

Task B: V_{MC} Demonstration (AMEL and AMES)

NOTE: An applicant seeking an airplane—multiengine land (AMEL) rating, “Limited to Center Thrust,” is not required to be evaluated on this Task.

NOTE: Airplanes with normally aspirated engines will lose power as altitude increases because of the reduced density of the air entering the induction system of the engine. This loss of power will result in a V_{MC} lower than the stall speed at higher altitudes. Therefore, recovery should be made at the first indication of loss of directional control, stall warning, or buffet. Do not perform this maneuver by increasing the pitch attitude to a high angle with both engines operating and then reducing power on the critical engine. This technique is hazardous and may result in loss of airplane control.

References: FAA-H-8083-3, FAA-P-8740-19; POH/AFM.

Objective: To determine that the applicant:

1. Exhibits satisfactory knowledge of the elements related to V_{MC} by explaining the causes of loss of directional controls at airspeeds less than V_{MC} , the factors affecting V_{MC} , and the safe recovery procedures.
2. Configures the airplane in accordance with the manufacturer’s recommendation, in the absence of the manufacturer’s recommendations, then at V_{SSE}/V_{YSE} , as appropriate—
 - a. Landing gear retracted.
 - b. Flaps set for takeoff.
 - c. Cowl flaps set for takeoff.
 - d. Trim set for takeoff.
 - e. Propellers set for high RPM.
 - f. Power on critical engine reduced to idle.
 - g. Power on operating engine set to takeoff or maximum available power.
3. Establishes a single-engine climb attitude with the airspeed at approximately 10 knots above V_{SSE} .
4. Establishes a bank toward the operating engine, as required for best performance and controllability.
5. Increases the pitch attitude slowly to reduce the airspeed at approximately 1 knot per second while applying rudder pressure to maintain directional control until full rudder is applied.

6. Recognizes indications of loss of directional control, stall warning, or buffet.
7. Recovers promptly by simultaneously reducing power sufficiently on the operating engine while decreasing the angle of attack as necessary to regain airspeed and directional control. Recovery SHOULD NOT be attempted by increasing the power on the simulated failed engine.
8. Recovers within 20° of the entry heading.
9. Advances power smoothly on operating engine and accelerates to V_{XSE}/V_{YSE} , as appropriate, +10/-5 knots, during the recovery.

Task C: Engine Failure During Flight (by Reference to Instruments) (AMEL and AMES)

References: 14 CFR part 61; FAA-H-8083-3, FAA-H-8083-15, FAA-P-8740-19.

Objective: To determine that the applicant:

1. Exhibits satisfactory knowledge of the elements by explaining the procedures used during instrument flight with one engine inoperative.
2. Recognizes engine failure, sets the engine controls, reduces drag, identifies and verifies the inoperative engine, and feathers appropriate engine propeller.
3. Establishes and maintains a bank toward the operating engine as required for best performance in straight-and-level.
4. Follows the prescribed checklists to verify procedures for securing the inoperative engine.
5. Monitors the operating engine and makes necessary adjustments.
6. Demonstrates coordinated flight with one engine inoperative.
7. Maintains altitude ± 100 feet, or minimum sink as appropriate and heading $\pm 10^\circ$, bank $\pm 5^\circ$, and levels off from climbs and descents within ± 100 feet.

Task D: Instrument Approach and Landing with an Inoperative Engine (Simulated) (by Reference to Instruments) (AMEL and AMES)

References: 14 CFR part 61; FAA-H-8083-3, FAA-S-8081-4; AC 61-27.