

**Schedule 8 Tolerances**

The following Table of Contents is for guidance only and is not part of the Schedule.

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## SECTION 1: FLIGHT TOLERANCES

**Table 1: Aeroplane general flight tolerances – private level**

### Applicability

1.1 The flight tolerances in this subsection apply to the following licences and ratings:

- (a) recreational pilot licence;
- (b) private pilot licence;
- (c) aircraft class rating;
- (d) Night VFR rating.

### 2. Requirements

2.1 A person is required to perform flight manoeuvres within the flight tolerances mentioned in this table to be assessed as competent in the associated unit of competency.

### 3. Flight tolerances

Flight path or manoeuvre		Flight tolerances
Taxing aircraft		±1.5 metres of centreline
Nominated heading		±10°
Climb airspeed		-0 / +5 kts
Level off from climb and descent		±150 ft
Straight and level	Altitude	±150 ft
	IAS	±10 kts
Power descent airspeed		±10 kts
Glide		-5 / +10 kts
Turns		Angle of Bank ±5°
Turns onto nominated headings		Heading ±10°
Steep Turn		Heading ±10°
		Height ±150 ft
Final approach airspeed		-0 / +5 kts
Landing	Touchdown	±120 m
	Centreline tracking	±2 m
Asymmetric flight	Heading – initial	±20°
	Heading - sustained	±5°
	IAS	-0 +5 kts
Limited panel instrument flying	Heading	±15°
	IAS	±10 kts or ±M0.02
	Height	±200 ft

**Table 2:     Aeroplane general flight tolerances – professional level****Applicability**

1.1 The flight tolerances in this subsection apply to the following licences and ratings:

- (a) commercial pilot licence;
- (b) multi-crew pilot licence;
- (c) air transport pilot licence;
- (d) pilot instructor rating;
- (e) instrument rating;
- (f) private IFR rating;
- (g) flight examiner rating;
- (h) aerial application rating;
- (i) low-level rating;
- (j) aircraft type rating.

**Requirements**

2.1 A person is required to perform flight manoeuvres within the flight tolerances mentioned in this table to be assessed as competent in the associated unit of competency.

**Flight tolerances**

Flight path or manoeuvre		Flight tolerances
Taxing aircraft		±1.5 metres of centreline
Nominated heading		±5°
Climb airspeed		-0 / +5 kts
Level off from climb and descent		±100 ft
Straight and level	Altitude	±100 ft
	IAS	±10 kts or ±M.02 Not below minimum approach speed.
Power descent		±10 kts
Glide		-5 / +10 kts
Turns		Angle of Bank ±5°
Turns onto nominated headings		Heading ±5°
Steep Turn		Heading ±10°
		Height ±100 Ft
Final approach airspeed		-0 / +5 kts
Landing	Touchdown	±60 m For ATPL, within the published touchdown zone relevant to the runway landing distance available.
	Centreline tracking	±2 m
Asymmetric flight	Heading – initial	±20°
	Heading – sustained	±5°
	IAS	-0 +5 kts
Limited panel instrument flying	Heading	±15°

Flight path or manoeuvre		Flight tolerances
	IAS	$\pm 10$ kts or $\pm M0.02$
	Height	$\pm 200$ ft

**Table 3: Helicopter general flight tolerances – private level****Applicability**

- 1.1 The flight tolerances in this subsection apply to the following licences and ratings:
- (a) recreational pilot licence;
  - (b) private pilot licence;
  - (c) aircraft class rating;
  - (d) NVFR rating.

**Requirements**

- 2.1 A person is required to perform flight manoeuvres within the flight tolerances mentioned in this table to be assessed as competent in the associated unit of competency.

**Flight tolerances**

Flight path or manoeuvre		Flight tolerances
Hover		±1 metre of hover point
Ground taxi/hover taxi and manoeuvring		±1 metre of track
		±5° of nominated heading
		±20% of nominated height
Climbing		-0 +5 kts nominated IAS
Level off from climb and descent		±100 ft of nominated altitude
Straight and level	Altitude	±100 ft
	IAS	±5 kts
	Heading	±5° of nominated heading
Power descent	IAS	±5 kts
	Heading	±5° of nominated heading
Turns	Angle of bank	Angle of bank ±5°
	Altitude	±100 ft of nominated altitude
Exit turn onto a heading	Initial	±15° of heading
	Sustained	±5° of heading
Level speed in IMC – U/A recovery		Not less than $V_{min}$ IMC
Final approach airspeed		-0_ +10 kts
Landing (normal)		Within a 5 metre diameter circle of nominated point
Multi-engine – 1 engine disengaged	Heading	±5° of nominated heading
	IAS	±10 kts of nominated speed/not below approach speed for configuration
Control helicopter during advanced manoeuvres – steep turns	altitude	±100 ft
	speed	±5 kts
	Exit on specified heading	±15° initially, then ±5°
	Nominated heading	±15° initially, then ±5° thorough to min descent of 500 ft

Flight path or manoeuvre		Flight tolerances
Autorotation – single engine helicopter	Heading	±5° Able to turn into the last known wind direction and maintain heading within tolerance
	IAS	±5 kts From recommended minimum rate of descent airspeed
Advanced manoeuvre – autorotative flight	Descent at nominated heading	±5°
	Manufacturer's recommended speed	±5 kts
	Steep turn altering heading	360° using 45° bank
	Best range speed and minimum descent rate	±5 kts
	Distance from the nominated touchdown or termination point	±25 m
Advanced manoeuvre – power recovery	Rotor RPM	Within limitation
	Nominated minimum descent altitude	+100 /-0 ft
	Climb speed	±5 kts

**Table 4: Helicopter general flight tolerances – professional level****Applicability**

1.1 The flight tolerances in this subsection apply to the following licences and ratings:

- (a) commercial pilot licence;
- (b) multi-crew pilot licence;
- (c) air transport pilot licence;
- (d) pilot instructor rating;
- (e) private IFR rating;
- (f) instrument rating;
- (g) flight examiner rating;
- (h) aerial application rating;
- (i) low-level rating;
- (j) aircraft type rating.

**Requirements**

2.1 A person is required to perform flight manoeuvres within the flight tolerances mentioned in this table to be assessed as competent in the associated unit of competency.

**Flight tolerances**

Flight path or manoeuvre		Flight tolerances
Hover		±0.5 metre of hover point
Ground taxi/hover taxi and manoeuvring		±1 metre of track
		±5° of nominated heading
		±20% of nominated height
Climbing		-0 +5 kts nominated IAS
Level off from climb and descent		±100 ft of nominated altitude
Straight and level	Altitude	±100 ft
	IAS	±5 kts
	Heading	±5° of nominated heading
Power descent	IAS	±5 kts
	Heading	±5° of nominated heading
Turns	Angle of bank	Angle of bank ±5°
	Altitude	±100 ft of nominated altitude
Exit turn onto a heading	Initial	±15° of heading
	Sustained	±5° of heading
Level speed in IMC – U/A recovery		Not less than $V_{min}$ IMC
Final approach airspeed		-0, +10 kts
Landing (normal)		Within a 5 metre diameter circle of nominated point
Multi-engine – 1 engine disengaged	Heading	±5° of nominated heading
	IAS	±10 kts of nominated speed/not below approach speed for configuration

Flight path or manoeuvre		Flight tolerances
Control helicopter during advanced manoeuvres – steep turns	Altitude	±100 ft
	Speed	±5 kts
	Exit on specified heading	±15° initially, then ±5°
	Nominated heading	±15° initially, then ±5° thorough to min descent of 500 ft
Autorotation – single engine helicopter	Heading	±5° Able to turn into the last known wind direction and maintain heading within tolerance
	IAS	±5 kts From recommended minimum rate of descent airspeed
Advanced manoeuvre – autorotative flight	Descent at nominated heading	±5°
	Manufacturer's recommended speed	±5 kts
	Steep turn altering heading	360° using 45° bank
	Best range speed and minimum descent rate	±5 kts
	Distance from the nominated touchdown or termination point	±25 m
Advanced manoeuvre – power recovery	Rotor RPM	Within limitation
	Nominated minimum descent altitude	+100 /-0 ft
	Climb speed	±5 kts



**Table 5: Instrument approach tolerances****Applicability**

1.1 The flight tolerances in this subsection apply to the following licences and ratings:

- (a) instrument rating;
- (b) multi-crew pilot licence;
- (c) air transport pilot licence.

**Requirements**

2.1 A person is required to perform flight manoeuvres within the flight tolerances mentioned in this table to be assessed as competent in the associated unit of competency.

**Flight tolerances**

Parameter	Tolerance
2D approach Lateral Path Tracking	± 5° of nominated track using azimuth guidance
	± ½ scale deflection of nominated track using lateral course deviation indicator guidance
	Within the RNP value specified for the published minimum altitude
	± 2nm of a DME or GNSS arc
3D Approach Lateral Path Tracking	As above for the lateral path guidance being used
3D Approach Vertical Path	± ½ scale deflection or +/- 75 ft for RNP BARO VNAV procedure
	For an RNP LPV transients associated with aircraft configuration changes above +1/2 scale are acceptable  Transients associated with aircraft configuration changes above +75 ft are acceptable
Minimum Altitude	+100 ft, -0 ft at published minima descent altitude Missed approach initiated not below decision altitude

**Table 6: Gyroplane class rating tolerances – private****1 Applicability**

1.1 The flight tolerances in this subsection apply to the following licences and ratings:

- (a) recreational pilot licence;
- (b) private pilot licence;
- (c) aircraft class rating;
- (d) NVFR rating.

**2. Requirements**

2.1 A person is required to perform flight manoeuvres within the flight tolerances mentioned in this table to be assessed as competent in the associated unit of competency.

**3. Flight tolerances**

Flight path or manoeuvre		Flight tolerances
Ground taxi/hover taxi and manoeuvring		±1.5 metres of track/centreline
		±10° of nominated heading
Climbing	Best rate	-0 +5 kts of nominated airspeed
	Best angle	±5 kts of nominated airspeed
	Heading	±5° of nominated heading
Level off from climb and descent		±100 ft of nominated altitude
Straight and level	Altitude	±100 ft
	IAS	±10 kts
	Heading	±10° of nominated heading
Power descent Airspeed/Autorotation	IAS	±10 kts
	Heading	±10° of nominated heading
	Rate of descent	±150 ft/min
Turns	Angle of bank	Angle of bank ±5°
	Altitude	±100 ft of nominated altitude
Exit turn onto a heading	Initial	±15° of heading
	Sustained	±10° of heading
Final approach airspeed		±5 kts
Touchdown		±2 metres of centreline
Landing (normal)		±50 metres of selected touchdown point

**Table 7: Gyroplane class rating tolerances – professional****Applicability**

1.1 The flight tolerances in this subsection apply to the following licences and ratings:

- (a) commercial pilot licence;
- (b) pilot instructor rating;
- (c) instrument rating;
- (d) private IFR rating;
- (e) flight examiner rating;
- (f) aerial application rating;
- (g) low-level rating;
- (h) aircraft type rating.

**Requirements**

2.1 A person is required to perform flight manoeuvres within the flight tolerances mentioned in this table to be assessed as competent in the associated unit of competency.

**Flight tolerances**

Flight Path or Manoeuvre		Flight tolerances
Ground taxi and manoeuvring		±1.5 metres of track/centreline
		±10° of nominated heading
Climbing	Best rate	-0 +5kts of nominated airspeed
	Best angle	±5 kts of nominated airspeed
	Heading	±5° of nominated heading
Level off from climb and descent		±100 ft of nominated altitude
Straight and level	Altitude	±100 ft
	IAS	±5 ts
	Heading	±5° of nominated heading
Power descent Airspeed/Autorotation	IAS	±10 kts
	Heading	±10° of nominated heading
	Rate of descent	±150 ft/min
Turns	Angle of bank	Angle of bank ±5°
	Altitude	±100 ft of nominated altitude
Exit turn onto a heading	Initial	±15° of heading
	Sustained	±10° of heading
Final approach airspeed		-±5 kts
Touchdown		±2 metres of centreline
Landing (normal)		Within a 100 metre of selected touchdown point

**Table 8: Aerobatics****Applicability**

1.1 The flight tolerances in this subsection apply to the aerobatics endorsements.

**Requirements**

2.1 A person is required to perform flight manoeuvres within the flight tolerances mentioned in this table to be assessed as competent in the associated unit of competency.

**Flight tolerances**

<b>Manoeuvres</b>	<b>Parameter</b>	<b>Tolerances</b>
Looping manoeuvres	Nominated line feature	$\pm 10^\circ$
	Nominated airspeed	$\pm 10$ kts
	Entry and recovery heights	$\pm 100$ ft
Rolling manoeuvres	Nominated airspeed	$\pm 10$ kts
	Direction	$\pm 10^\circ$
	Altitude	$\pm 100$ ft
Stall turn-hammerhead	Nominated air speed	$\pm 10$ kts
	Nominated line feature $180^\circ$	$\pm 15^\circ$