APPENDIX F TO PART 121—PROFICIENCY CHECK REQUIREMENTS

The maneuvers and procedures required by §121.441 for pilot proficiency checks are set forth in this appendix and must be performed inflight except to the extent that certain maneuvers and procedures may be performed in an airplane simulator with a visual system (visual simulator), an airplane simulator without a visual system (nonvisual simulator), or a training device as indicated by the appropriate symbol in the respective column opposite the maneuver or procedure.

Whenever a maneuver or procedure is authorized to be performed in a nonvisual simulator, it may also be performed in a visual simulator; when authorized in a training device, it may be performed in a visual or nonvisual simulator.

For the purpose of this appendix, the following symbols mean—

P=Pilot in Command.

B=Both Pilot in Command and Second in Command.

=A symbol and asterisk (B) indicates that a particular condition is specified in the maneuvers and procedures column.

#=When a maneuver is preceded by this symbol it indicates the maneuver may be required in the airplane at the discretion of the person conducting the check.

Throughout the maneuvers prescribed in this appendix, good judgment commensurate with a high level of safety must be demonstrated. In determining whether such judgment has been shown, the person conducting the check considers adherence to approved procedures, actions based on analysis of situations for which there is no prescribed procedure or recommended practice, and qualities of prudence and care in selecting a course of action.

Maneuvers/Procedures	Required		Permitted			
	Simulated instrument conditions	Inflight	Visual simulator	Nonvisual simulator	Training device	Waiver provisions of §121.441(d)
The procedures and maneuvers set forth in this appendix must be performed in a manner that satisfactorily demonstrates knowledge and skill with respect to—						
(1) The airplane, its systems and components;	.....	.....	.....	.....	.....	.....
(2) Proper control of airspeed, configuration, direction, altitude, and attitude in accordance with procedures and limitations contained in the approved Airplane Flight Manual, the certificate holder's operations Manual, check lists, or other approved material appropriate to the airplane type; and	.....	.....	.....	.....	.....	.....
(3) Compliance with approach, ATC, or other applicable procedures	.....	.....	.....	.....	.....	.....
I. Preflight:						
(a) Equipment examination (oral or written). As part of the practical test the equipment examination must be closely coordinated with, and related to, the flight maneuvers portion but may not be given during the flight maneuvers portion. The equipment examination must cover—	.....	.....	.....	.....	B	.....
(1) Subjects requiring a practical knowledge of the airplane, its powerplants, systems, components, operational, and performance factors;	.....	.....	.....	.....	.....	.....
(2) Normal, abnormal, and emergency procedures, and the operations and limitations relating thereto; and	.....	.....	.....	.....	.....	.....
(3) The appropriate provisions of the approved Airplane Flight Manual	.....	.....	.....	.....	.....	.....
The person conducting the check may accept, as equal to this equipment test, an equipment test given to the pilot in the certificate holder's ground school within the preceding 6 calendar months						
(b) Preflight inspection. The pilot must—	.....	.....	.....	.....	B	B*
(1) Conduct an actual visual inspection of the exterior and interior of the airplane, locating each item and explaining briefly the purpose for inspecting it; and	.....	.....	.....	.....	.....	.....
(2) Demonstrate the use of the prestart check list, appropriate control system checks, starting procedures, radio and electronic equipment checks, and the selection of proper navigation and communications radio facilities and frequencies prior to flight	.....	.....	.....	.....	.....	.....

Maneuvers/Procedures	Required		Permitted			
	Simulated instrument conditions	Inflight	Visual simulator	Non-visual simulator	Training device	Waiver provisions of § 121.441(d)
Except for flight checks required by § 121.424(d)(2), an approved pictorial means that realistically portrays the location and detail of preflight inspection items and provides for the portrayal of abnormal conditions may be substituted for the preflight inspection. If a flight engineer is a required flight crewmember for the particular type airplane, the visual inspection may be waived under § 121.441(d)						
(c) Taxiing. This maneuver includes taxiing (in the case of a second in command proficiency check to the extent practical from the second in command crew position), sailing, or docking procedures in compliance with instructions issued by the appropriate traffic control authority or by the person conducting the checks	.....	B	.....	.....	.....	.....
(d) Powerplant checks. As appropriate to the airplane type	.....	.....	.....	B	.....	.....
II. Takeoff:						
(a) Normal. One normal takeoff which, for the purpose of this maneuver, begins when the airplane is taxied into position on the runway to be used	.....	B*	.....	.....	.....	.....
(b) Instrument. One takeoff with instrument conditions simulated at or before reaching an altitude of 100′ above the airport elevation	B	.....	B*	.....	.....	.....
(c) Crosswind. One crosswind takeoff, if practicable, under the existing meteorological, airport, and traffic conditions	.....	B*	.....	.....	.....	.....
Requirements (a) and (c) may be combined, and requirements (a), (b), and (c) may be combined if (b) is performed inflight						
#(d) Powerplant failure. One takeoff with a simulated failure of the most critical powerplant—	.....	.....	B	.....	.....	.....
(1) At a point after V_1 and before V_2 that in the judgment of the person conducting the check is appropriate to the airplane type under the prevailing conditions;	.....	.....	.....	.....	.....	.....
(2) At a point as close as possible after V_1 when V_1 and V_2 or V_1 and V_r are identical; or	.....	.....	.....	.....	.....	.....
(3) At the appropriate speed for non-transport category airplanes	.....	.....	.....	.....	.....	.....
In an airplane group with aft fuselage-mounted engines this maneuver may be performed in a non-visual simulator	.....	.....	.....	.....	.....	.....
(e) Rejected. A rejected takeoff may be performed in an airplane during a normal takeoff run after reaching a reasonable speed determined by giving due consideration to aircraft characteristics, runway length, surface conditions, wind direction and velocity, brake heat energy, and any other pertinent factors that may adversely affect safety or the airplane	.....	.....	.....	B*	.....	B
III. Instrument procedures:						
(a) Area departure and area arrival. During each of these maneuvers the applicant must—	B	.....	.....	B	.....	B*
(1) Adhere to actual or simulated ATC clearances (including assigned radials); and	.....	.....	.....	.....	.....	.....
(2) Properly use available navigation facilities	.....	.....	.....	.....	.....	.....
Either area arrival or area departure, but not both, may be waived under § 121.441(d)						
(b) Holding. This maneuver includes entering, maintaining, and leaving holding patterns. It may be performed in connection with either area departure or area arrival	B	.....	.....	B	.....	B
(c) ILS and other instrument approaches. There must be the following:						
(1) At least one normal ILS approach	B	.....	B	.....	.....	.....
(2) At least one manually controlled ILS approach with a simulated failure of one powerplant. The simulated failure should occur before initiating the final approach course and must continue to touchdown or through the missed approach procedure	B	.....	.....	.....	.....	.....
(3) At least one nonprecision approach procedure that is representative of the nonprecision approach procedures that the certificate holder is likely to use	B	.....	B	.....	.....	.....

Maneuvers/Procedures	Required		Permitted			
	Simulated instrument conditions	Inflight	Visual simulator	Non-visual simulator	Training device	Waiver provisions of §121.441(d)
(4) Demonstration of at least one nonprecision approach procedure on a letdown aid other than the approach procedure performed under subparagraph (3) of this paragraph that the certificate holder is approved to use. If performed in a training device, the procedures must be observed by a check pilot or an approved instructor	B	.....	.....	.....	B	.....
Each instrument approach must be performed according to any procedures and limitations approved for the approach facility used. The instrument approach begins when the airplane is over the initial approach fix for the approach procedure being used (or turned over to the final approach controller in the case of GCA approach) and ends when the airplane touches down on the runway or when transition to a missed approach configuration is completed. Instrument conditions need not be simulated below 100′ above touchdown zone elevation						
(d) Circling approaches. If the certificate holder is approved for circling minimums below 1000–3, at least one circling approach must be made under the following conditions—	.....	.....	B*	.....	.....	B*
(1) The portion of the approach to the authorized minimum circling approach altitude must be made under simulated instrument conditions	B	.....	.....	.....	.....	.....
(2) The approach must be made to the authorized minimum circling approach altitude followed by a change in heading and the necessary maneuvering (by visual reference) to maintain a flight path that permits a normal landing on a runway at least 90° from the final approach course of the simulated instrument portion of the approach	.....	.....	.....	.....	.....	.....
(3) The circling approach must be performed without excessive maneuvering, and without exceeding the normal operating limits of the airplane. The angle of bank should not exceed 30°	.....	.....	.....	.....	.....	.....
If local conditions beyond the control of the pilot prohibit the maneuver or prevent it from being performed as required, it may be waived as provided in §121.441(d): Provided, however, That the maneuver may not be waived under this provision for two successive proficiency checks. The circling approach maneuver is not required for a second-in-command if the certificate holder's manual prohibits a second-in-command from performing a circling approach in operations under this part						
(e) Missed approach	.....	.....	.....	.....	.....	.....
(1) Each pilot must perform at least one missed approach from an ILS approach	.....	.....	B*	.....	.....	.....
(2) Each pilot in command must perform at least one additional missed approach	.....	.....	P*	.....	.....	.....
A complete approved missed approach procedure must be accomplished at least once. At the discretion of the person conducting the check a simulated powerplant failure may be required during any of the missed approaches. These maneuvers may be performed either independently or in conjunction with maneuvers required under Sections III or V of this appendix. At least one missed approach must be performed in flight						
IV. Inflight Maneuvers:						
(a) Steep turns. At least one steep turn in each direction must be performed. Each steep turn must involve a bank angle of 45° with a heading change of at least 180° but not more than 360°	P	.....	.....	P	.....	P
(b) Approaches to stalls. For the purpose of this maneuver the required approach to a stall is reached when there is a perceptible buffet or other response to the initial stall entry. Except as provided below there must be at least three approaches to stalls as follows:	B	.....	.....	B	.....	B*

Maneuvers/Procedures	Required		Permitted			
	Simulated instrument conditions	Inflight	Visual simulator	Non-visual simulator	Training device	Waiver provisions of § 121.441(d)
(1) One must be in the takeoff configuration (except where the airplane uses only a zero-flap takeoff configuration)	.....	.....	.....	.....	.....	.....
(2) One in a clean configuration	.....	.....	.....	.....	.....	.....
(3) One in a landing configuration	.....	.....	.....	.....	.....	.....
At the discretion of the person conducting the check, one approach to a stall must be performed in one of the above configurations while in a turn with the bank angle between 15° and 30°. Two out of the three approaches required by this paragraph may be waived						
If the certificate holder is authorized to dispatch or flight release the airplane with a stall warning device inoperative the device may not be used during this maneuver						
(c) Specific flight characteristics. Recovery from specific flight characteristics that are peculiar to the airplane type	.....	.....	.....	B	.....	B
(d) Powerplant failures. In addition to specific requirements for maneuvers with simulated powerplant failures, the person conducting the check may require a simulated powerplant failure at any time during the check	.....	.....	.....	B	.....	.....
V. Landings and Approaches to Landings:						
Notwithstanding the authorizations for combining and waiving maneuvers and for the use of a simulator, at least two actual landings (one to a full stop) must be made for all pilot-in-command and initial second-in-command proficiency checks. Landings, and approaches to landings must include the following, but more than one type may be combined where appropriate:						
Landings and approaches to landings must include the types listed below, but more than one type may be combined where appropriate:						
(a) Normal landing	.....	B	.....	.....	.....	.....
(b) Landing in sequence from an ILS instrument approach except that if circumstances beyond the control of the pilot prevent an actual landing, the person conducting the check may accept an approach to a point where in his judgment a landing to a full stop could have been made	.....	B*	.....	.....	.....	.....
(c) Crosswind landing, if practical under existing meteorological, airport, and traffic conditions	.....	B*	.....	.....	.....	.....
(d) Maneuvering to a landing with simulated powerplant failure as follows:						
(1) In the case of 3–engine airplanes, maneuvering to a landing with an approved procedure that approximates the loss of two powerplants (center and one outboard engine); or	.....	.....	B*	.....	.....	.....
(2) In the case of other multiengine airplanes, maneuvering to a landing with a simulated failure of 50 percent of available powerplants, with the simulated loss of power on one side of the airplane	.....	.....	B*	.....	.....	.....

Maneuvers/Procedures	Required		Permitted			
	Simulated instrument conditions	Inflight	Visual simulator	Non-visual simulator	Training device	Waiver provisions of § 121.441(d)
Notwithstanding the requirements of subparagraphs (d) (1) and (2) of this paragraph, in a proficiency check for other than a pilot-in-command, the simulated loss of power may be only the most critical powerplant. However, if a pilot satisfies the requirements of subparagraphs (d) (1) or (2) of this paragraph in a visual simulator, he also must maneuver in flight to a landing with a simulated failure of the most critical powerplant. In addition, a pilot-in-command may omit the maneuver required by subparagraph (d)(1) or (d)(2) of this paragraph during a required proficiency check or simulator course of training if he satisfactorily performed that maneuver during the preceding proficiency check, or during the preceding approved simulator course of training under the observation of a check airman, whichever was completed later						
(e) Except as provided in paragraph (f) of this section, if the certificate holder is approved for circling minimums below 1000–3, a landing under simulated circling approach conditions. However, when performed in an airplane, if circumstances beyond the control of the pilot prevent a landing, the person conducting the check may accept an approach to a point where, in his judgment, a landing to a full stop could have been made	.....	.....	B*	.....	.....	.....
#(f) A rejected landing, including a normal missed approach procedure, that is rejected approximately 50′ over the runway and approximately over the runway threshold. This maneuver may be combined with instrument, circling, or missed approach procedures, but instrument conditions need not be simulated below 100 feet above the runway	.....	.....	B	.....	.....	.....
VI. Normal and Abnormal Procedures:						
Each applicant must demonstrate the proper use of as many of the systems and devices listed below as the person conducting the check finds are necessary to determine that the person being checked has a practical knowledge of the use of the systems and devices appropriate to the airplane type:						
(a) Anti-icing and de-icing systems	.....	.....	.....	B	.....	.....
(b) Auto-pilot systems	.....	.....	.....	B	.....	.....
(c) Automatic or other approach aid systems	.....	.....	.....	B	.....	.....
(d) Stall warning devices, stall avoidance devices, and stability augmentation devices	.....	.....	.....	B	.....	.....
(e) Airborne radar devices	.....	.....	.....	B	.....	.....
(f) Any other systems, devices, or aids available	.....	.....	.....	B	.....	.....
(g) Hydraulic and electrical system failures and malfunctions	.....	.....	.....	.....	B	.....
(h) Landing gear and flap systems failure or malfunction	.....	.....	.....	.....	B	
(i) Failure of navigation or communications equipment	.....	.....	.....	B	.....	.....
VII. Emergency Procedures:						
Each applicant must demonstrate the proper emergency procedures for as many of the emergency situations listed below as the person conducting the check finds are necessary to determine that the person being checked has an adequate knowledge of, and ability to perform, such procedure:						
(a) Fire in flight	.....	.....	.....	B	.....	.....
(b) Smoke control	.....	.....	.....	B	.....	.....
(c) Rapid decompression	.....	.....	.....	B	.....	.....
(d) Emergency descent	.....	.....	.....	B	.....	.....
(e) Any other emergency procedures outlined in the appropriate approved Airplane Flight Manual	.....	.....	.....	B	.....	.....

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