Australian Government

Civil Aviation Safety Authority

I, GRAEME MILLS CRAWFORD, Acting Director of Aviation Safety, on behalf of CASA, make this instrument under regulation 61.035 of the *Civil Aviation Safety Regulations 1998*.

[Signed G.M. Crawford]
Graeme M. Crawford
Acting Director of Aviation Safety

29 April 2021

Part 61 Manual of Standards Amendment Instrument 2021 (No. 2)

1 Name of instrument

This instrument is the *Part 61 Manual of Standards Amendment Instrument 2021 (No. 2)*.

2 Commencement

This instrument commences on the day after it is registered.

3 Amendment of Part 61 Manual of Standards

Schedule 1 amends Schedules 2 and 3 of the *Part 61 Manual of Standards Instrument 2014*.

Schedule 1 Amendments

[1] Schedule 2, Section 4, Unit A5 (Aeroplane advanced manoeuvres)

substitute

A5 Aeroplane advanced manoeuvres

1 Unit description

This unit describes the skills and knowledge required to perform advanced manoeuvres in an aeroplane.

2 Elements and performance criteria

2.1 **A5.1 – Enter and recover from stall**

(a) perform stalling pre-manoeuvre checks;

(b) recognise symptoms of a stall;

(c) control the aeroplane by trimming and balancing accurately for slow flight and then applying the required pitch, roll and yaw inputs to enter and recover from the following:

(i) slow flight where initial symptoms of a stall become evident;

(ii) stall, recovering without application of power;

(iii) stall, recovering with full power applied (not required for multi-engine aeroplanes);

(iv) stall under the following conditions:

(A) straight and level flight;

(B) climbing flight (not required for multi-engine aeroplanes);

(C) descending flight (not required for multi-engine aeroplanes);

(D) approach to land configuration;

(E) turning flight (not required for multi-engine aeroplanes);

(d) perform stall recovery including the following:

(i) reduce angle of attack;

(ii) prevent yaw;

(iii) use available power and height to increase the aircraft energy state;

(iv) avoid secondary stall;

(v) re-establish desired flight path and aircraft control with balanced control application;

(e) perform stall recovery in simulated partial and complete engine failure conditions;

(f) perform stall recovery at simulated low altitude.

2.2 **A5.2 – Avoid spin**

This element only applies to a single-engine aeroplane:

(a) perform stalling pre-manoeuvre checks;

(b) recognise wing drop at the stall;

(c) from balanced flight, recover from stall in the attitudes and configurations most likely to cause a wing drop;

(d) perform recovery where the aeroplane exhibits a tendency to drop a wing at the stall, in accordance with paragraph (d) of subclause 2.1 (5.1 – Enter and recover from stall);

(e) perform stall recovery at simulated low altitude.

2.3 **A5.3 – Turn aeroplane steeply**

(a) pre-manoeuvre checks for steep turning;

(b) steep level turn using a nominated bank angle, ending on a nominated heading or geographical feature, without altitude change;

(c) steep descending turn using a nominated bank angle, ending on a nominated heading or geographical feature ending on a nominated altitude;

(d) aeroplane operating limits are not exceeded.

2.4 **A5.4 – Sideslip aeroplane (where flight manual permits)**

(a) straight sideslip:

(i) induce slip to achieve increased rate of descent while maintaining track and airspeed; and

(ii) adjust rate of descent by coordinating angle of bank and applied rudder;

(b) sideslipping turn by adjusting the bank angle to turn through minimum heading change of 90° at constant airspeed using sideslip, and exiting the turn on a specified heading or geographical feature, within tolerance;

(c) recover from a sideslip and return the aeroplane to balanced flight.

3 Range of variables

(a) activities are performed in accordance with published procedures;

(b) manoeuvres are performed within operating limits of aeroplane;

(c) aeroplane with piston or turbine powerplant and propeller;

(d) aircraft with nose wheel or tail wheel;

(e) aircraft with fixed or retractable undercarriage;

(f) aircraft with or without flaps;

(g) sealed, gravel or grass runways and taxiways;

(h) windsock located on aerodrome;

(i) simulated hazardous weather;

(j) day VFR conditions;

(k) local area operational limitations such as noise abatement and aerodrome curfews.

4 Underpinning knowledge of the following:

(a) operational circumstances where steep turns are required;

(b) aerodynamic and aeroplane operational considerations related to slow flight, sideslipping, stalling, spinning, steep turns, upset aeroplane states, including but not limited to the following:

(i) symptoms of approach to stall and throughout the stall manoeuvre until recovery;

(ii) relationship between angle of attack and stall;

(iii) effects of weight, centre of gravity position, ‘g’ force and angle of attack;

(iv) dangers of unbalanced flight;

(v) principle of stick and control and the point of stall;

(vi) priority given to reduce angle of attack during stall manoeuvres;

(vii) loss of height is considered in relation to available height and energy state;

(viii) the technique of converting excess speed to height;

(ix) the technique of converting excess height to speed;

(x) symmetrical and rolling ‘g’ force limitations;

(xi) higher stall speeds when aeroplane is turning;

(xii) effects on fuel, pitot and flap systems;

(c) contents of the flight manual and POH;

(d) environmental conditions that represent VMC;

(e) day VFR flight rules;

(f) relevant sections of the AIP.

[2] Schedule 3, Appendix 1 (Flight Crew Licences and Aircraft Category Ratings), Section 1.3 (Aerodynamics (AD)), Unit 1.3.2 (CADA: CPL aerodynamics – aeroplane), subclause 2.8 (Stalling, spinning and spiral dives)

substitute

2.8 Stalling, spinning and spiral dives

2.8.1 Describe the following:

(a) symptoms of approaching stall;

(b) characteristics of a stall in the following circumstances:

(i) straight and level;

(ii) turning;

(iii) climbing and descending turns.

2.8.2 Explain the following:

(a) the effect of using ailerons when approaching and during the stall;

(b) why an aeroplane may stall at different speeds.

2.8.3 List the effect (increase/decrease/nil) of the following variables on the level flight stall IAS:

(a) power;

(b) flap;

(c) wind shear vertical gusts;

(d) manoeuvres;

(e) weight;

(f) frost and ice;

(g) altitude.

2.8.4 Describe the aerodynamic principles of stall recovery.

2.8.5 Describe manoeuvres during which an aeroplane may stall at an angle which appears to be different to the true stalling angle.

2.8.6 Differentiate between a wing-drop at the stall, spin and spiral dive in a light aeroplane and describe the standard recovery technique from each.