

## Schedule 2 Competency standards

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

To illustrate the amended text, additions are underlined, deletions struck through.

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## SECTION 4: AIRCRAFT RATING STANDARDS

### AEROPLANE CATEGORY

#### A3 Control aeroplane in normal flight

##### 1 Unit description

This unit describes the skills and knowledge required to control an aeroplane while performing normal flight manoeuvres.

##### 2 Elements and performance criteria

###### 2.1 A3.1 – Climb aeroplane

###### 2.2 A3.2 – Maintain straight and level flight

###### 2.3 A3.3 – Descend aeroplane

###### 2.4 A3.4 – Turn aeroplane

###### 2.5 A3.5 – Control aeroplane at slow speeds

- (a) complete pre-manoevre checks;
- (b) operate and monitor all aircraft systems when operating the aeroplane at slow speed in straight and level, climbing, descending and turning flight;
- (c) except for multi-engine aeroplane operations, ~~for the following climbing manoeuvres~~ select power, attitude and configuration as required for the flight path, balance and trim the aeroplane accurately, and apply smooth, coordinated control inputs to achieve stable flight at the required flight tolerances that apply to the following manoeuvre:
  - (i) minimum approach speed with flaps retracted;
  - (ii) minimum approach speed in approach configuration;
  - (iii) flight at speeds just above stall warning activation
- (d) except for multi-engine aeroplane operations, observe audible and visual stall warnings and recover aeroplane to controlled flight;
- (e) recognise and respond positively to reduced effectiveness of controls during slow flight manoeuvres;
- (f) recognise the need to increase power while manoeuvring in slow flight to maintain nominated altitude and a margin of speed above the stall;
- (g) transition from slow speed configuration using take-off power to achieve nominated speed in excess of 1.5  $V_s$  without loss of height.

###### 2.6 A3.6 – Perform circuits and approaches

## 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-manoeuve checks ~~for stalling~~;
- (b) recognise symptoms of a stall ~~signs and symptoms~~;
- (c) control the aeroplane by trimming and balancing accurately for slow flight and then applying the required pitch, roll and yaw inputs ~~as appropriate in a smooth, coordinated manner, trims aeroplane accurately~~ to enter and recover from the following ~~manoeuvres~~:
  - (i) slow flight, where initial symptoms of a ~~incipient~~ stall become evident;
  - (ii) stall, recovering without application of power ~~applied except for multi-engine aeroplanes, stall with full power applied~~;
  - (iii) stall, recovering with full ~~without~~ power applied (not required for multi-engine aeroplanes);
  - (iv) stall under the following conditions:
    - (A) straight and level flight;
    - (B) ~~except for multi-engine aeroplanes,~~ climbing flight (not required for multi-engine aeroplanes);
    - (C) ~~except for multi-engine aeroplanes,~~ descending flight (not required for multi-engine aeroplanes);
    - (D) approach to land configuration;
    - (E) ~~except for multi-engine aeroplanes,~~ turning flight (not required for multi-engine aeroplanes);
  - (v) stall with a wing drop (not required for multi-engine aeroplanes);
- (d) perform stall recovery, including where the aeroplane exhibits a tendency to drop a wing at the stall, as follows ~~including the following~~:
  - (i) ~~positively~~ reduce angle of attack;
  - (ii) prevent yaw ~~use power available and excess height to increase the aircraft energy state~~;
  - (iii) use available power and height to increase the aircraft energy state ~~minimise height loss for simulated low altitude condition~~;
  - (iv) avoid secondary stall ~~re-establish desired flight path and aircraft control~~;
  - (v) re-establish desired flight path and aircraft control with balanced control application
- (e) perform stall recovery ~~recover from stall~~ in simulated partial and complete engine failure configurations;
- (f) Perform stall recovery at simulated low altitude.

#### 2.2 A5.2 – Recover from incipient spin

This element only applies to single engine aeroplanes.

- (a) ~~perform pre-manoeuve checks for an incipient spin~~;
- (b) ~~recognise an incipient spin~~;
- (c) ~~use the aeroplane's attitude and power controls to execute an incipient spin manoeuvre from the following flight conditions and, using correct recovery technique, regain straight and level flight with height loss commensurate with the available altitude (simulated ground-base height may be set):~~
  - (i) ~~straight and level flight~~;
  - (ii) ~~climbing~~;
  - (iii) ~~turning~~.

**3 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;
- ~~(g) hazards of unbalanced flight.~~

## TR-SEA Type rating – single-engine aeroplane

### 1 Unit description

This unit describes the skills and knowledge required for a person to operate a type-rated single-engine aeroplane.

### 2 Elements and performance criteria

#### 2.1 TR-SEA.1 – Conduct pre-flight inspection

#### 2.2 TR-SEA.2 – Extract pre-flight performance data

#### 2.3 TR-SEA.3 – Request ATC clearance

#### 2.4 TR-SEA.4 – Start engine

#### 2.5 TR-SEA.5 – Taxi aircraft

#### 2.6 TR-SEA.6 – Conduct pre-take-off checks

#### 2.7 TR-SEA.7 – Conduct take-off

#### 2.8 TR-SEA.8 – Incident, malfunction or failure during take-off

#### 2.9 TR-SEA.9 – Operate aircraft in flight

- (a) operate aircraft in normal flight profiles;
- (b) operate aircraft systems for normal, non-normal and emergency conditions;
- (c) identify aeroplane upset conditions and take appropriate action to return aeroplane to normal flight;
- (d) demonstrate approach to the stall and stall recovery as follows:
  - (i) recognises approaching stall symptoms;
  - (ii) reduce AOGA at the stall;
  - (iii) prevents ~~further~~ yaw with rudder;
  - (iv) apply recommended power;
  - (v) when the wings are unstalled, level them using balanced aileron control;
  - (vi) recover height loss;
- (e) demonstrate maximum performance turning under the following conditions:
  - (i) maximum rate;
  - (ii) minimum radius;
- (f) demonstrate flight with unreliable airspeed;
- (g) demonstrate ability to recover from unusual attitude and upset situations;
- (h) demonstrate an emergency descent.

## GLIDER CATEGORY

### G5 Glider advanced manoeuvres

#### 1 Unit description

This unit describes the skills and knowledge required to perform advanced manoeuvres in a glider.

#### 2 Elements and performance criteria

##### 2.1 G5.1 – Enter and recover from stall

- (a) perform pre-manoevrue checks for stalling;
- (b) recognise stall signs and symptoms;
- (c) control the glider by applying the required pitch, roll and yaw inputs as appropriate in a smooth, coordinated manner, trims aeroplane accurately to enter and recover from the following manoeuvres:
  - (i) incipient stall;
  - (ii) stall under the following conditions:
    - (A) straight and level flight;
    - (B) climbing;
    - (C) descending;
    - (D) approach to land configuration;
    - (E) turning;
- (d) when executing the recovery for each of the stall manoeuvres mentioned in paragraph (c), adjust the aeroplane's attitude to resume normal balanced flight on advent of stall, applicable to glider type;
- (e) during stall recovery:
  - (i) reduce angle of attack to unstall the wings;
  - (ii) achieve height loss that is appropriate for the type of glider and commensurate with available altitude (simulated ground-base height may be set).

##### 2.2 G5.2 – Recover from ~~incipient spin~~ at the incipient stage

- (a) perform spin pre-manoevrue checks ~~for an incipient spin~~;
- (b) recognise ~~incipient spin~~ signs and symptoms of spin at the incipient stage;
- (c) use the aeroplane glider's attitude controls to ~~execute an incipient spin manoeuvre~~ enter a spin and recover at the incipient stage from the following flight conditions ~~and, using correct recovery technique, regain straight and level flight with height loss commensurate available altitude (simulated ground-base height may be simulated):~~
  - (i) straight and level flight;
  - (ii) climbing;
  - (iii) turning.
- (d) Use correct recovery technique to regain straight and level flight with height loss commensurate with the available altitude (simulated ground-base height may be set).

##### 2.3 G5.3 – Recover from spiral dive

- (a) Perform spiral dive pre-manoevrue checks ~~for an incipient spin~~;
- (b) recognise a spiral dive and symptoms;
- (c) use the glider's attitude controls to execute a spiral dive manoeuvre from the following flight conditions and, using correct recovery technique, regain straight and level flight with height loss commensurate available altitude (simulated ground-base height may be simulated).

##### 2.4 G5.4 – Turn aeroplane glider steeply

## LOW LEVEL RATING

### LL-A Aeroplane low-level operations

#### 1 Unit description

This unit describes the skills and knowledge required to safely conduct low-level operations in aeroplanes.

#### 2 Elements and performance criteria

##### 2.1 LL-A.1 – Plan low-level operations

##### 2.2 LL-A.2 – Flight component

##### 2.3 LL-A.3 – Aircraft handling

2.3.1 For this element, manoeuvres are performed at an altitude above 3,000 ft AGL for training purposes:

- (a) perform level flight, climbing and descending turns up to 60° angle of bank (45° for multi-engine aircraft):
- (b) perform approach and recovery to the stall in level flight:
  - (i) recognise approach to stall conditions;
  - (ii) maintain references by visual cues;
  - (iii) identify the approach to stall;
  - (iv) recover by AOA reduction and power application to minimise height loss;
  - (v) reconfigure aeroplane;
- (c) perform approach to the stall in turning flight and recovers:
  - (i) recognise approach to stall conditions;
  - (ii) maintain references by visual cues;
  - (iii) identify the approach to stall;
  - (iv) recover by AOA reduction and power application to minimise height loss;
  - (v) reconfigures aeroplane;
- (d) recover from ~~incipient spin~~ wing drop at the stall to straight and level in various configurations (limited to single-engine aeroplanes):
  - (i) identify the approach to stall;
  - (ii) ~~apply correct pre-spin control~~ recognise wing drop at the stall;
  - (iii) ~~recognise the incipient spin phase~~ reduce angle of attack to unstall the wing;
  - (iv) ~~prevents further yaw with use of rudder~~ prevent yaw;
  - (v) ~~apply correct recovery technique~~ use available power and height to increase the aircraft energy state;
  - (vi) ~~reduces AOA and applies power to minimise height loss~~ avoid secondary stall;
  - (vii) ~~recover to straight and level flight~~ re-establish desired flight path and aircraft control with balanced control application;
  - (viii) reconfigure aeroplane ~~if as~~ as required;

#### 3 Underpinning knowledge of the following:

- (a) the topics mentioned in Section 2.5, Low-level rating in Schedule 3 of this MOS;
- (b) minimum height for flight by an aircraft over a city, town or populous area;
- (c) legislative restrictions applicable to low flying;
- (d) minimum lateral and vertical distances that an aircraft must avoid persons, vessels, vehicles, structures or livestock over a sparsely populated area;
- (e) dangers associated with 'out of balance' flight manoeuvres when flying at low level;

- (f) maximum rate turns and minimum radius turn criteria;
- (g) aeroplane limitations;
- (h) how unintended incipient spinning may be induced.



## SECTION 6 FLIGHT ACTIVITY ENDORSEMENT STANDARDSFAE-8 SPINNING

### 1 Unit description

This unit describes the skills and knowledge required to execute and recover from an upright spin manoeuvre.

### 2 Elements and performance criteria

### 3 Range of variables

### 4 Underpinning knowledge of the following:

- (a) actions required to recover from an ~~incipient spin~~ (wing drop at ~~point of the~~ stall);
- (b) what control inputs, with an aeroplane in any attitude, at the point of stall, are likely to cause a spin;
- (c) blanketing effects the elevator can have on the rudder during spin recovery;
- (d) significance of stick and control wheel position with respect to spin recovery;
- (e) aerodynamic causes of a spin;
- (f) what aerodynamic factor determines the direction of a spin;
- (g) how to recognise a stable spin;
- (h) difference between a stable spin and an unstable spin;
- (i) effects of C of G position on spin performance and acceleration;
- (j) difference between a spin and spiral dive;
- (k) factors which may lead to a flat spin;
- (l) difference between an upright and an inverted spin;
- (m) visual indications used to determine the direction of a spin;
- (n) instrument indications used confirm the direction of a spin;
- (o) standard spin entry and recovery techniques for the aircraft being flown;
- (p) number of turns normally required for spin recovery in the aeroplane type;
- (q) height normally required entering and recovering from a stable spin;
- (r) Mueller-Beggs spin recovery action and limitations on its application;
- (s) 'g' and any other limitations applicable to spinning for the aeroplane type.

