# FIJI AERONAUTICAL INFORMATION CIRCULAR



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# This AIC replaces AIC 10/98 , which is hereby cancelled.

# **AERODROME OPERATIONS**

# 1. SURFACE MOVEMENT CONTROL

1.1 Where a controlled aerodrome has a separate surface movement control, and unless specific procedures are otherwise published in the flight guides, the following procedure must be followed by aircraft wishing to taxi:

## 1.2 **Departing Aircraft**

- 1.2.1 Call on the aerodrome control frequency, and
  - Obtain IFR or SVFR clearance
  - Advise ready to start (IFR only)
  - Request taxi clearance (report receipt of ATIS if appropriate)

All departing IFR flight shall call aerodrome control on the appropriate frequency at least 15 minutes prior to start –up for ATC clearance.

#### 1.3 Arriving Aircraft

• Remain on aerodrome control frequency until clear of the runway-in-use,

# 2. WAKE TURBULENCE

Note. — The term "wake turbulence" is used in this context to describe the effect of the rotating air masses generated behind the wing tips of aircraft, in preference to the term "wake vortex" which describes the nature of the air masses. Detailed characteristics of wake vortices and their effect on aircraft are contained in the Air Traffic Services Planning Manual (Doc 9426), Part II, Section 5.

- 2.1 Wake turbulence categories and groups of aircraft
- 2..1.1 Except as provided for in 4.9.1.2, wake turbulence separation minima shall be based on a grouping of aircraft types into four categories according to the maximum certificated take-off mass as follows:
  - a) <u>SUPER (J)</u> aircraft types specified as such in Doc 8643, Aircraft Type

Designators;

- b) <u>HEAVY (H)</u> aircraft types of 136 000 kg or more, with the exception of aircraft types listed in Doc 8643 in the SUPER (J) category;
- c) <u>MEDIUM (M)</u> aircraft types less than 136 000 kg but more than 7 000 kg; and
- d) <u>LIGHT (L)</u> aircraft types of 7 000 kg or less.

Note. — The wake turbulence category for each aircraft type is contained in Doc 8643, Aircraft Type Designators.

# 3. ATC – WAKE TURBULENCE MINIMA APPLICATION

- 3.1 The ATC unit concerned shall not be required to apply wake turbulence separation:
  - a) for arriving VFR flights landing on the same runway as a preceding landing SUPER, HEAVY or MEDIUM aircraft; and

b) between arriving IFR flights executing visual approach when the aircraft has reported the preceding aircraft in sight and has been instructed to follow and maintain own separation from that aircraft.

- 3.1.1 Wake turbulence minima may be applied for any situation not covered by specific minima whenever ATC believes a potential wake turbulence hazard exists.
- 3.1.2 The ATC unit shall, in respect of the flights specified in 3.1 a) and b), as well as when otherwise deemed necessary, issue a caution of possible wake turbulence. The pilot in command of the aircraft concerned shall be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable.

If it is determined that additional spacing is required, the flight crew shall inform the ATC unit accordingly, stating their requirements.

3.1.3 Where practicable, ATC will advise aircraft of the expected occurrence of hazards caused by turbulent wake by issuing a caution to the pilot using the following RTF phraseology.

# "Caution – wake turbulence"

3.1.4 However, it should be noted that the occurrence of wake turbulent hazards cannot be accurately predicated and ATC cannot assume responsibility for issuing advice of such hazards at all times.

#### 3.2 Between Departing Aircraft

#### 3.2.1 Same or Crossing Runways

When using wake turbulence categories contained in para 3.1 above and when the aircraft are using:

a) the same runway;

b) crossing runways if the projected flight path of the second aircraft will cross the projected flight path of the first aircraft at the same altitude or less than 300 m (1 000 ft) below, the following minimum separations shall be applied:

Leading Aircraft Category	Following Aircraft Category	Minimum Spacing at time of following Aircraft becoming Airborne	
SUPER	HEAVY	2 Minutes	
SUPER	LIGHT or MEDIUM	3 Minutes	
HEAVY	LIGHT or MEDIUM		
MEDIUM	LIGHT	2 Minutes	

## 3.2.2 Take-off from Intermediate Part of Same Runway

When using wake turbulence categories contained in para. 3.1 above for a following aircraft taking off from an intermediate part of the same runway, the following minimum separations shall be applied:

Leading Aircraft Category	Following Aircraft Category	Minimum Spacing at time of following Aircraft becoming Airborne
SUPER	HEAVY	3 Minutes
SUPER	LIGHT or MEDIUM	4 Minutes
HEAVY	LIGHT or MEDIUM	
MEDIUM	LIGHT	3 Minutes

## 3.3 Between Arriving Aircraft

Except as provided for in 3.2.1 a) & b) above, the following minima shall be applied:

Leading Aircraft Category	Following Aircraft Category	Minimum Time
SUPER	HEAVY	2 Minutes
SUPER	MEDIUM	3 Minutes
SUPER	LIGHT	4 Minutes
HEAVY	MEDIUM	2 Minutes
HEAVY	LIGHT	0.00
MEDIUM	LIGHT	3 Minutes

## 3.3.1 Opposite Direction Runway Operation – Leading Heavier Aircraft Making a Low or Missed Approach

- 3.3.1.1 When using wake turbulence categories contained in para. above, for a heavier aircraft making a low or missed approach and when the lighter aircraft is:
  - a) using an opposite direction runway for take-off; or
  - b) landing on the same runway in the opposite direction, the following minima shall be applied:

Leading Aircraft Category	Following Aircraft Category	Minimum Time
SUPER	HEAVY	3 Minutes
SUPER	MEDIUM or LIGHT	4 Minutes
HEAVY	MEDIUM or LIGHT	3 Minutes
MEDIUM	LIGHT	3 Minutes

# 3.4 Between Arriving and Departing Aircraft – Displaced Landing Threshold

3.4.1 When using wake turbulence categories contained in para. 3.1 above, and when operating a displaced landing threshold, the following minimum separations shall be applied if the projected flight paths are expected to cross:

Leading Category	Aircraft	Following Aircraft Category	Minimum Time
SUPER	Aircraft	HEAVY Aircraft Departure	2 Minutes
SUPER	Aircraft	MEDIUM or LIGHT Aircraft Departure	3 Minutes
HEAVY Arrival	Aircraft	MEDIUM or LIGHT Aircraft Departure	2 Minutes
MEDIUM Arrival	Aircraft	LIGHT Aircraft Departure	2 Minutes

Leading Category	Aircraft	Following Aircraft Category	Minimum Time
SUPER Departure	Aircraft	HEAVY Aircraft Arrival	2 Minutes
SUPER Departure	Aircraft	MEDIUM or LIGHT Aircraft Arrival	3 Minutes
HEAVY Departure	Aircraft	MEDIUM or LIGHT Aircraft Arrival	2 Minutes
MEDIUM Departure	Aircraft	LIGHT Aircraft Arrival	2 Minutes

# 4 FLIGHT PROCEDURES – WAKE TURBULENCE

4.1 Pilots should be alert to the possibility of wake turbulence from any preceding aircraft, and when following a larger aircraft, employ where necessary one of the following flight procedures to minimise their effect:

#### 4.1.1 Landing behind a larger aircraft – same runway

• Stay <u>above</u> the larger aircraft's final approach flight path – note its touchdown point and land beyond it.



#### 4.1.2 Landing behind a larger aircraft – parallel runway or vector

 Note wind for possible vortex drift to the landing vector if practicable. Stay <u>above</u> the larger aircraft's final approach flight path – note its touchdown point and land beyond and abeam it.



#### 4.1.3 Landing behind a larger aircraft – crossing runway

Cross <u>above</u> the larger aircraft's flight path.



## 4.1.4 Landing behind a departing larger aircraft – same runway

Note larger aircraft's rotation point and land will prior to it.



#### 4.1.5 Landing behind a departing larger aircraft – crossing runway

• Note larger aircraft's rotation point. If point is past the intersection, continue the approach and land prior to the intersection.



 If the larger aircraft rotates prior to the intersection, avoid flight below it's flight path. Abandon the approach unless a landing is assured well before reaching the intersection.



# 4.2 DEPARTING BEHIND A LARGER AIRCRAFT

4.2.1 Start take-off from a point where your aircraft can be safety rotated prior to the rotation point of the preceding larger aircraft and establish a climb above it's flight path until such time as a turn can safely be made clear of it's wake. If this is not possible, delay your take off.



• Be alert for any take-off situation that could lead to a vortex encounter.



 After take-off, avoid subsequent headings that cross below and behind the path of a larger aircraft.



#### 4.2.2 INTERSECTION TAKE-OFF – SAME RUNWAY

4.2.3 Be alert to adjacent larger aircraft operations, particularly upwind of your runway. If clearance is received for an intersection take-off, avoid subsequent headings that cross below the larger aircraft's flight path.



# 4.2.4 En-route

4.2.5 Avoid flight below and behind a larger aircraft's path. If a larger aircraft is observed less than 1000ft above you on the same track (or opposite direction), adjust your position laterally, preferably upwind.



# 4.3 WAKE TURBULENCE SEPARATION – GENERAL

4.3.1 If a pilot considers the wake turbulence separation standards inadequate, an increased separation **may be requested** by specifying the spacing required.

If a controller considers the wake turbulence separation provided is inadequate or that it need be applied for any situation not covered by a specific minimum the pilot will be advised and an appropriate separation applied.

Notwithstanding the above wake turbulence separation standards, if pilots indicate that the effect can be nullified by ensuring that flight profiles do not cross they may **request and be granted exemption from these separations.** ATC will advise the category or type of the other where that aircraft is a HEAVY (H) weight category or is a B757 aircraft.

e.g. "XYZ MAINTAIN OWN WAKE TURBULENCE SEPARATION B767 LANDING RUNWAY 02......"

# 5 JET BLAST AND PROPELLER SLIPSTREAM

- 5.3 Pilots are cautioned of the hazards caused by jet blast and propeller slipstream to taxiing aircraft, to aircraft taking off or landing, and to vehicles and personnel operating on the aerodrome.
- 5.4 Jet blast and propeller slipstream can produce localized wind velocities of sufficient strength to cause damage to other aircraft, vehicles and personnel.