEED RESTRICTIONS

Communicator	Communication
 pilot	CLIMB VIA SID TO FLIGHT LEVEL 140 CANCEL LEVEL AND SPEED RESTRICTIONS FASTAIR 345

Figure 99: Cancelling a SID restriction

6.2.3 As shown in Figure 100, ATC may instruct the pilot to bypass a particular waypoint or waypoints. The pilot does not need to comply with level or speed restrictions published at waypoints being bypassed but must comply with any level and speed restrictions published at and after the point of rejoining the SID.

> **Note:** In this circumstance, the pilot will not be cleared to rejoin the SID. Direct tracking between waypoints is considered part of the SID.

Communicator	Communication
 ATS	FASTAIR 345 CLEARED DIRECT ABBEY CLIMB VIA SID TO FLIGHT LEVEL 160
 pilot	DIRECT ABBEY CLIMB VIA SID TO FLIGHT LEVEL 160 FASTAIR 345

Figure 100: Bypassing waypoints on a SID

6.2.4 As shown in the examples in Figure 101, ATC may vector a flight off the SID. The pilot does not need to comply with level or speed restrictions published at waypoints being bypassed. ATC will notify the pilot if it is expected that the aircraft will subsequently rejoin the SID.

Communicator	Communication
 ATS	FASTAIR 345 TURN RIGHT HEADING 180 VECTORS FOR TRAFFIC CLIMB TO 10,000 EXPECT TO REJOIN SID AT ABBEY
 pilot	RIGHT HEADING 180 CLIMB TO 10,000 FASTAIR 345
 ATS	FASTAIR 345 RESUME OWN NAVIGATION POSITION 15 MILES WEST OF ABBEY CLEARED DIRECT ABBEY REJOIN SID CLIMB VIA SID TO FLIGHT LEVEL 120
 pilot	DIRECT ABBEY REJOIN SID CLIMB VIA SID TO FLIGHT LEVEL 120 FASTAIR 345
 ATS	FASTAIR 345 TURN RIGHT HEADING 180 VECTORS FOR TRAFFIC CLIMB TO FLIGHT LEVEL 110

Communicator	Communication
 pilot	RIGHT HEADING 180 CLIMB TO FLIGHT LEVEL 110 FASTAIR 345
 ATS	FASTAIR 345 POSITION 10 MILES WEST OF ABBEY CLEARED DIRECT TO ABBEY REJOIN ABBEY THREE DEPARTURE CLIMB VIA SID TO FLIGHT LEVEL 120
 pilot	DIRECT TO ABBEY REJOIN ABBEY THREE DEPARTURE CLIMB VIA SID TO FLIGHT LEVEL 120 FASTAIR 345

Figure 101: Vectoring away from a SID

6.3 IFR flight making a VFR or visual departure or VFR arrival

6.3.1 When conditions allow, the pilot of an IFR flight may request a visual departure, or ATC may issue a visual departure. The pilot of an IFR flight departing a Class D aerodrome may also request a VFR departure with the expectation of obtaining an IFR clearance en route. Figure 102 shows examples of the phraseology.

Communicator	Communication
 ATS	FASTAIR 345 CANCEL SID VISUAL DEPARTURE ASSIGNED HEADING RIGHT 360 VISUAL RUNWAY 21 RIGHT CLEARED FOR TAKE-OFF
 pilot	CANCEL SID VISUAL DEPARTURE RIGHT HEADING 360 VISUAL RUNWAY 21 RIGHT CLEARED FOR TAKE-OFF FASTAIR 345
 pilot	PQR REQUEST VISUAL DEPARTURE
 ATS	PQR CLEARED FOR TAKE-OFF MAKE RIGHT TURN VISUAL
 pilot	CLEARED FOR TAKE-OFF RIGHT TURN VISUAL PQR
 pilot	PQR REQUEST VFR DEPARTURE
 ATS	PQR VFR DEPARTURE APPROVED TRAFFIC IS MULTIPLE VFR AIRCRAFT IN THE TRAINING AREA CLEARED FOR TAKE-OFF MAKE LEFT TURN

Communicator	Communication
 pilot	ROGER TRAFFIC CLEARED FOR TAKE-OFF LEFT TURN PQR
 pilot	*… later when PQR enters Class G airspace and wishes to resume IFR* CENTRE PQR 4,000 RESUMING IFR
 ATS	PQR CENTRE NO IFR TRAFFIC
 pilot	SUNSHINE TOWER KING AIR PQR 15 MILES NORTHWEST 3,000 VISUAL REQUEST CLEARANCE INFORMATION VICTOR
 ATS	PQR SUNSHINE TOWER DUE IFR TRAFFIC EXPECT A 5 MINUTE DELAY FOR CLEARANCE REMAIN OUTSIDE CONTROLLED AIRSPACE
 pilot	PQR REMAIN OUTSIDE CONTROLLED AIRSPACE CANCEL IFR REQUEST VFR ARRIVAL
 ATS	PQR IFR CANCELLED, OPERATE VFR CLEARED DIRECT TO SUNSHINE ON A VISUAL APPROACH REPORT BASE
 pilot	OPERATE VFR DIRECT TO SUNSHINE VISUAL APPROACH WILCO PQR

Figure 102: VFR or visual departure/arrival

6.4 VFR Arrivals

6.4.1 Depending on the procedures in use, the pilot of an arriving VFR flight may be required to establish contact with the approach control unit and request instructions before entering its area of jurisdiction. Where there is an ATIS broadcast, the pilot should acknowledge if it has been received; where no ATIS broadcast is provided, the approach controller will pass the aerodrome data. Figure 103 shows an example of VFR arrival at a controlled aerodrome.

Communicator	Communication
 pilot	THORNHILL APPROACH CESSNA 172 JRG
 ATS	JRG THORNHILL APPROACH

Communicator	Communication
pilot	JRG ONE FIVE MILES TO THE SOUTHWEST 2,500 FOR LANDING INFORMATION DELTA REQUEST CLEARANCE
ATS	JRG CLEARED PRESENT POSITION DIRECT THORNHILL 2,500
pilot	PRESENT POSITION DIRECT THORNHILL 2,500 JRG
ATS	JRG REPORT AERODROME IN SIGHT
pilot	JRG AERODROME IN SIGHT
ATS	JRG CONTACT THORNHILL TOWER 118.1
pilot	THORNHILL TOWER? 118.1 JRG

Figure 103: VFR arrival

6.5 IFR Arrivals

6.5.1 Approach control will normally advise on initial contact the type of approach to be expected.

6.5.2 If issued clearance for descent, the pilot is expected to commence descent within one minute, unless another time or point is specified, or the clearance is issued in terms of 'when ready'. Figure 104 shows a typical example of an IFR flight receiving instructions from Approach and Tower for an instrument approach.

Communicator	Communication
pilot	THORNHILL APPROACH FASTAIR 345 PASSING FLIGHT LEVEL 150 DESCENDING TO 8,000 INFORMATION BRAVO
ATS	FASTAIR 345 THORNHILL APPROACH DESCEND TO 6,000 EXPECT RNP ZULU APPROACH RUNWAY 10
pilot	DESCEND TO 6,000 FASTAIR 345
ATS	FASTAIR 345 DESCEND TO 4,000 CLEARED RNP ZULU RUNWAY 10 APPROACH REPORT WHISKEE FOXTROT
pilot	LEAVING 6,000 DESCEND TO 4,000 CLEARED RNP ZULU RUNWAY 10 APPROACH

Communicator	Communication
	FASTAIR 345
pilot	FASTAIR 345 WHISKEE FOXTROT
ATS	FASTAIR 345 CONTACT THORNHILL TOWER 118.1
pilot	THORNHILL TOWER 118.1 FASTAIR 345
pilot	THORNHILL TOWER FASTAIR 345
ATS	FASTAIR 345 WIND 130 DEGREES 20 KNOTS CLEARED TO LAND WIND
pilot	CLEARED TO LAND FASTAIR 345

Figure 104: IFR arrival for instrument approach

6.5.3 The chart title for an instrument approach procedure is used for all radiotelephony relating to the procedure (including entry procedures), subject to the following:

a. The word ‘Approach’ is included between ‘type of approach’ (VOR, ILS, RNP etc. including any procedure suffix) and the runway designator (RUNWAY 01, RWY 33 etc.).

b. If multiple approach procedures are on the same chart, for example, ‘NDB-A and VOR-A’, only the approach procedure being conducted should be referred to.

c. If the chart title has a parenthetical ‘(…)’ suffix, for example: (LNAV/VNAV ONLY), (AR), the text in the parentheses is not included in radiotelephony.

d. A runway designator shown as optional in a radiotelephony phrase (for example, [RUNWAY (number)]) should only be omitted when there is no possibility of confusion.

e. Other than for circling approaches, a procedure suffix (X, Y, etc.) may be omitted if there is no possibility of confusion.

6.5.4 As shown in Figure 105, a pilot may request, or ATC may instruct a flight, to carry out an instrument approach via a particular intermediate approach segment of the procedure or directly to the final approach leg.

Communicator	Communication
ATS	FASTAIR 345 DESCEND TO 6,000 EXPECT RNP ZULU APPROACH VIA UPDUR RUNWAY 10
pilot	DESCEND TO 6,000 FASTAIR 345 … FASTAIR 345 REQUEST THE RNP ZULU APPROACH VIA WHISKEE INDIA
ATS	FASTAIR 345 DESCEND TO 4,000

Communicator	Communication
	CLEARED RNP ZULU APPROACH RUNWAY 10 VIA WHISKEE INDIA REPORT WHISKEE INDIA
pilot	DESCEND TO 4,000 CLEARED RNP ZULU APPROACH RUNWAY 10 VIA WHISKEE INDIA REPORT WHISKEE INDIA FASTAIR 345
ATS	PQR EXPECT ILS APPROACH RUNWAY 30 RIGHT VIA THE 12 DME ARC
pilot	PQR REQUEST TRACK PRESENT POSITION DIRECT TO INTERCEPT THE LOCALISER AT 8 MILES FOR STRAIGHT-IN APPROACH
ATS	PQR TRACK AS REQUESTED DESCEND TO 3,000 REPORT ESTABLISHED ON THE LOCALISER
pilot	TRACK TO INTERCEPT THE LOCALISER AT 8 MILES DESCEND TO 3,000 WILCO PQR

Figure 105: Instrument approach via different intermediate approach segments

6.5.5 As shown in Figure 106, ATC may clear a flight for a DME or GNSS arrival procedure or utilise the procedure to facilitate descent.

Communicator	Communication
pilot	THORNHILL TOWER PQR WEYDON 25 MAINTAINING 8,000 ESTIMATING THORNHILL 42 INFORMATION CHARLIE
ATS	PQR THORNHILL TOWER ENTER CONTROLLED AIRSPACE ON TRACK THORNHILL MAINTAIN 8,000 EXPECT GNSS ARRIVAL
pilot	ON TRACK THORNHILL 8,000 PQR
ATS	PQR DESCEND TO 4,500 CLEARED GNSS ARRIVAL CIRCLING TO RUNWAY 28 REPORT VISUAL
pilot	CLEARED GNSS ARRIVAL CIRCLING TO RUNWAY 28 PQR
ATS	PQR DESCEND TO 3,000 NOT BELOW DME STEPS REPORT 9 MILES

Communicator	Communication
 pilot	DESCEND TO 3,000 NOT BELOW GNSS STEPS WILCO PQR

Figure 106: DME/GNSS arrival or descent

6.5.6 ATC may sometimes impose a temporary level restriction on a civil aircraft conducting a practice approach in VMC or a military aircraft conducting any instrument approach when a clearance for the full approach is not available prior to reaching the commencement of the approach. Figure 107 shows an example of a flight being cleared to track via the horizontal profile of an instrument flight procedure, but with a temporary level restriction that ensures separation with aircraft operating at lower levels.

Communicator	Communication
 pilot	PQR REQUEST PRACTICE RNP APPROACH RUNWAY 10
 ATS	PQR TRACK VIA RNP APPROACH RUNWAY 10 NOT BELOW 2,500 REPORT AT NOVEMBER INDIA
 pilot	RNP ZULU APPROACH RUNWAY 10 NOT BELOW 2,500 PQR
 pilot	PQR NOVEMBER INDIA PASSING 2,800
 ATS	PQR CLEARED RNP APPROACH RUNWAY 10
 pilot	RNP APPROACH RUNWAY 10 PQR

Figure 107: Practice instrument approach

6.6 Visual or visual approach

6.6.1 ‘Visual’

6.6.1.1 The word ‘visual’ in radiotelephony means:

a. When used by ATC – an instruction to a pilot to see and avoid obstacles while conducting flight below the relevant lowest safe altitude (LSALT), whether a minimum vectoring altitude (MVA), minimum sector altitude (MSA) or route LSALT

b. When used by a pilot:

   i. acceptance of responsibility to see and avoid obstacles while operating below the MVA, MSA or LSALT

   ii. for an arriving aircraft, the ability to comply with the requirements of a visual approach if so cleared.

6.6.1.2 Where applicable, ATC will append the word ‘VISUAL’ to ATC clearances or instructions.

6.6.1.3 Figure 108 shows examples of phraseologies associated with the word ‘visual’, and expectation or request for visual approach.

Communicator	Communication
pilot	CAPRICORN APPROACH FASTAIR 435 DESCENDING TO 6,000 VISUAL INFORMATION QUEBEC
ATS	FASTAIR 345 CAPRICORN APPROACH DESCEND TO 3,500 VISUAL
pilot	DESCEND TO 3,500 VISUAL FASTAIR 345
pilot	PQR DESCENDING TO 5,000 PASSING 10,000
ATS	PQR REPORT VISUAL
pilot	WILCO PQR
ATS	FASTAIR 345 REPORT RUNWAY IN SIGHT
pilot	RUNWAY IN SIGHT FASTAIR 345
ATS	PQR REPORT RUNWAY LIGHTS IN SIGHT
pilot	RUNWAY LIGHTS SIGHTED PQR
ATS	PQR WHEN ESTABLISHED IN THE CIRCLING AREA DESCEND TO 2,000 VISUAL
pilot	DESCEND TO 2,000 VISUAL WITHIN THE CIRCLING AREA PQR

Figure 108: ‘Visual’

6.6.1.4 A pilot should immediately tell ATC if conditions change such that the pilot will not be able to continue with visual reference to the ground or water or continue a visual approach.

6.6.2 Visual approach

6.6.2.1 In Australia, a visual approach applies to both IFR and VFR flights.

6.6.2.2 For IFR flight, a visual approach is an approach when either part or all of an instrument approach procedure is not completed and the approach is executed with visual reference to terrain.

6.6.2.3 For VFR flight, carrying out a visual approach ensures a VFR aircraft will follow a predictable path when arriving at an aerodrome.

6.6.2.4 The pilot of an arriving aircraft may request a visual approach either directly or by reporting 'VISUAL' at some point during arrival. However, at some locations and where the weather is suitable, visual approach may be the nominated approach type for all aircraft – ATIS: 'Expect independent visual approach'.

6.6.2.5 Figure 109 shows examples of phraseologies associated with the word 'visual', and expectation or request for visual approach. The last example is a typical traffic information message during an independent visual approach about nearby traffic on the adjacent runway.

Communicator	Communication
 pilot	CAPRICORN APPROACH FASTAIR 345 DESCENDING TO 6,000 VISUAL INFORMATION QUEBEC
 ATS	FASTAIR 345 CAPRICORN APPROACH DESCEND TO 3,500 VISUAL EXPECT VISUAL APPROACH
 pilot	DESCEND TO 3,500 VISUAL FASTAIR 345
 pilot	PQR REQUEST VISUAL APPROACH
 ATS	PQR CLEARED VISUAL APPROACH REPORT SIGHTING DASH 8 ON 4 MILE FINAL
 pilot	CLEARED VISUAL APPROACH WILCO PQR
 pilot	PQR TRAFFIC SIGHTED
 ATS	PQR NUMBER TWO FOLLOW THE DASH 8 CAUTION WAKE TURBULENCE
 pilot	FOLLOW THE DASH 8 ROGER PQR
 ATS	*{A night-time scenario}* JRG AT 3 MILES CLEARED VISUAL APPROACH REPORT ENTERING DOWNWIND
 pilot	AT 3 MILES CLEARED VISUAL APPROACH WILCO JRG
 ATS	FASTAIR 345 WHEN ESTABLISHED IN THE CIRCLING AREA CLEARED VISUAL APPROACH REPORT PASSING 3,000

Communicator	Communication
pilot	WHEN ESTABLISHED IN THE CIRCLING AREA CLEARED VISUAL APPROACH WILCO FASTAIR 345
ATS	FASTAIR 345 WHEN ESTABLISHED ON THE PAPI CLEARED VISUAL APPROACH
pilot	WHEN ESTABLISHED ON THE PAPI CLEARED VISUAL APPROACH FASTAIR 345
ATS	ATIS: 'CAPRICORN TERMINAL INFORMATION X-RAY …EXPECT INDEPENDENT VISUAL APPROACH …'
pilot	CAPRICORN DIRECTOR FASTAIR 345 HEADING 070 MAINTAINING 3,000 RUNWAY IN SIGHT
ATS	FASTAIR 345 CAPRICORN DIRECTOR TURN LEFT HEADING 010 JOIN FINAL RUNWAY 34 LEFT FROM THAT HEADING CLEARED INDEPENDENT VISUAL APPROACH
pilot	LEFT HEADING 010 JOIN FINAL RUNWAY 34 LEFT INDEPENDENT VISUAL APPROACH FASTAIR 345
ATS	FASTAIR 345 TRAFFIC BOEING 737 RUNWAY RIGHT AHEAD
pilot	TRAFFIC SIGHTED FASTAIR 345

Figure 109: 'Visual'

6.7 Standard instrument arrival procedures

6.7.1 In standard instrument arrival (STAR) operations, ATC uses the key phrase 'DESCEND VIA STAR TO' to assign a level and to require the aircraft to comply with the lateral profile of, and any speed or level restrictions published for, the STAR procedure.

6.7.2 Prior to issuance, ATC will notify expectation or availability of a STAR by either 'EXPECT STAR CLEARANCE' or 'STAR CLEARANCE AVAILABLE'.

Important safety message:

ATC will explicit issue all level assignment during the conduct of a STAR. DO NOT descend via the STAR vertical profile without specific clearance to a lower altitude. 'Bottom altitudes' are not utilised on STARs in Australia.

6.7.3 Figure 110 shows an example of ATC issuing a STAR clearance without descent. Accordingly, the aircraft in the phraseology example is expected to maintain Flight Level 320 until ATC issues explicit 'DESCEND VIA STAR TO' instructions

Communicator	Communication
pilot	CAPRICORN CENTRE FASTAIR 345 FLIGHT LEVEL 320
ATS	FASTAIR 345 CAPRICORN CENTRE CLEARED SALTY THREE ALFA ARRIVAL ARGOS TRANSITION RUNWAY 20 MAINTAIN FLIGHT LEVEL 320
pilot	SALTY THREE ALFA ARRIVAL ARGOS TRANSITION RUNWAY 20 MAINTAIN FLIGHT LEVEL 320 FASTAIR 345
pilot	FASTAIR 345 REQUEST DESCENT
ATS	FASTAIR 345 DESCEND VIA STAR TO 10,000 QNH 1025
pilot	DESCEND VIA STAR TO 10,000 QNH 1025 FASTAIR 345

Figure 110: Issuance of a STAR clearance with later descent

6.7.4 Issuance of a STAR clearance with level assignment ‘VIA STAR TO’ is an ATC instruction for the aircraft to commence descent immediately to the assigned level, in accordance with the speed and level restrictions for that STAR. As shown in Figure 111, descent at pilot discretion is only acceptable if cleared ‘when ready’.

Communicator	COMMUNICATION
ATS	FASTAIR 345 CLEARED SALTY THREE ZULU ARRIVAL KLAVA TRANSITION RUNWAY 12 WHEN READY DESCEND VIA STAR TO 9,000 QNH 1013
pilot	CLEARED SALTY THREE ZULU ARRIVAL KLAVA TRANSITION RUNWAY 12 WHEN READY DESCEND VIA STAR TO 9,000 QNH 1013 FASTAIR 345
pilot	FASTAIR 345 LEAVING FLIGHT LEVEL 320
ATS	FASTAIR 345 DESCEND VIA STAR TO 3,000
pilot	DESCEND VIA STAR TO 3,000 FASTAIR 345

Figure 111: STAR clearance with descent when ready

6.7.5 As shown in Figure 112, ATC may tactically cancel a particular STAR restriction. The pilot is expected to comply with all the speed and level restrictions specified for the STAR procedure other than the cancelled STAR restriction.

Communicator	Communication
ATS	FASTAIR 345 DESCEND VIA STAR TO 3,000 CANCEL LEVEL RESTRICTIONS
pilot	DESCEND VIA STAR TO 3,000 CANCEL LEVEL RESTRICTIONS FASTAIR 345
ATS	FASTAIR 345 DESCEND VIA STAR TO 3,000 CANCEL LEVEL RESTRICTION AT PORTS
pilot	DESCEND VIA STAR TO 3,000 CANCEL LEVEL RESTRICTION AT PORTS FASTAIR 345
ATS	FASTAIR 345 DESCEND VIA STAR TO 3,000 CANCEL SPEED RESTRICTION AT MUMOS
pilot	DESCEND VIA STAR TO 3,000 CANCEL SPEED RESTRICTION AT MUMOS FASTAIR 345

Figure 112: Cancelled STAR restriction

6.7.6 ATC may issue an ATC speed restriction, which would remain in force until specifically cancelled or amended by ATC or until a later slower speed restriction comes in effect in accordance with the STAR procedure. Figure 113 shows a typical radiotelephony exchange.

Communicator	Communication
ATS	FASTAIR 345 DESCEND VIA STAR TO 3,000 REDUCE SPEED TO 240 KNOTS OR LESS
pilot	DESCEND VIA STAR TO 3,000 REDUCE SPEED TO 240 KNOTS OR LESS FASTAIR 345

Figure 113: STAR with ATC speed restriction

6.7.7 As shown in Figure 114, ATC may apply a speed restriction or cancel published restrictions but later require the aircraft to resume published STAR restrictions.

Communicator	Communication
ATS	FASTAIR 345 DESCEND VIA STAR TO 3,000 CANCEL SPEED RESTRICTIONS
pilot	DESCEND VIA STAR TO 3,000 CANCEL SPEED RESTRICTIONS FASTAIR 345
ATS	FASTAIR 345 RESUME PUBLISHED SPEED

Communicator	Communication
 pilot	RESUME PUBLISHED SPEED FASTAIR 345
 ATS	FASTAIR 345 DESCEND TO 3,000 CANCEL LEVEL AND SPEED RESTRICTIONS
 pilot	DESCEND TO 3,000 CANCEL LEVEL AND SPEED RESTRICTIONS FASTAIR 345
 ATS	FASTAIR 345 DESCEND VIA STAR TO 2,000 RESUME PUBLISHED LEVEL AND SPEED RESTRICTIONS
 pilot	DESCEND VIA STAR TO 2,000 RESUME PUBLISHED LEVEL AND SPEED RESTRICTIONS FASTAIR 345

Figure 114: Resuming restrictions on a STAR

6.7.8 As shown in Figure 115, ATC may instruct the aircraft to bypass a particular waypoint or waypoints.

Communicator	Communication
 ATS	FASTAIR 345 CLEARED DIRECT KEVEK DESCEND VIA STAR TO 3,000
 pilot	CLEARED DIRECT KEVEK DESCEND VIA STAR TO 3,000 FASTAIR 345

Figure 115: Bypassing a waypoint on a STAR

6.7.9 ATC may vector a flight off the STAR and may or may not give prior notice about rejoining the STAR. ATC instructions to rejoin the STAR will not include the STAR designator if a rejoin expectation was provided. Figure 116 shows typical examples.

Communicator	Communication
 ATS	FASTAIR 345 TURN RIGHT HEADING 350 DESCEND TO 8,000 EXPECT TO REJOIN STAR AT KEVEK
 pilot	RIGHT HEADING 350 DESCEND TO 8,000 FASTAIR 345
 ATS	FASTAIR 345 RESUME OWN NAVIGATION POSITION 8 MILES EAST OF KEVEK CLEARED DIRECT KEVEK REJOIN STAR DESCEND VIA STAR TO 3,000
 pilot	DIRECT KEVEK REJOIN STAR DESCEND VIA STAR TO 3,000 FASTAIR 345

Communicator	Communication
ATS	FASTAIR 345 CLEARED DIRECT KEVEK REJOIN PORTS NINE PAPA ARRIVAL DESCEND VIA STAR TO 3,000
pilot	DIRECT KEVEK REJOIN PORTS NINE PAPA ARRIVAL DESCEND VIA STAR TO 3,000 FASTAIR 345

Figure 116: Vectoring off a STAR

6.7.10 When a flight is cleared via a STAR and ATC subsequently clears it for visual approach, the pilot is expected to continue following the horizontal profile of the STAR and comply with published speed restrictions. When issuing a visual approach, ATC may re-emphasise the requirement to track via the STAR horizontal profile. Figure 117 shows an example of a clearance for visual approach after a STAR.

Communicator	Communication
ATS	FASTAIR 345 DESCEND VIA STAR TO 3,000 REPORT VISUAL
pilot	DESCEND VIA STAR TO 3,000 WILCO FASTAIR 345
pilot	FASTAIR 345 VISUAL
ATS	FASTAIR 345 CLEARED VISUAL APPROACH TRACKING VIA THE STAR or FASTAIR 345 CLEARED VISUAL APPROACH
pilot	VISUAL APPROACH TRACKING VIA THE STAR FASTAIR 345 or VISUAL APPROACH FASTAIR 345

Figure 117: Visual approach after a STAR

6.8 Operations below lowest safe altitudes

6.8.1 The pilot of an IFR flight may request and be granted clearance for operations below published minimum altitudes. This may involve use of night vision imaging system (NVIS) or the pilot advising intent to maintain own terrain clearance. Figure 118 shows examples of phraseologies.

Communicator	Communication
pilot	TOWER HELICOPTER RESCUE ONE REQUEST NOT ABOVE 2,000 PILOT CALCULATED LOWEST SAFE NVIS

Communicator	Communication
 ATS	RESCUE ONE TOWER OPERATE NOT ABOVE 2,000 PILOT CALCULATED LOWEST SAFE NVIS
 pilot	NOT ABOVE 2,000 NVIS RESCUE ONE
 pilot	HELICOPTER POLAIR TWO REQUEST NOT ABOVE 3,000 NVIS
 ATS	POLAIR TWO OPERATE NOT ABOVE 3,000 NVIS
 pilot	NOT ABOVE 3,000 NVIS POLAIR TWO
 pilot	PQR REQUEST OPERATIONS WITHIN AREA ALFA NOT ABOVE 3,000 OWN TERRAIN CLEARANCE
 ATS	PQR OPERATE WITHIN AREA ALFA NOT ABOVE 3,000 MAINTAIN OWN TERRAIN CLEARANCE
 pilot	AREA ALFA NOT ABOVE 3,000 MAINTAIN OWN TERRAIN CLEARANCE PQR

Figure 118: Phraseologies for operations published minimum altitudes

7 ATS surveillance services

7.1 Surveillance identification

7.1.1 As shown in the examples in Figure 119, ATC will occasionally instruct a flight to make a turn for identification purposes.

Communicator	Communication
ATS	JRG REPORT HEADING AND LEVEL
pilot	JRG HEADING 110 MAINTAINING 3,500
ATS	JRG FOR IDENTIFICATION TURN LEFT HEADING 080
pilot	LEFT HEADING 080 JRG
ATS	JRG IDENTIFIED 20 MILES NORTHWEST OF ROCKINGTON CONTINUE HEADING 080 MAINTAIN 3,500 VECTORING TO THORNHILL
pilot	HEADING 080 MAINTAIN 3,500 JRG

Figure 119: Turns for identification

7.1.2 As shown in Figure 120, ATC will inform a pilot when identification is lost or terminated. 'IDENTIFICATION TERMINATED' is the phrase used to indicate the termination of ATS surveillance. For example, when an aircraft proceeds outside of the coverage of the ATS surveillance system or ATS terminates a surveillance information service. When an aircraft leaves controlled airspace, ATC may also advise the termination of control services.

Communicator	Communication
ATS	JRG IDENTIFICATION LOST RESET SQUAWK 6411
pilot	RESETTING 6411 JRG
ATS	JRG IDENTIFIED
ATS	PQR IDENTIFICATION TERMINATED REPORT MAKIR
pilot	PQR WILCO

Communicator	Communication
ATS	JRG IDENTIFICATION AND CONTROL SERVICE TERMINATED FREQUENCY CHANGE APPROVED
pilot	JRG

Figure 120: Identification lost or terminated

7.2 Surveillance vectoring

7.2.1 ATC may issue vectoring instructions to a flight to establish or maintain horizontal separation.

7.2.2 When necessary to specify a reason for a manoeuvre, ATC should use the following phraseologies as appropriate:

- '… DUE TRAFFIC'
- '… FOR SPACING'
- '… FOR DELAY'
- '… FOR DOWNWIND (or BASE, or FINAL)'.

7.2.3 Figure 121 shows examples of phraseologies used in vectoring.

Communicator	Communication
ATS	FASTAIR 345 FOR SEQUENCING TURN LEFT HEADING 050
pilot	LEFT HEADING 050 FASTAIR 345
ATS	FASTAIR 345 FLY HEADING 050 VECTORS DUE TRAFFIC
pilot	HEADING 050 FASTAIR 345
ATS	FASTAIR 345 CONTINUE PRESENT HEADING VECTORING FOR THE ILS
pilot	CONTINUE PRESENT HEADING FASTAIR 345
ATS	FASTAIR 345 STOP TURN HEADING 350
pilot	STOP TURN HEADING 350 FASTAIR 345

Figure 121: Vectoring phrases

7.2.4 As shown in Figure 122, if a vector involves a heading change of 180 degrees or more and it is necessary to emphasise a particular direction of turn, ATC will repeat the direction of turn.

Communicator	Communication
ATS	FASTAIR 345 TURN LEFT I SAY AGAIN – LEFT HEADING 090 FOR SPACING
pilot	LEFT HEADING 090 FASTAIR 345

Figure 122: Repeating direction of turn

7.2.5 When vectoring is completed, ATC will instruct the pilot to resume own navigation. ATC will also give position information and additional instructions, if necessary and appropriate. Figure 123 shows examples.

Communicator	Communication
ATS	FASTAIR 345 POSITION 35 MILES SOUTH OF MAKIR RESUME OWN NAVIGATION CLEARED DIRECT MAKIR
pilot	DIRECT MAKIR FASTAIR 345
ATS	JRG POSITION 15 MILES SOUTHEAST OF WAVERLEY RESUME OWN NAVIGATION CLEARED DIRECT BEACHTOWN
pilot	DIRECT BEACHTOWN JRG

Figure 123: Termination of vectoring

7.2.6 As shown in Figure 124, ATC may sometimes instruct a flight to make one or more orbits (a complete turn through 360 degrees) or – when vectoring a flight – to make a complete turn through 360 degrees for delaying purposes or to achieve a required spacing behind preceding traffic.

Communicator	Communication
ATS	JRG MAKE ONE LEFT ORBIT
pilot	MAKE ONE LEFT ORBIT JRG
ATS	JABIRU 1346 ORBIT RIGHT UNTIL ADVISED
pilot	ORBIT RIGHT JABIRU 1346
ATS	FASTAIR 345 MAKE A THREE SIXTY TURN LEFT FOR SEQUENCING

Communicator	Communication
 pilot	THREE SIXTY TURN LEFT FASTAIR 345

Figure 124: 360 turn or orbit

7.3 ATS surveillance services – traffic information and avoiding action

7.3.1 When providing surveillance services, ATC may issue traffic information when an aircraft is in potential conflict with another aircraft. In more critical situations or when requested by a pilot, ATC may issue or recommend a heading to avoid conflict. In unsafe situations, ATC may include 'SAFETY ALERT' with the transmission. See Section 9.8 for further information.

7.3.2 Whenever practicable, information regarding traffic on a conflicting path should be given in the following form:

a. relative bearing of the conflicting traffic in terms of the 12-hour clock

b. distance from the conflicting traffic

c. direction of the flight of the conflicting traffic

d. any other pertinent information such as unknown, slow moving, fast moving, closing, opposite (or same) direction, overtaking, crossing left to right (or right to left), and if known, aircraft type and level, climbing or descending.

7.3.3 Figure 125 shows examples of communication concerning traffic information and avoiding action.

Communicator	Communication
 pilot	CAPRICORN CENTRE PQR REQUEST TRAFFIC
 ATS	PQR CAPRICORN CENTRE NO REPORTED IFR TRAFFIC VFR OBSERVED 3 MILES WEST OF FIELD, 4,500 UNVERIFIED, INTENTIONS UNKNOWN
 pilot	PQR
 ATS	*{A situation in Class E airspace}* FASTAIR 345 UNIDENTIFED VFR TRAFFIC 10 O'CLOCK 4 MILES CROSSING LEFT TO RIGHT
 pilot	FASTAIR 345 LOOKING REQUEST VECTORS
 ATS	FASTAIR 345 TURN LEFT HEADING 050 *or* FASTAIR 345 YOU ARE BELOW GRID LSALT IF VISUAL, SUGGEST LEFT HAND TURN

Communicator	Communication
	CAUTION TERRAIN
pilot	LEFT HEADING 050 FASTAIR 345 *or* TURNING LEFT FASTAIR 345
	FASTAIR 345 CLEAR OF TRAFFIC RESUME OWN NAVIGATION DIRECT PUKKA
pilot	DIRECT PUKKA FASTAIR 345
ATS	PQR TRAFFIC 2 O'CLOCK 4 MILES AT 2,000 NORTHBOUND CHEROKEE
pilot	PQR LOOKING
ATS	PQR IF NO SIGHTING SUGGEST WESTERLY HEADING
pilot	PQR TRAFFIC IN SIGHT
ATS	PQR MAINTAIN OWN SEPARATION WITH THE CHEROKEE *or* PQR MAINTAIN OWN SEPARATION WITH AND PASS BEHIND THE CHEROKEE
pilot	OWN SEPARATION WITH THE CHEROKEE PQR *or* OWN SEPARATION AND PASS BEHIND THE CHEROKEE PQR

Figure 125: Traffic information and avoiding action

7.4 Vectors to final approach

7.4.1 ATC may vector an arriving flight to position it onto a pilot-interpreted final approach aid, or to a point from which a radar-assisted approach can be made. In the example shown in Figure 126, an identified aircraft is given vectors for the precision approach.

Communicator	Communication
pilot	CAPRICORN APPROACH FASTAIR 345 PASSING FLIGHT LEVEL 180 DESCENDING TO 7,000 INFORMATION CHARLIE

Communicator	Communication
ATS	FASTAIR 345 CAPRICORN APPROACH EXPECT VECTORS FOR ILS APPROACH RUNWAY 21 RIGHT
pilot	RUNWAY 21 RIGHT FASTAIR 345
ATS	FASTAIR 345 FROM AVKEX FLY HEADING 050
pilot	FROM AVKEX FLY HEADING 050 FASTAIR 345
ATS	FASTAIR 345 DESCEND TO 4,000
pilot	4,000 FASTAIR 345
ATS	FASTAIR 345 20 MILES TO RUN CAPRICORN
pilot	FASTAIR 345
ATS	FASTAIR 345 TURN RIGHT HEADING 120 BASE
pilot	HEADING 120 FASTAIR 345
ATS	FASTAIR 345 POSITION 3 MILES RIGHT OF THE LOCALISER TURN RIGHT HEADING 165 FOR PILOT INTERCEPT CLEARED ILS APPROACH REPORT ESTABLISHED
pilot	RIGHT HEADING 165 CLEARED ILS APPROACH WILCO FASTAIR 345
pilot	FASTAIR 345 ESTABLISHED
ATS	FASTAIR 345 CONTACT CAPRICORN TOWER 118.1
pilot	TOWER 118.1 FASTAIR 345

Figure 126: Vectors to final approach

Note: When vectoring an aircraft, the controller will advise the pilot of position at least once prior to turning onto final approach. This may be distance to run to the aerodrome, distance to the initial or final approach fix, disposition relative to the localiser or final approach course or position in the circuit, for example, downwind.

7.4.2 As shown in Figure 127, ATC may provide additional instructions or information when vectoring a flight to the final approach track. This may include advice about the controller intending to vector a flight through the final approach track and of the reason for the track extension.

Communicator	Communication
ATS	FASTAIR 345 CONTINUE PRESENT HEADING EXPECT A 9 MILE FINAL
pilot	CONTINUE PRESENT HEADING FASTAIR 345 REQUEST 12 MILE FINAL
ATS	FASTAIR 345 TURN RIGHT HEADING 180 FOR 12 MILE FINAL
pilot	RIGHT HEADING 180 FASTAIR 345
ATS	FASTAIR 345 EXPECT VECTOR ACROSS THE LOCALISER FOR SPACING
pilot	FASTAIR 345
ATS	FASTAIR 345 CONTINUE PRESENT HEADING TAKING YOU THROUGH THE FINAL APPROACH COURSE FOR SEQUENCING
pilot	CONTINUE PRESENT HEADING FASTAIR 345
ATS	FASTAIR 345 MAINTAIN 2,100 UNTIL GLIDE PATH INTERCEPTION REPORT ESTABLISHED ON GLIDE PATH
pilot	MAINTAIN 2 100 UNTIL GLIDE PATH INTERCEPTION WILCO FASTAIR 345
ATS	FASTAIR 345 INTERCEPT RNP FINAL APPROACH COURSE RUNWAY 16 REPORT ESTABLISHED
pilot	INTERCEPT RNP FINAL APPROACH COURSE RUNWAY 16 WILCO FASTAIR 345

Figure 127: Additional instructions and information during vectoring

7.5 Independent approach operations

7.5.1 For independent approach operations to parallel runways, ATC carefully monitors aircraft during the intercept of final approach and whilst on the final approach leg for each aircraft's assigned runway. To confirm with the pilot that the correct ILS or GLS facility has been selected, ATC will include the relevant ILS or GLS identifier with the runway assignment.

7.5.2 During final approach and if a deviation is detected, ATC response will range from a deviation alert, which allows the pilot to self-correct the deviation, to a break-out alert whereby ATC issues a safety vector to the pilots of one or both aircraft.

7.5.3 Figure 128 shows examples of typical radiotelephony associated with independent parallel approach operations.

Communicator	Communication
ATS	FASTAIR 345 EXPECT GLS APPROACH RUNWAY 21 LEFT IDENT IS G34A
pilot	G34A FASTAIR 345
ATS	FASTAIR 345 YOU HAVE CROSSED THE FINAL APPROACH COURSE TURN RIGHT IMMEDIATELY AND RETURN TO THE LOCALISER
pilot	TURNING RIGHT FASTAIR 345
ATS	FASTAIR 345 YOU ARE DEVIATING FROM THE FINAL APPROACH COURSE TURN LEFT IMMEDIATELY AND RETURN TO YOUR CLEARED APPROACH
pilot	TURNING LEFT FASTAIR 345
ATS	BREAK-OUT ALERT FASTAIR 345 TURN LEFT IMMEDIATELY HEADING 350 CLIMB TO 3,000
pilot	LEFT HEADING 350 CLIMB TO 3,000 FASTAIR 345

Figure 128: Independent parallel approaches

7.6 ATS surveillance assistance and flight following

7.6.1 A flight within VHF and surveillance coverage may request a variety of services in Class E and G airspace based on available surveillance information. Services include position information, traffic information, or ongoing surveillance information service (SIS)–flight following. An SIS is subject to controller workload and may be terminated by the controller at any time that higher priority duties require.

7.6.2 Figure 129 shows examples of surveillance-based assistance.

Communicator	Communication
 pilot	CAPRICORN CENTRE JRG
 ATS	JRG CAPRICORN CENTRE
 pilot	JRG 10 MILES NORTH OF BAT HURST 2,500 REQUEST FLIGHT FOLLOWING TO MOUNTAIN HILL
 ATS	JRG SQUAWK 4321 AREA QNH 1020
 pilot	SQUAWK 4321 AREA QNH 1020 JRG
 ATS	JRG IDENTIFIED TRAFFIC ELEVEN O'CLOCK 10 MILES OPPOSITE DIRECTION UNVERIFIED LEVEL[8] 3,500
 pilot	ROGER JRG
 pilot	CENTRE JRG TRAFFIC SIGHTED
 pilot	CENTER JRG CANCEL FLIGHT FOLLOWING
 ATS	JRG POSITION 10 MILES SOUTH OF MOUNTAIN HILL FLIGHT FOLLOWING AND IDENTIFICATION TERMINATED
 pilot	ROGER JRG
 pilot	JRG MOUNTAIN HILL IN SIGHT CANCEL FLIGHT FOLLOWING
 ATS	JRG FLIGHT FOLLOWING AND IDENTIFICATION TERMINATED
 pilot	JRG
 pilot	PQR REQUEST POSITION WITH REFERENCE TO SHEEP STATION

[8] 'unverified level' means that ATS has not cross checked that the aircraft's transmitted level information is within prescribed tolerances of the aircraft's actual level.

Communicator	Communication
 ATS	PQR SHEEP STATION IN YOUR THREE O'CLOCK 4 MILES
 pilot	PQR

Figure 129: ATS surveillance assistance

7.7 Transponder and ADS-B operations

7.7.1 Table 37 lists the phrases associated with the capability and operation of secondary surveillance radar (SSR) transponders and automatic dependent surveillance – broadcast (ADS-B).

Table 37: Phrases for transponder and ADS-B

Phrase	Meaning
'ADVISE TRANSPONDER CAPABILITY' or 'ADVISE ADS-B CAPABILITY'	Provide the capacity of equipment
'SQUAWK (code)'	Set the code as instructed
'CONFIRM SQUAWK'	Confirm mode and code set on the transponder
'RESET (mode) (code)'	Reselect assigned mode and code
'SQUAWK IDENT' or 'TRANSMIT ADS-B IDENT'	Operate the 'IDENT' feature
'SQUAWK MAYDAY'	Select emergency code
'SQUAWK STAND BY'	Select the stand by feature
'SQUAWK CHARLIE'	Select pressure altitude transmission feature (commonly the 'ALT' setting)
'CHECK ALTIMETER SETTING AND CONFIRM LEVEL'	Check pressure setting and confirm present level
'STOP SQUAWK CHARLIE WRONG INDICATION' or 'STOP ADS-B ALTITUDE TRANSMISSION [(WRONG INDICATION or reason)]'	Deselect pressure altitude transmission feature because of faulty operation
'VERIFY LEVEL'[9]	Check and confirm your level

[9] Used to verify the accuracy of the pressure altitude derived level information displayed to the controller.

Phrase	Meaning
‘RESET MODE S IDENTIFICATION’	For a Mode S equipped aircraft request reselection of aircraft identification
‘RE-ENTER [ADS-B or MODE S] AIRCRAFT IDENTIFICATION’	Reselect aircraft identification
‘STOP SQUAWK [TRANSMIT ADS-B ONLY]’	Terminate SSR transponder (and operate only ADS-B)
‘STOP ADS-B TRANSMISSION [SQUAWK (code) ONLY]’	Terminate ADS-B transponder (and operate only transponder)

7.7.2 The pilot’s reply to SSR instructions is usually either an acknowledgement or a read back.

7.7.3 Figure 130 below shows typical communications relating to transponder and ADS-B operations.

Communicator	Communication
ATS	FASTAIR 345 SQUAWK 6411
pilot	SQUAWK 6411 FASTAIR 345
ATS	FASTAIR 345 CONFIRM SQUAWK 6411
pilot	SQUAWKING 6411 FASTAIR 345
ATS	FASTAIR 345 RESET 6411
pilot	RESETTING 6411 FASTAIR 345
ATS	FASTAIR 345 CHECK ALTIMETER SETTING AND CONFIRM LEVEL
pilot	ALTIMETER 1026 8,000 FASTAIR 345
ATS	FASTAIR 345 IDENTIFICATION LOST CONFIRM TRANSPONDER OPERATING
pilot	FASTAIR 345 NEGATIVE TRANSPONDER UNSERVICEABLE

Figure 130: Responses to transponder instructions

8 Area control

8.1 General

8.1.1 Much of the phraseology used in area control is of a general nature. However, many instructions used in area control (particularly where surveillance is not available) are related to specific conditions for maintaining aircraft separation.

8.1.2 ATC may require a flight to reach an assigned level by a specific time, distance or place. ATC must be advised immediately if a pilot doubts that the restriction can be met.

8.1.3 ATC advice of an expectation of a level restriction does not authorise a pilot to climb or descend to meet that restriction.

8.1.4 The examples in Figure 131 below provide a cross-section of phraseology used in area control. They may be varied, or added to, by combining their component parts according to the requirements of the prevailing traffic situation.

Communicator	Communication
 pilot	FASTAIR 345 REQUEST DESCENT
 ATS	FASTAIR 345 MAINTAIN FLIGHT LEVEL 350 EXPECT DESCENT AFTER SUNNYTOWN
 pilot	MAINTAINING FLIGHT LEVEL 350 FASTAIR 345
 ATS	PQR DESCEND TO 8,000 DESCEND TO REACH FLIGHT LEVEL 120 BY LAKETOWN
 pilot	DESCEND TO 8,000 DESCEND TO REACH FLIGHT LEVEL 120 BY LAKETOWN PQR
 ATS	FASTAIR 345 ARE YOU ABLE TO REACH FLIGHT LEVEL 210 BY SUNNYTOWN
 pilot	FASTAIR 345 AFFIRM
 ATS	FASTAIR 345 CLIMB TO FLIGHT LEVEL 350 CLIMB TO REACH FLIGHT LEVEL 210 BY SUNNYTOWN
 pilot	CLIMB TO FLIGHT LEVEL 350 CLIMB TO REACH FLIGHT LEVEL 210 BY SUNNYTOWN FASTAIR 345
 ATS	FASTAIR 345 REPORT REVISED ESTIMATE FOR MAKIR
 pilot	FASTAIR 345 ESTIMATE MAKIR 46

Figure 131: General area phraseology

8.1.5 Aircraft arriving at aerodromes where land and hold short operations (LAHSO) are in use will be informed via ATIS when LAHSO is in operation.

8.1.6 Pilots of Australian civil aircraft operating under a flight number call sign and pilots of Australian military aircraft generally do not need to inform ATC about their eligibility for LAHSO. However, pilots of other aircraft approved to participate in LAHSO should so inform ATC when the aircraft reaches 200 miles from destination or as soon as possible after entering controlled airspace en route to the LAHSO airport.

8.1.7 If a flight or crew that would normally participate actively or passively in LAHSO does not meet the criteria for participation, this should be communicated to ATC at the earliest opportunity.

8.1.8 Figure 132 shows examples of communications about participating in LAHSO.

Communicator	Communication
 pilot	PQR LAHSO APPROVED
 pilot	FASTAIR 345 NEGATIVE LAHSO
 pilot	FASTAIR 345 NEGATIVE ACTIVE LAHSO
 pilot	FASTAIR 345 NEGATIVE PASSIVE LAHSO

Figure 132: Participating in LAHSO

8.2 Position information

8.2.1 As shown in Figure 133, ATC may instruct a pilot to provide additional position report information as well as routine reports.

Communicator	Communication
 pilot	FASTAIR 345 NEXT REPORT AT MAKIR
 ATS	WILCO FASTAIR 345
 pilot	FASTAIR 345 MAKIR 47 FLIGHT LEVEL 350 UNAGI 55
 ATS	FASTAIR 345 ROGER
 ATS	FASTAIR 345 REPORT 25 MILES GNSS FROM BRIDGETOWN
 pilot	WILCO FASTAIR 345

Communicator	Communication
 ATS	FASTAIR 345 REPORT DISTANCE FROM SUNRISETOWN
 pilot	FASTAIR 345 37 DME SUNRISETOWN
 ATS	FASTAIR 345 REPORT PASSING 270 RADIAL LAKETOWN V-O-R
 pilot	WILCO FASTAIR 345

Figure 133: Position information

8.3 Block level clearances

8.3.1 ATC may issue block level clearances to facilitate operations in adverse weather or to allow flight crews to optimise fuel burn for a flight.

8.3.2 A block level clearance is cancelled or amended by the issuing of a new vertical clearance.

Note: Australia does not utilise cruise climb procedures, pilots should instead request a block level clearance.

8.3.3 Figure 134 shows typical examples of phraseologies for initiating and terminating a block level clearance.

Communicator	Communication
 pilot	PQR REQUEST BLOCK LEVEL 6,000 TO 10,000
 ATS	PQR MAINTAIN BLOCK 6,000 TO 10,000
 pilot	MAINTAIN BLOCK 6,000 TO 10,000 PQR
 ATS	FASTAIR 345 REPORT LEVEL
 pilot	FASTAIR 345 FLIGHT LEVEL 290
 ATS	FASTAIR 345 CANCEL BLOCK CLEARANCE CLIMB TO FLIGHT LEVEL 310 REPORT MAINTAINING
 pilot	CANCEL BLOCK CLEARANCE CLIMB TO FLIGHT LEVEL 310 WILCO FASTAIR 345

Figure 134: Typical block level clearances

8.3.4 ATC providing a surveillance service will receive a Predicted Level Mismatch alert if the selected level entered into the mode control panel or unit of an enhanced surveillance (EHS) Mode-S equipped aircraft does not match the cleared level issued by the controller or intermediate level contained in the standard route clearance. ATC will advise the aircraft of the discrepancy by: 'FASTAIR 345, CHECK SELECTED LEVEL, CLEARED LEVEL IS (level)'.

8.4 Flights leaving controlled airspace

8.4.1 As shown in Figure 135 below, flights leaving controlled airspace will normally be given instructions or information for the level or specific point at which controlled airspace is vacated.

Communicator	Communication
 pilot	CAPRICORN CENTRE FASTAIR 345 MAINTAINING FLIGHT LEVEL 160 ESTIMATING MINETOWN 33
 ATS	FASTAIR 345 WHEN READY LEAVE CONTROLLED AIRSPACE DESCENDING NO REPORTED IFR TRAFFIC AREA QNH 1021
 pilot	WHEN READY LEAVE CONTROLLED AIRSPACE DESCENDING QNH 1021 FASTAIR 345

Figure 135: Leaving controlled airspace

8.4.2 As shown in Figure 136, aircraft sometimes require a clearance to leave and re-enter controlled airspace. For example, an unpressurised aircraft requiring a shallow descent profile that cannot be contained within the control area steps.

Communicator	Communication
 pilot	PQR REQUEST DESCENT
 ATS	PQR CLEARED TO LEAVE AND REENTER CONTROLLED AIRSPACE TRACKING DIRECT MENOG DESCEND TO 2,000 QNH 1014 NO REPORTED IFR TRAFFIC
 pilot	CLEARED TO LEAVE AND REENTER CONTROLLED AIRSPACE DESCENDING TO 2,000 TRACKING DIRECT MENOG LEAVING 8,000 QNH 1014 PQR

Figure 136: Clearance to leave and enter controlled airspace

8.5 Reduced Vertical Separation Minimum (RVSM) Phraseology

8.5.1 RVSM is applied in airspace between flight level 290 and flight level 410 (inclusive). The phraseologies in Figure 137 below should be used for controller-pilot communications for RVSM operations.

Communicator	Communication
ATS	FASTAIR 345 CONFIRM RVSM APPROVED
pilot	NEGATIVE RVSM FASTAIR 345 *or* AFFIRM RVSM FASTAIR 345
pilot	CAPRICORN CENTRE FASTAIR 345 FLIGHT LEVEL 320 UNABLE RVSM DUE TURBULENCE
ATS	{If there is no traffic affected by the change of RVSM status} FASTAIR 345 MAINTAIN FLIGHT LEVEL 320 {If there is traffic affected by the change of RVSM status} FASTAIR 345 DESCEND IMMEDIATELY TO FLIGHT LEVEL 310 REPORT MAINTAINING
pilot	MAINTAIN FLIGHT LEVEL 320 FASTAIR 345 or DESCENDING TO FLIGHT LEVEL 310 FASTAIR 345 … FASTAIR 345 MAINTAINING FLIGHT LEVEL 310\\
ATS	FASTAIR 345
pilot	CAPRICORN CENTRE FASTAIR 345 PASSING FLIGHT LEVEL 200 CLIMBING TO FLIGHT LEVEL 310 UNABLE RVSM DUE EQUIPMENT FAILURE
ATS	FASTAIR 345 ROGER RECLEARED FLIGHT LEVEL 290
pilot	FLIGHT LEVEL 290 FASTAIR 345

Figure 137: RVSM communications

8.5.2 Pilots should report non-approved status during operations in, or vertical transit through, RVSM airspace as follows:

a. at initial call on any channel within RVSM airspace

b. in all requests for level changes

c. in all read backs of level clearances.

8.5.3 ATS should explicitly acknowledge receipt of messages from aircraft reporting RVSM non-approved status.

8.6 Weather deviations

8.6.1 When weather deviation is likely, the pilot of a flight should notify ATC and request clearance to deviate from track or ATS route, advising, when possible, the extent of the deviation from track or route requested. The flight crew will use whatever means are appropriate (i.e. voice and/or CPDLC) to communicate during a weather deviation.

8.6.2 When the urgency for weather deviation increases, the pilot should consider making the request by stating 'WEATHER DEVIATION REQUIRED', or if critical situations dictate by using the urgency call 'PAN PAN' (preferably spoken three times) or by using a CPDLC urgency downlink message.

8.6.3 Pilots should tell ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

8.6.4 Figure 138 has examples of communications associated with weather deviations.

Communicator	Communication
 pilot	CENTRE FASTAIR 345 REQUEST TO DEVIATE UP TO 20 MILES LEFT OF ROUTE DUE WEATHER
 ATS	FASTAIR 345 DEVIATE UP TO 20 MILES LEFT OF ROUTE
 pilot	UP TO 20 MILES LEFT OF ROUTE FASTAIR 345
 pilot	CENTRE FASTAIR 345 CLEAR OF WEATHER REQUEST DIRECT MAKIR
 ATS	FASTAIR 345 CLEARED DIRECT MAKIR FLIGHT LEVEL 320
 pilot	DIRECT MAKIR FLIGHT LEVEL 320 FASTAIR 345
 pilot	*After weather deviation if so requested…* FASTAIR 345 BACK ON ROUTE
 ATS	FASTAIR 345

Figure 138: Communications for weather deviations

8.7 Parachute operations

8.7.1 The pilot of an aircraft carrying out parachuting operations should make a broadcast advising the intention to drop parachutists prior to parachutists exiting the aircraft. The broadcast should be made on all relevant frequencies for airspace through which the parachutists may descend.

8.7.2 ATC may require the pilot of the aircraft to report when the aircraft and parachutists are clear of controlled airspace.

8.7.3 Figure 139 shows an example of parachuting communications where the parachutists will exit the aircraft within Class C airspace.

Communicator	Communication
 pilot	CENTRE JRG OVERHEAD BACKIST MARCH FLIGHT LEVEL 145 READY TO DROP
 ATS	JRG CLEAR TO DROP
 pilot	CLEAR TO DROP JRG
 pilot	*For drops that will descend through non-controlled airspace, the pilot would make additional broadcasts on the ATS area frequency and the relevant CTAF. See the example in section 3.7.*
 ATS	JRG REPORT AIRCRAFT AND CANOPIES CLEAR OF CLASS C AIRSPACE
 pilot	JRG WILCO
 pilot	CENTRE JRG AIRCRAFT AND CANOPIES CLEAR OF CLASS C AIRSPACE
 ATS	JRG ROGER IDENTIFICATION AND CONTROL SERVICE TERMINATED
 pilot	JRG

Figure 139: Parachuting communications in controlled airspace

8.8 VFR climb or descent, VFR-on-top and IFR pick-up

8.8.1 In Class D or E airspace, the pilot of an IFR flight may request VFR climb or descent to avoid delays otherwise necessary for IFR separation.

8.8.2 In Class E airspace, the pilot of an IFR flight may request to operate VFR-on-top, or climb IFR through cloud, haze, smoke, or other meteorological formation to VFR-on-top.

8.8.3 The pilot of a flight operating to the IFR in Class G airspace may change to VFR upon entering Class E airspace to avoid delay. The pilot should inform ATC about expectation for IFR clearance, once available, via the phrase ‘REQUEST IFR PICK-UP’.

8.8.4 Figure 140 shows examples of phraseology for VFR climb or descent, VFR-on-top and the IFR pick-up.

Communicator	Communication
 pilot	PQR REQUEST DESCENT
 ATS	PQR MAINTAIN 7,000 DUE TRAFFIC

Communicator	Communication
 pilot	PQR REQUEST VFR DESCENT
 ATS	PQR DESCEND VFR TO 3,000 REPORT PASSING 5,000 TRAFFIC IS A BARON SAME TRACK 3 MINUTES AHEAD MAINTAINING 6,000
 pilot	DESCEND VFR TO 3,000 WILCO ROGER TRAFFIC PQR
 pilot	CENTRE PQR MAINTAINING FLIGHT LEVEL 110 REQUEST VFR-ON-TOP FLIGHT LEVEL 115
 ATS	PQR CENTRE MAINTAIN VFR-ON-TOP FLIGHT LEVEL 115 REPORT LEAVING FLIGHT LEVEL 110
 pilot	VFR-ON-TOP LEFT FLIGHT LEVEL 110 NOW MAINTAINING FLIGHT LEVEL 115 PQR
 ATS	PQR
 pilot	CENTRE PQR MAINTAINING 3,000 REQUEST CLIMB TO VFR-ON-TOP
 ATS	PQR CENTRE CLIMB TO VFR-ON-TOP NOT ABOVE 9,500 REPORT REACHING VFR-ON-TOP NO TOPS REPORTS
 pilot	CLIMB TO VFR-ON-TOP NOT ABOVE 9,500 WILCO PQR
 pilot	PQR VFR-ON-TOP 8,500
 ATS	PQR MAINTAIN VFR-ON-TOP
 pilot	MAINTAIN VFR-ON-TOP PQR
 pilot	*… later and no longer wishing to operate VFR-on-top* PQR REQUEST 10,000 IFR

Communicator	Communication
ATS	PQR CLIMB TO 10,000 IFR
pilot	10,000 PQR
pilot	CENTRE PQR DEPARTED MINETOWN 50 TRACKING 120 PASSING 3,000 CLIMBING TO FLIGHT LEVEL 120 REQUEST CLEARANCE
ATS	PQR CENTRE CLEARANCE NOT AVAILABLE DUE TRAFFIC REMAIN OUTSIDE CONTROLLED AIRSPACE EXPECT 10 MINUTES DELAY AREA QNH 1014
pilot	PQR AREA QNH 1014 CLIMBING VFR TO 9,500 REQUEST IFR PICK-UP
ATS	PQR WILL ADVISE

Figure 140: VFR climb/descent, VFR-on-top and IFR pick-up

8.9 Traffic information broadcasts by aircraft (TIBA)

8.9.1 TIBA are reports and information transmitted by pilots for the information of pilots of other aircraft in the vicinity following a significant disruption to air traffic or aeronautical telecommunications services. Transmissions under TIBA procedures are to be prefixed with ‘ALL STATIONS’ and call sign. Figure 141 shows examples of TIBA broadcasts.

Communicator	Communication
pilot	ALL STATIONS FASTAIR 345 WESTBOUND SMALLTOWN TO SUNNYTOWN LEAVING FLIGHT LEVEL 150 DESCENDING TO 8,000 ESTIMATING SUNNYTOWN ON THE HOUR
pilot	ALL STATIONS PQR GASTOWN 14 FLIGHT LEVEL 120 SUNNYTOWN 43

Figure 141: TIBA broadcast

9 Distress and urgency phraseology

9.1 States of emergency

9.1.1 The states of emergency are classified as follows:

a. **Distress:** A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.

b. **Urgency:** A condition concerning the safety of an aircraft or other vehicle, or of some person on board or within sight, but does not require immediate assistance.

9.1.2 A pilot should start the emergency call with the appropriate international prefix as follows:

a. Distress ‘MAYDAY, MAYDAY, MAYDAY.’

b. Urgency ‘PAN PAN, PAN PAN, PAN PAN.’

9.2 General procedures

9.2.1 Pilots are urged to request assistance as soon as there is any doubt about the safe conduct of their flight. Clear details about the situation, including use of the correct distress or emergency prefix will help ATS to provide assistance. On the other hand, a vague request for ‘confirmation of position’ is unlikely to be accorded as much priority as a statement about being lost.

9.2.2 If, after the transmission of a ‘MAYDAY’ or ‘PAN’, a pilot considers the problem not to be as serious as first thought and priority attention is no longer required, the emergency condition may be cancelled at the pilot’s discretion. However, it is better to declare an emergency condition early and then cancel or modify later, rather than to say nothing and hope for a good outcome.

9.2.3 A pilot already in communication with a particular ATS unit should remain on the frequency and seek assistance from that unit.

9.2.4 Any SSR code setting previously assigned may be retained at the discretion of either the pilot or the controller. However, the pilot of a transponder-equipped aircraft, who is not in direct communication with ATS, should select Emergency Code 7700, with Mode C if available.

9.3 Emergency message

9.3.1 The emergency message should contain the following information (time and circumstance permitting) and, whenever possible, should be passed in the order given:

a. ‘MAYDAY, MAYDAY, MAYDAY’ (or ‘PAN PAN, PAN PAN, PAN PAN’)

b. name of the station addressed (when appropriate and time and circumstances permitting)

c. call sign

d. type of aircraft

e. nature of the emergency

f. intention of the pilot-in-command

g. present or last known position, flight level/altitude and heading

h. pilot qualifications (See Note below), including:

   i. student pilot

   ii. no instrument qualification

   iii. private IFR rating

iv. instrument rating

i. any other useful information. For example, endurance remaining, POB, aircraft colour or markings, any survival aids

Note: There is no requirement to include pilot qualifications in a distress message. However, such information may help ATS plan a course of action best suited to the pilot's ability.

9.4 Distress message

9.4.1 Figure 142 shows examples of distress (MAYDAY) messages.

Communicator	Communication
 pilot	MAYDAY, MAYDAY, MAYDAY JRG ROUGH RUNNING ENGINE UNABLE TO MAINTAIN HEIGHT MAKING FORCED LANDING POSITION 2 MILES SOUTH OF STONYTOWN PASSING 3,000 HEADING 360 POB 1
 ATS	JRG CENTRE ROGER MAYDAY
 pilot	MAYDAY, MAYDAY, MAYDAY THORNHILL TOWER JRG ENGINE FAILED ATTEMPTING LANDING AT THORNHILL POSITION 10 MILES NORTH OF SUNRISETOWN 8,000 HEADING 180
 ATS	JRG THORNHILL TOWER ROGER MAYDAY CLEARED VISUAL APPROACH RUNWAY 28 WIND VARIABLE 4 KNOTS QNH 1008
 pilot	CLEARED VISUAL APPROACH RUNWAY 28 QNH 1008 JRG

Figure 142: Distress message

9.4.2 The station in distress is permitted to impose silence, either to all stations or any station which interferes with the distress traffic. Figure 143 shows examples of radio silence being imposed.

Communicator	Communication
 ATS	ALL STATIONS STOP TRANSMITTING, MAYDAY

Communicator	Communication
ATS	FASTAIR 345 STOP TRANSMITTING, MAYDAY

Figure 143: Radio silence for distress traffic

9.4.3 Distress communications have absolute priority over all other communications. A station (aircraft, vehicle, person etc.) being aware of a distress communication should not transmit on the frequency concerned, unless:

a. the distress is cancelled or the distress traffic is terminated

or

b. all distress traffic has been transferred to other frequencies

or

c. the station controlling communications (e.g. ATC) gives permission

or

d. the station itself must render assistance.

9.4.4 As shown in Figure 144, when the pilot of the distress aircraft considers the emergency complete and cancels the distress, the controlling station will then transmit a message on the frequency used for the distress traffic.

Communicator	Communication
pilot	JRG CANCEL MAYDAY ENGINE POWER RESTORED
ATS	JRG CENTRE ROGER ALL STATIONS DISTRESS TRAFFIC ENDED

Figure 144: Cancel distress traffic

9.5 Urgency messages

9.5.1 Figure 145 shows examples of urgency (PAN PAN) messages.

Communicator	Communication
pilot	PAN PAN – PAN PAN – PAN PAN CAPRICORN CENTRE JRG ROUGH-RUNNING ENGINE APPROXIMATELY 15 MILES WEST OF CAPRICORN MAINTAINING 2,000 REQUEST DIRECT CAPRICORN FOR LANDING
ATS	JRG CAPRICORN CENTRE ROGER PAN SQUAWK IDENT

Communicator	Communication
ATS	JRG IDENTIFIED TURN LEFT HEADING 090 MAINTAIN 2,000
pilot	LEFT HEADING 090 MAINTAIN 2,000 JRG
ATS	JRG CONTINUE HEADING 090 CAPRICORN AERODROME IS IN YOUR 12 O'CLOCK 5 MILES REPORT AERODROME IN SIGHT
pilot	CONTINUE HEADING 090 AERODROME IN SIGHT JRG
ATS	JRG CLEARED FOR VISUAL APPROACH STRAIGHT IN RUNWAY 21 RIGHT CONTACT CAPRICORN TOWER 118.1
pilot	STRAIGHT-IN RUNWAY 21 RIGHT CAPRICORN TOWER 118.1 JRG
pilot	CAPRICORN TOWER JRG
ATS	JRG CAPRICORN TOWER PAN ACKNOWLEDGED CLEARED TO LAND RUNWAY 21 RIGHT WIND 210 DEGREES 5 KNOTS
pilot	CLEARED TO LAND RUNWAY 21 RIGHT JRG
pilot	PAN PAN – PAN PAN – PAN PAN THORNHILL TOWER JRG MEDICAL PRIORITY REQUIRED PASSENGER WITH SUSPECTED HEART ATTACK POSITION FIVE MILES EAST OF THORNHILL HEADING 270 LEAVING 3,000
ATS	JRG THORNHILL TOWER ROGER PAN NUMBER ONE JOIN BASE RUNWAY 28 WIND 180 DEGREES 10 KNOTS QNH 1008
pilot	RUNWAY 28 QNH 1008 JRG

Figure 145: Urgency message

9.6 Emergency descent

9.6.1 When an emergency descent is in progress, ATC may broadcast an emergency message on appropriate frequencies to warn other flights. The broadcast may include specific instructions, clearances or traffic information as necessary. Figure 146 shows examples of communications during an emergency descent.

Communicator	Communication
ATS	ALL STATIONS EMERGENCY DESCENT AT BEACHTOWN NORTH FROM FLIGHT LEVEL 320
pilot	FASTAIR 345 EMERGENCY DESCENT TO 10,000
ATS	FASTAIR 345 DESCEND TO 10,000 NO TRAFFICQNH 1015 ADVISE WHEN MAINTAINING LEVEL
pilot	10,000 QNH 1015 WILCO FASTAIR 345

Figure 146: Emergency descent

9.7 Traffic alert and collision avoidance system (TCAS)

9.7.1 TCAS equipment reacts to transponders of other aircraft in the vicinity to determine whether there is a potential confliction The equipment can give a warning about proximate traffic {Traffic advisory (TA)} escalating if necessary to an escape manoeuvre {Resolution advisory (RA)} Pilots should report all TCAS RA manoeuvres. Figure 147 shows examples of TCAS RA communications.

Communicator	Communication
pilot	FASTAIR 345 TCAS RA
ATS	FASTAIR 345 ROGER
pilot	FASTAIR 345 CLEAR OF CONFLICT RETURNING TO FLIGHT LEVEL 350
ATS	FASTAIR 345 ROGER
pilot	FASTAIR 345 CLEAR OF CONFLICT FLIGHT LEVEL 320 RESUMED
ATS	FASTAIR 345 ROGER

Communicator	Communication
ATS	FASTAIR 345 AVOIDING ACTION DESCEND IMMEDIATELY TO FLIGHT LEVEL 150
pilot	*If an ATC clearance or instruction is contradictory to the TCAS RA; the pilot will follow the RA and tell ATC directly…* FASTAIR 345 UNABLE TCAS RA
ATS	FASTAIR 345 ROGER

Figure 147: TCAS RA communications

9.8 Safety alerts

9.8.1 As shown in Figure 148, ATC will issue a Safety Alert, in all classes of airspace, when they become aware that a flight is in a situation that is considered to place it in unsafe proximity to:

a. terrain

b. obstruction

c. active restricted or prohibited areas

d. other aircraft.

Communicator	COMMUNICATION
ATS	JRG SAFETY ALERT UNKNOWN TRAFFIC 1 O'CLOCK 3 MILES OPPOSITE DIRECTION
pilot	LOOKING JRG
ATS	PQR SAFETY ALERT LOW ALTITUDE WARNING CHECK YOUR ALTITUDE IMMEDIATELY QNH 1014 MINIMUM SAFE ALTITUDE 3,900
pilot	CLIMBING TO 3,900 QNH 1014 PQR
ATS	PQR SAFETY ALERT TERRAIN CHECK YOUR ALTITUDE IMMEDIATELY MINIMUM SAFE ALTITUDE 2,100
pilot	PQR VISUAL
ATS	PQR SAFETY ALERT RESTRICTED AIRSPACE ROMEO 555 ACTIVE

Communicator	COMMUNICATION
	SUGGEST TURN LEFT IMMEDIATELY HEADING 360
pilot	LEFT HEADING 360 PQR
ATS	JRG SAFETY ALERT YOU ARE WITHIN ACTIVE RESTRICTED AIRSPACE SUGGEST DESCEND IMMEDIATELY TO 3,500 OR BELOW
pilot	JRG UNABLE TO DESCEND DUE CLOUD REQUEST CLEARANCE
ATS	JRG UNABLE TO ISSUE CLEARANCE PROCEED AT YOUR OWN RISK SQUAWK 7700
pilot	SQUAWK 7700 JRG

Figure 148: Safety alert communication

9.9 Fuel shortage

9.9.1 A declaration from a pilot of ‘MINIMUM FUEL’ informs ATC that having committed to land at a specific aerodrome, the pilot in command calculates that any change to the existing clearance to that aerodrome may result in landing with less than fixed fuel reserve.

9.9.2 When a pilot reports a state of minimum fuel, the controller will tell the pilot of any anticipated delays or that no delays are expected.

9.9.3 Pilots should not expect any form of priority handling because of a ‘MINIMUM FUEL’ declaration.

9.9.4 The pilot in command must declare a situation of emergency fuel by broadcasting the distress message ‘MAYDAY, MAYDAY, MAYDAY, FUEL’, when the calculated usable fuel predicted to be available upon landing at the nearest aerodrome where a safe landing can be made is less than the final reserve fuel. In circumstances where a normal approach and landing is expected and the pilot assesses there is no requirement for emergency services, ATS should be so advised as early as possible.

9.9.5 Figure 149 shows examples of fuel shortage communications.

Communicator	Communication
pilot	CAPRICORN APPROACH FASTAIR 345 MINIMUM FUEL
ATS	FASTAIR 345 CAPRICORN APPROACH MINIMUM FUEL ACKNOWLEDGED EXPECTED APPROACH TIME ON THE HOUR
pilot	FASTAIR 345

Communicator	Communication
pilot	FASTAIR 345 MAYDAY, MAYDAY, MAYDAY FUEL
ATS	FASTAIR 345 ROGER MAYDAY FUEL TURN RIGHT HEADING 130 VECTORS DIRECT TO FINAL APPROACH
pilot	RIGHT HEADING 130 EXPECTING NORMAL APPROACH AND LANDING EMERGENCY SERVICES NOT REQUIRED FASTAIR 345

Figure 149: Fuel shortage communications

9.10 Aircraft communications failure

9.10.1 A pilot failing to establish or maintain contact with the relevant ATS unit on the designated frequency should attempt to (re-)establish contact on another frequency appropriate to the route. If these attempts fail, the pilot should attempt to contact other flights or other aeronautical stations on frequencies appropriate to the route.

9.10.2 If the attempts specified under 9.10.1 fail, the pilot should transmit its message twice on the designated frequency or frequencies, preceded by the phrase ‘TRANSMITTING BLIND’ and, if necessary, include the addressee(s) for which the message is intended.

9.10.3 If unable to establish communication the pilot should assume the transmitter is still serviceable and transmit reports at the scheduled times, or positions, on the frequency in use, preceded by the phrase ‘TRANSMITTING BLIND DUE TO RECEIVER FAILURE’. The pilot should transmit the intended message, following this by a complete repetition. During this procedure, the pilot should also advise the time of next intended transmission.

9.10.4 A pilot operating in controlled airspace, in addition to complying with 9.10.3, should transmit intentions with respect to the continuation of the flight of the aircraft.

9.10.5 If unable to establish communication due to airborne equipment failure, the pilot should, if so equipped, select the appropriate SSR code 7600 (radio communications failure) and set the ADS-B transmitter to indicate the loss of air-ground communications.

9.11 Assistance to aircraft with communications or navigation failure

9.11.1 When a controller suspects that an aircraft can receive but not transmit messages, the ATS surveillance system may be used to confirm that the pilot has received instructions. Figure 150 shows examples of methods used to establish that an aircraft can receive messages.

Communicator	Communication
ATS	FASTAIR 345 REPLY NOT RECEIVED IF YOU READ CAPRICORN CENTRE SQUAWK IDENT … FASTAIR 345 IDENT OBSERVED POSITION 50 MILES EAST OF MONTA WILL CONTINUE TO PASS INSTRUCTIONS

Communicator	Communication
ATS	JRG REPLY NOT RECEIVED IF YOU READ - TURN LEFT HEADING 040 … JRG TURN OBSERVED POSITION FIVE MILES SOUTH OF SUNNYTOWN WILL CONTINUE TO PASS INSTRUCTIONS
ATS	PQR IF YOU READ THORNHILL APPROACH SQUAWK 3214 … PQR SQUAWK OBSERVED POSITION 10 MILES WEST OF SUNNYTOWN V-O-R WILL CONTINUE TO PASS INSTRUCTIONS
ATS	PQR SUSPECT YOUR DIRECTION INDICATOR HAS FAILED
pilot	PQR REQUEST NAVIGATION ASSISTANCE TO BORDERTOWN
ATS	PQR ATS SURVEILLANCE SERVICE WILL CONTINUE MAKE ALL TURNS RATE ONE EXECUTE INSTRUCTIONS IMMEDIATELY UPON RECEIPT
ATS	PQR TURN LEFT NOW
pilot	TURN LEFT PQR
ATS	PQR STOP TURN NOW
pilot	PQR

Figure 150: Surveillance assistance for radio failures

9.12 Speechless communications

9.12.1 Table 38 details actions that a pilot can take to alert ATC that a flight is unable to transmit voice communications (for example a microphone failure) but is still able to receive communications and instructions. The procedure can be used to receive and acknowledge instructions and guidance.

Table 38: Speechless communications

Circumstances	Phraseologies
Pilot request for assistance from ATS	Pilot transmits four (4) separate and distinct unmodulated transmissions of one second duration.
Pilot response to questions from ATS:	
a. Affirm or acknowledgment	one (1) distinct transmission.
b. Negative	two (2) separate and distinct transmissions.
c. Say again	three (3) separate and distinct transmissions.
Pilot indication of a further and pertinent unserviceability or an emergency	Five (5) separate and distinct transmissions.
Pilot indication of abandoning the aircraft	A single continuous transmission as long as practicable.
Controller requires pilot to indicate when an instruction has been completed	‘when (condition or instruction is completed) make a two second transmission’.