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Content:

A-03 (SC): Night VFR.....	2
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A-03 (SC): Night VFR	
APPLICABILITY:	P2002-JF, P2002-JR
REQUIREMENTS:	CS-VLA
ADVISORY MATERIAL:	-

Special Condition A-03

The applicability of CS-VLA is limited to day-VFR operation only.

The certification basis for VFR night extension should be the CS-VLA with the following Special Condition requirements:

SCVLA.1 :

Replace “This airworthiness code is applicable to aeroplanes with a single engine (spark- or compression ignition) having not more than two seats, with a Maximum Certificated Take-off Weight of not more than 750 kg and a stalling speed in the landing configuration of not more than 83 km/h (45 knots)(CAS), to be approved for day-VFR only. (See AMC VLA 1).” by “This airworthiness code is applicable to aeroplanes with a single engine (spark- or compression-ignition) having not more than two seats, with a Maximum Certificated Take-off Weight of not more than 750 kg and a stalling speed in the landing configuration of not more than 83 km/h (45 knots)(CAS), to be approved for day-VFR or for day- and night VFR. (See AMC VLA 1).”.

SCVLA 181(c) :

In addition to the CS VLA.181, the following applies :

(c) Any long period oscillation of the flight path (phugoid) must not be so unstable as to cause an unacceptable increase in pilot workload or otherwise endanger the aeroplane. When in the conditions of CS VLA 175, the longitudinal control force required to maintain speeds differing from the trimmed speed by at least plus or minus 15% is suddenly released, the response of the aeroplane must not exhibit any dangerous characteristics nor be excessive in relation to the magnitude of the control force released (see SC AMCVLA 181 (c)).

SCVLA.773 :

In addition to the requirements of CS-VLA.773 the following applies:

The pilot compartment must be free from glare and reflections that could interfere with the pilot's vision in all operations for which the certification is requested.

SCVLA.807 :

In addition to the requirements of CS-VLA.807 the following applies :

Markings must be suitable for night VFR.

SCVLA.903 :

Instead of CS-VLA.903(a), the following applies :

(a) The engine must meet the specifications of CS-E for night-VFR operation.

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SCVLA.905 :

Instead of CS-VLA.905(a), the following applies :

“(a) The propeller must meet the specifications of CS-22 Subpart J for day-VFR operation. For night-VFR operations the Propeller and the Control System must meet the Specification of CS-P except for fixed pitch propellers, for which CS-22 Subpart J is sufficient.

SCVLA.1107 :

In addition to the CS-VLA requirements, the following applies :

If an air filter is used to protect the engine against foreign material particles in the induction air supply--

- (a) Each air filter must be capable of withstanding the effects of temperature extremes, rain, fuel, oil, and solvents to which it is expected to be exposed in service and maintenance; and
- (b) Each air filter must have a design feature to prevent material separated from the filter media from reentering the induction system and interfering with proper fuel metering operation.

SCVLA.1121 :

In addition to the requirements of CS-VLA.1121, the following applies :

No exhaust gases may be discharged where they will cause a glare seriously affecting the pilot's vision at night.

SCVLA.1143 :

In addition to the requirements of CS-VLA.1143, the following applies :

Each power or thrust control must be designed so that if the control separates at the engine fuel metering device, the aeroplane is capable of continuing safe flight and landing.

SCVLA.1147 :

In addition to the requirement of CS-VLA.1147, the following applies :

Each manual engine mixture control must be designed so that, if the control separates at the engine fuel metering device, the aeroplane is capable of continuing safe flight and landing.

SCVLA.1309 :

In addition to the requirement of CS-VLA.1309, the following applies :

See SC AMCVLA 1309.

SCVLA.1321 :

In addition to the requirement of CS-VLA.1321, the following applies :

See SC AMCVLA 1321.

SCVLA.1322 :

In addition to the requirements of CS-VLA.1322, the following applies :

If warning, caution, or advisory lights are installed in the cockpit, they must be effective under all probable cockpit lighting conditions.

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SCVLA.1325 :

In addition to the requirements of CS-VLA.1325, the following applies :

Each static pressure system must be calibrated in flight to determine the system error. The system error, in indicated pressure altitude, at sea-level, with a standard atmosphere, excluding instrument calibration error, may not exceed ± 9 m (± 30 ft) per 185 km/h (100 knot) speed for the appropriate configuration in the speed range between 1.3 VSO with flaps extended and 1.8 VS1 with flaps retracted. However, the error need not be less than ± 9 m (± 30 ft).

SCVLA.1331 :

In addition to the requirements of CS-VLA.1331, the following applies :

For night VFR operation there must be at least two independent sources of power and a manual or an automatic means to select each power source for each instrument that uses a power source.

SCVLA.1351-1 :

Instead of CS-VLA.1351(b)(2), the following applies :

(b)(2) Electric power sources must function properly when connected in combination or independently.

“SCVLA.1351-2 :

Instead of CS-VLA.1351(b)(3), the following applies :

(b)(3) No failure or malfunction of any electric power source may impair the ability of any remaining source to supply load circuits essential for safe operation.

SCVLA.1351-3 :

In addition to the requirements of CS-VLA.1351(f), the following applies :

The location must allow such provisions to be capable of being operated without hazard to the aeroplane or persons.

SCVLA.1353 :

In addition to the requirements of CS-VLA.1353, the following applies :

In the event of a complete loss of the primary electrical power generating system, the battery must be capable of providing 30 minutes of electrical power to those loads that are essential to continued safe flight and landing.

The 30-minute time period includes the time needed for the pilot(s) to recognise the loss of generated power and to take appropriate load shedding action.

SCVLA.1381 :

In addition to the CS-VLA requirements, the CS23.1381 requirement applies :

The instrument lights must –

(a) Make each instrument and control easily readable and discernible;

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- (b) Be installed so that their direct rays, and rays reflected from the windshield or other surface, are shielded from the pilot's eyes; and
- (c) Have enough distance or insulating material between current carrying parts and the housing so that vibration in flight will not cause shorting. A cabin dome light is not an instrument light.

SCVLA.1383 :

In addition to the CS-VLA requirements, the CS23.1383 requirement applies :

Each taxi and landing light must be designed and installed so that –

- (a) No dangerous glare is visible to the pilots;
- (b) The pilot is not seriously affected by halation;
- (c) It provides enough light for night operations; and
- (d) It does not cause a fire hazard in any configuration.

SCVLA.1431 :

In addition to the requirements of the CS-VLA.1431, the following applies :

For operations for which electronic equipment is required, compliance must be shown against CS-VLA 1309.

SCVLA.1547 :

In addition to the requirements of the CS-VLA.1547, the following applies :

If a magnetic non-stabilised direction indicator can have a deviation of more than 10° caused by the operation of electrical equipment, the placard must state which electrical loads, or combination of loads, would cause a deviation of more than 10° when turned on.

SCVLA.1559 :

Replace in §(b) “A placard stating ‘This aeroplane is classified as a very light aeroplane approved for day VFR only, in non-icing conditions. All aerobatic manoeuvres including intentional spinning are prohibited. See Flight Manual for other limitations’.” by “A placard stating ‘This aeroplane is classified as a very light aeroplane approved for day VFR only or day and night VFR, whichever is applicable, in non-icing conditions. All aerobatic manoeuvres including intentional spinning are prohibited. See Flight Manual for other limitations’.

SCVLA.1583 :

Replace in §(f) “The kinds of operation (day VFR) in which the aeroplane may be used, must be stated. The minimum equipment required for the operation must be listed.” by “The kinds of operation (day VFR or day and night VFR, whichever is applicable) in which the aeroplane may be used, must be stated. The minimum equipment required for the operation must be listed.

(see AMC in Appendix 1 of this SC)

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Appendix 1

Acceptable Means of Compliance for Special Condition A-03

SC AMCVLA 181(c) :

In addition to the CS VLA AMC, this AMC VLA 181(c) applies :

The long period or phugoid oscillation is characteristically lightly damped, sometimes even unstable. Mild levels of instability are acceptable as long as they do not significantly interfere with normal piloting tasks such as trimming to a desired speed or holding altitude. Useful guidelines are that the oscillation should be near neutrally stable if the period is less than 15 sec., or, for motions with longer period, the time to double amplitude should be greater than 55 sec.

SC AMC VLA.1309 :

In addition to the CS-VLA AMC, this SC AMC VLA.1309 applies :

For night VFR operations, the installations of complex systems may require an assessment as required by CS 23.1309 b).

SC AMC VLA.807 :

In addition to the CS-VLA AMC, this SC AMC VLA.807 applies :

Self-illuminating placards or signs are acceptable”.

SC AMC VLA.1143 :

In addition to the CS-VLA AMC, this SC AMC VLA.1143 applies :

When throttle linkage separation occurs, the fuel control should go to a setting that will allow the pilot to maintain level flight in the cruise configuration.

SC AMC VLA 1147 :

In addition to the CS-VLA AMC, this SC AMC VLA.1147 applies :

When mixture linkage separation occurs, the mixture control should go to a full rich setting.

SC AMC VLA.1321 :

In addition to the CS-VLA AMC, this SC AMC VLA.1321 applies :

For night VFR operations, the following arrangement of instruments is acceptable:

(a) For each aeroplane the flight instruments required by CS-VLA 1303 and, as applicable, by the Operating Rules should be grouped on the instrument panel and centred as nearly as practicable about the vertical plane of the pilot's forward vision. In addition –

(1) The instrument that most effectively indicates the attitude should be on the panel in the top centre position;

(2) The instrument that most effectively indicates airspeed should be adjacent to and directly to the left of the instrument in the top centre position;

(3) The instrument that most effectively indicates altitude should be adjacent to and directly to the right of the instrument in the top centre position; and

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(4) The instrument that most effectively indicates direction of flight, other than the magnetic direction indicator required by CS-VLA 1303(c), should be adjacent to and directly below the instrument in the top centre position.

(b) If a visual indicator is provided to indicate malfunction of an instrument, it should be effective under all probable cockpit lighting conditions.

– END –

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Acronyms and Abbreviations

TCDS	Type Certificate Data Sheet
SC	Special Condition
AMC	Acceptable Means of Compliance
VFR	Visual Flight Rules

– END –

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