CHAPTER 34. ACCEPT/APPROVE FLIGHT TRAINING DEVICES AND CERTAIN OTHER DEVICES PREVIOUSLY AUTHORIZED FOR USE

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODE: 1371

2. OBJECTIVE. The objective of this task is to determine the status of, and accept/approve for continued use under Title 14 of the Code of Federal Regulations (14 CFR) parts 61 and 141, flight training devices and certain ground training devices formerly authorized for use by Federal Aviation Administration (FAA).

3. GENERAL.

A. Devices Formerly Authorized for Use. For a number of years, the General Aviation and Commercial Division, AFS-800, maintained copies of previously issued letters of authorization (LOA) pertaining to the use of ground training devices (GTD) under parts 61 and 141. These letters are outdated and several models of the GTD's, although still in use, are no longer being manufactured. This highlights the need for the FAA to update and clarify it's policy concerning the use of these devices.

(1) For many years, the FAA granted approval for the use of GTD's in the form of LOA's, issued by AFS-800 or its predecessor office. These LOA's were based upon the subjectively determined ability of the training devices to:

(a) effectively duplicate maneuvers and/or procedures specified for given airman training requirements, or structured training programs,

(b) meet specified airman currency requirements,

(c) accomplish all or part of specified airman competency checks, and/or

(d) conduct a limited portion of the airman certification practical test for an instrument rating.

(2) For over 20 years, these LOA's were issued authorizing use of GTD's on a case-by-case basis. Decisions were driven by the needs of a particular program or the permissible use authorized under the existing regulations. The FAA has no valid means of ensuring that the devices are still capable of performing the intended functions for which they were originally authorized, except through a program of re-evaluation and qualification. However, the FAA has elected to continue the previously authorized use of these devices, where it is determined to be appropriate, in accordance with (IAW) this chapter.

B. Recent Simulator Technology. Recent breakthroughs in computer technology have permitted development of highly sophisticated computerized electronics and computer-generated visual imagery in aircraft simulators and training devices. Authority for the increased use of simulators and training devices has been incorporated in the various regulations related to the training and certification of pilots.

C. Expanded Use of Simulators. The FAA has indicated its commitment to permit the expanded use of aircraft flight simulators and flight training devices in connection with the training and practical testing of pilots, as the state of the art develops and public interest dictates. The simulator approval criteria contained in the current edition of Advisory Circular (AC) 120-40, Airplane Simulator Qualification, are periodically updated along with advancing simulator technology, in order to ensure maximum transfer in flightcrew behavior and to ensure that the simulator or training device factually represents the aircraft and flight environment.

4. LEVELS OF AIRPLANE FLIGHT TRAINING DEVICES. Levels of airplane flight training devices (FTD) and their definitions are covered in detail in the current edition of AC 120-45, Airplane Flight Training Device Qualification. This flight training equipment consists of seven levels of FTD's, four levels of flight simulators, and the aircraft. The following are functional descriptions of current FTD and simulator levels:

A. Level 1 Flight Training Devices. Those GTD's previously issued an LOA by AFS-800 and given conferred status under AC 120-45 are now designated

as level 1 FTD's and may continue to be used as authorized IAW 14 CFR § 61.4, effective August 2, 1996. The permissible use of these devices is, *only* as originally authorized and shown in paragraph 6A through G.

B. Level 2 Flight Training Devices.

(1) The purpose of a level 2 training device is to permit learning, development, and the practice of skills and cockpit procedures necessary for understanding and operating the integrated systems of a single set of aircraft.

(2) A level 2 training device has the following characteristics and components:

(a) Instruments, equipment, panels, systems, and controls sufficient for the training/checking events to be accomplished, located in a spatially correct configuration, which may be in a cockpit or an open flight deck area. Actuation of controls and switches must replicate those in the airplane.

(b) The device must simulate aerodynamic capability and control forces and travel sufficiently to manually fly an instrument approach.

C. Level 3 Flight Training Devices.

(1) The purpose of a level 3 training device is to permit learning, development, and the practice of skills and cockpit procedures necessary for understanding and operating the integrated systems of a single set of aircraft.

(2) A level 3 training device has the following characteristics and components:

(a) Same as level 2, but in addition it must have a cockpit, as defined in AC 120-45.

(b) The navigation controls, displays, and instrumentation must be as set out in 14 CFR part 91, § 91.205, for operation IAW instrument flight rules (IFR).

D. Level 4 Flight Training Devices.

(1) The purpose of a level 4 training device is to permit learning, development, and the practice of skills and cockpit procedures necessary for understanding and operating the integrated systems of a specific aircraft.

(2) A level 4 training device has the following characteristics and components:

(a) A replica of the flight deck panels, switches, controls, and instruments in proper relationship, to represent the aircraft for which training is to be accomplished.

(b) Systems indications which respond appropriately to switches and controls which are required to be installed for the training or checking to be accomplished.

(c) Air/ground logic (however, simulated aerodynamic capabilities are not required).

E. Level 5 Flight Training Devices.

(1) The purpose of a level 5 training device is to permit learning, development, and the practice of skills, cockpit procedures, and instrument flight procedures necessary for understanding and operating the integrated systems of a specific aircraft in typical flight operations in real time.

(2) A level 5 training device has the following characteristics and components:

(a) A replica of the flight deck panels, switches, controls, and instruments, in proper relationship, to represent the aircraft for which training is to be accomplished.

(b) Systems indications which respond appropriately to switches and controls which are required to be installed for the training or checking to be accomplished.

(c) Simulated aerodynamic capabilities representative of the aircraft group or class.

(d) Functional flight and navigational controls, displays, and instrumentation.

(e) Control forces and control travel of sufficient precision for manually flying an instrument approach.

F. Level 6 Flight Training Devices.

(1) The purpose of a level 6 training device is to permit:

(a) Learning, development, and the practice of skills in cockpit procedures, instrument flight procedures, certain symmetrical maneuvers and flight

characteristics necessary for operating the integrated systems of a specific aircraft in typical flight operations; and

(b) The use of previously approved nonvisual simulators and the continued use of advanced training devices for those part 135 operators approved to use them.

(2) A level 6 training device has the following characteristics and components:

(a) Systems indications which respond appropriately to switches and controls which are required to be installed.

(b) A replica of the cockpit of the aircraft for which training is to be accomplished.

(c) Simulated aerodynamic capabilities which closely represent the specific aircraft in ground and flight operations.

(d) Functional flight and navigational controls, displays, and instrumentation.

(e) Control forces and control travel which correspond to the aircraft.

(f) Instructor controls.

G. Level 7 Flight Training Devices.

(1) The purpose of a level 7 training device is to permit learning, development, and the practice of skills in cockpit procedures, instrument flight procedures and maneuvers, and flight characteristics necessary for operating integrated systems of a specific aircraft in typical flight operations.

(2) A level 7 training device has the following characteristics and components:

(a) Systems representations, switches, and controls which are required by the type design of the aircraft and by the approved training program.

(b) Systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated.

(c) Full-scale replica of the cockpit of the aircraft being simulated.

(d) Correct simulation of the aerodynamic and ground dynamic characteristics of the aircraft being simulated.

(e) Correct simulation of the effects of selected environmental conditions which the simulated aircraft might encounter.

(f) Control forces, dynamics, and travel which correspond to the aircraft.

(g) Instructor controls and seat.

H. Level A Flight Simulator.

(1) The purpose of a level A simulator is to permit development and practice of the necessary skills for accomplishing all required training and certification maneuvers and procedures, to a prescribed standard of airman competency, in a specific aircraft.

(2) Level A flight simulators have the following characteristics and components:

(a) Systems representations, switches, and controls which are required by the type design of the aircraft and by the user's approved training program.

(b) Systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated.

(c) Full-scale replica of the cockpit of the aircraft being simulated.

(d) Correct simulation of the aerodynamic characteristics of the aircraft being simulated.

(e) Correct simulation of the effects of selected environmental conditions which the simulated aircraft might encounter.

(f) Control forces and travel which correspond to the aircraft.

(g) Instructor controls and seat.

(h) At least a night visual system with the minimum of a 45° horizontal by 30° vertical field of view for each pilot station.

(i) A motion system with at least 3° of freedom.

I. Level B Flight Simulator.

(1) The purpose of a level B simulator is to permit development and practice of the necessary skills for accomplishing all required training and certi-

fication maneuvers and procedures, to a prescribed standard of airman competency, in a specific aircraft.

(2) Level B flight simulators have the following characteristics and components:

(a) Systems representations, switches, and controls which are required by the type design of the aircraft and by the user's approved training program.

(b) Systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated.

(c) Full-scale replica of the cockpit of the aircraft being simulated.

(d) Correct simulation of the aerodynamic (including ground effect) and ground dynamic characteristics of the aircraft being simulated.

(e) Correct simulation of the effects of selected environmental conditions which the simulated aircraft might encounter.

(f) Control forces and travel which correspond to the aircraft.

(g) Instructor controls and seat.

(h) At least a night visual system with a minimum of a 45° horizontal by 30° vertical field of view for each pilot station.

(i) A motion system with at least 3° of freedom.

J. Level C Flight Simulator.

(1) The purpose of a level C simulator is to permit development and practice of the necessary skills for accomplishing all required training and certification maneuvers and procedures, to a prescribed standard of airman competency, in a specific aircraft. All training and testing tasks may be conducted in a level C flight simulator for persons who meet certain experience requirements outlined in part 142 and volume 2, chapter 148.

(2) Level C flight simulators have at least the following characteristics and components:

(a) Systems representations, switches, and controls which are required by the type design of the aircraft and by the user's approved training program.

(b) Systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated.

(c) Full-scale replica of the cockpit of the aircraft being simulated.

(d) Correct simulation of the aerodynamic (including ground effect), and ground dynamic characteristics of the aircraft being simulated.

(e) Correct simulation of the effects of selected environmental conditions which the simulated aircraft might encounter.

(f) Control forces, dynamics, and travel which correspond to the aircraft.

(g) Instructor controls and seat.

(h) At least a night and dusk visual system with a minimum of a 75° horizontal by 30° vertical field of view for each pilot station.

(i) A motion system with at least 6° of freedom.

K. Level D Flight Simulator.

(1) The purpose of a level D simulator is to permit development and practice of the necessary skills for accomplishing all required training and certification maneuvers and procedures, to a prescribed standard of airman competency, in a specific aircraft. Level D flight simulators may be used for all flight task training and practical testing except for static aircraft training, for pilots who meet certain experience requirements outlined in part 142 and volume 2, chapter 148.

(2) Level D flight simulators have the following characteristics and components:

(a) Systems representations, switches, and controls which are required by the type design of the aircraft and by the user's approved training program.

(b) Systems which respond appropriately and accurately to the switches and controls of the aircraft being simulated.

(c) Full-scale replica of the cockpit of the aircraft being simulated.

(d) Correct simulation of the aerodynamic (including ground effect) and ground dynamic characteristics of the aircraft being simulated.

(e) Correct simulation of selected environmentally-affected aerodynamic and ground dynamic characteristics of the aircraft being simulated considering the full range of its flight envelope in all approved configurations.

(f) Correct and realistic simulation of the effects of environmental conditions which the aircraft might encounter.

(g) Control forces, dynamics, and travel which correspond to the aircraft.

(h) Instructor controls and seat.

(i) A daylight, dusk, and night visual system with the minimum of a 75° horizontal by 30° vertical field of view for each pilot station.

(j) A motion system with at least 6° of freedom.

5. POLICY.

A. Evaluation and Qualification Process. The issuance of AC 120-45 formalized the FAA's evaluation and qualification process for training devices in which the training, qualification, or certification of airmen under existing regulations is accomplished. The FAA will no longer provide copies of previously issued LOA's for those devices given conferred status and now designated as Level 1 FTD's, but will follow the guidance contained in this chapter.

B. Conferred Status/Level 1 FTDs. Effective August 2, 1996, 14 CFR § 61.4 provides the regulatory basis for the continued use of these Level 1 devices, but only as originally authorized. AC 120-45 also contains guidance to permit the updating of these training devices to meet the qualification standards set forth in the AC (see figure 34-1).

(1) Any models of the above devices stated in paragraph 4 which have not been sold for use within the United States and/or issued an LOA by AFS-800 prior to August 2, 1996, are ineligible for use. All such devices, if presented for use under part 61 or 141, will be evaluated for qualification and such approved use as may be given them under the existing regulations, which apply at that time.

(2) All new models of the above devices stated in paragraph 4 manufactured after August 1, 1996, which are not reproductions of models given conferred status, such as new designs, are ineligible for conferred status and/or Level 1 classification. Such devices, if presented for use under parts 61 or 141, will be evaluated for qualification and such approved use as may be given them under the existing regulations, which apply at that time.

C. Devices Previously Issued LOA's. Only those devices having been previously issued an LOA by AFS-800, or its predecessor office, and placed into service prior to August 2, 1996, (see paragraph 6 of this section for a listing of all such devices) may be used, to the extent originally authorized by AFS-800, to satisfy the permissible use authorizations contained in part 61 and the appendices of part 141. These devices are now classified as level 1 FTD's IAW AC 120-45 and are authorized for use under § 61.4, subject to the following conditions:

(1) The device must continue to perform, handle, and operate as it did when first placed into service as a GTD.

(2) The owner/operator of the device shall annually attest to the fact that the device continues to operate as indicated in paragraph C(1), in writing to the Administrator.

(3) The Level 1 FTD is approved for use, by the local Flight Standards District Office (FSDO), in an FAA-approved flight training program and/or under part 61, consistent with any limitations on its use contained in the original AFS-800 LOA, or as limited by current regulations.

D. Flight Testing Device Standards. After August 1, 1996, unless otherwise permitted under the regulations, FTD's must meet the standards of AC 120-45 or AC 120-40 in order to be used in an FAA-approved training program for the purpose of fulfilling actual flight training, testing, or checking credits, as applicable.

6. THE USE OF TRAINING DEVICES FORMERLY (APPROVED) UNDER AC 61-66 AND TRAINING DEVICES FORMERLY CONSIDERED GTD'S. Training devices formerly approved for use under AC 61-66, Annual Pilot In Command Proficiency Checks, (now canceled), to conduct proficiency checks under former § 61.58(c) may continue to be used as originally authorized. These and other training devices formerly considered to be GTD's and now classified as Level 1 FTD's may continue to be used but only as previously authorized. (For GTDs replicating helicopter, see subparagraph G of this paragraph.) The following listing provides the maximum authorizations for use of these Level 1 FTD's, formerly considered GTD's, and previously

issued an LOA from AFS-800. The use of higher level (2 through 7) FTD's is described in the Task vs. Simulation Device Level Appendix of practical test standards (PTS) for the instrument rating, commercial pilot certificate, and airline transport pilot certificate. This chapter also provides guidance relating to the permissible use of all FTD's listed herein until superseded by the adoption of pertinent regulatory amendment(s) or other specific FAA policy guidelines for their use. When equipped with an enclosed pilot station, the below listed FTD's, with the exception of the ATC 510 and the Mini-simulator II C Models, meet the requirements of 14 CFR § 141.41 for the minimum percent of permissible FTD use specified throughout part 141 appendices. With the further addition of an X-Y Plotter, these FTD's, with the exception of the ATC 510 and the Mini-simulator II C models, meet the requirements of 14 CFR § 141.41(b) and may be used to meet the 100 percent maximum authorization, provided total FTD time is devoted to instrument training and its use is approved in a training course outline.

A. For Use Under 14 CFR § 61.57(c)(1). Authorization for pilot use of a level 1 FTD to acquire the simulated instrument experience described under paragraph C(1)(i), (ii), and (iii) of this section when this use is certified by an authorized ground or flight instructor:

- Aviation Simulation Technology, Inc.: AST 201 and 300 Models
- ATC Flight Simulator Company: ATC 112H, 510, 610, 710, 810, and 920 Models
- Frasca International, Inc.: 121, 122, 131, 132, 141, 142, 241, 242, 242T, and 342 Models
- Models Inverted-A, Inc.: Mini-simulator II C Models
- Pacer Systems Corporation: MK II Models
- Gestic Electronics, Inc.: Spira 180 and 280 Models

B. For Use Under 14 CFR § 61.57(d)(1)(ii). Regulatory authorization for pilot use of a level 1 FTD to conduct all or part of an instrument proficiency check, consisting of a representative number of tasks required for the instrument rating practical test when given by an authorized instructor:

- Aviation Simulation Technology, Inc.: AST 201 and 300 Models
- ATC Flight Simulator Company: ATC 112H, 610, 710, 810, and 920 Models
- Frasca International, Inc.: 121, 122, 131, 132, 141, 142, 241, 242, 242T, and 342 Models
- Pacer Systems Corporation: MK II Models
- Gestic Electronics, Inc.: Spira 180 and 280 Models

C. For Use Under 14 CFR § 61.65(e)(2). Regulatory authorization for pilot use of a level 1 FTD to acquire 20 hours of instrument instruction given by an authorized ground or flight instructor:

- Aviation Simulation Technology, Inc.: AST 201 and 300 Models
- ATC Flight Simulator Company: ATC 112H, 510, 610, 710, 810, and 920 Models
- Frasca International, Inc.: 121, 122, 131, 132, 141, 142, 241, 242, 242T, and 342 Models
- Inverted-A, Inc.: Mini-simulator II C Models, (limited to 10 hours)
- Pacer Systems Corporation: MK II Models
- Gestic Electronics, Inc.: Spira 180 and 280 Models

D. For Use Under 14 CFR § 61.65(a)(8)(ii). Administrative authorization for pilot use of a Level 1 FTD to perform the Instrument Approach Procedures (IAP) not selected for testing in an aircraft or in an approved flight simulator as limited under this section, during the practical test for an instrument rating.

- Aviation Simulation Technology, Inc.: AST 201 and 300 Models
- ATC Flight Simulator company: ATC 112H, 610, 710, 810, and 920 Models
- Frasca International, Inc.: 121, 122, 131, 132, 141, 142, 241, 242, 242T, and 342 Models
- Pacer Systems Corporation: MK II Models
- Gestic Electronics, Inc.: Spira 180 and 280 Models

E. For Use Under 14 CFR § 61.129(i)(1)(i). Regulatory authorization for pilot use of a level 1 FTD to acquire 50 hours of instruction given by an authorized ground or flight instructor:

- Aviation Simulation Technology, Inc.: AST 201 and 300 Models
- ATC Flight Simulator Company: ATC 112H, 610, 710, 810, and 920 Models
- Frasca International, Inc.: 121, 122, 131, 132, 141, 142, 241, 242, 242T, and 342 Models

- Inverted-A, Inc.: Mini-simulator II C Models, (limited to 10 hours)
- Pacer Systems Corporation: MK II Models
- Gestic Electronics, Inc.: Spira 180 and 280 Models

F. For Use Under 14 CFR § 61.159(a)(3)(i)(iii)). Regulatory authorization for pilot use of a level 1 FTD to acquire not more than 25 hours of simulated instrument time when given as instruction by an authorized ground or flight instructor as limited under this section:

- Aviation Simulation Technology, Inc.: AST 201 and 300 Models
- ATC Flight Simulator Company: ATC 112H, 510, 610, 710, 810, and 920 Models
- Frasca International, Inc.: 121, 122, 131, 132, 141, 142, 241, 242, 242T, and 342 Models
- Inverted-A, Inc.: Mini-simulator II C Models, (limited to 10 hours)
- Pacer Systems Corporation: MK II Models
- Gestic Electronics, Inc.: Spira 180 and 280 Models

G. Re-evaluation of Devices formerly considered GTD's.

(1) *Airplane Devices.* When information or circumstances indicate that the feature(s) of a device, formerly given conferred status and now classified as Level 1 FTD for which the FAA has authorized continued permissible use under the regulations, renders the device out of calibration as defined by the manufacturer, or incapable of performing its originally intended function, the device should be re-evaluated by the jurisdictional FSDO. Upon re-evaluation, if the device is found acceptable, its use under an FAA-approved training course outline or under other specific FAA authorization(s) should be reviewed to ensure full compliance with the regulations and information pertaining to the authorized use of that device provided in memo form to AFS-800. Should the device be found unacceptable for use previously authorized, the inspector should notify AFS-800 with details of the evaluation and any recommendations concerning the continued or permissible use of the device for consideration by AFS-800 and/or appropriate coordination with the manager of the National Simulator Program, AFS-205, Atlanta, Georgia.

(2) *Helicopter Devices.* A device replicating a helicopter and formerly authorized for use under the regulations prior to August 2, 1996, must be re-evaluated for use under regulations that became effective August 2, 1996. Effective that date, 14 CFR § 61.4(b) provides the regulatory basis for the continued use of that device as originally authorized. No Advisory Circular (AC) guidance such as that in AC 120-45A, Airplane Flight Training Device Qualification has been established for GTD's replicating a helicopter. However, the latter AC may provide helpful guidance that will assist in determining the continued permissible use of a helicopter device. When upon re-evaluation, the helicopter device is found to be acceptable for use as previously authorized, its use under an FAA-approved training course outline or under other specific FAA authorization(s) should be reviewed to ensure full compliance with the applicable regulations. Should the device be found to be unacceptable for use as previously authorized, a detailed report of the evaluation and any recommendations for the continued or permissible use of this device, should be submitted to AFS-800 for consideration. After appropriate coordination with the manager of the National Simulator Program, AFS-205, AFS-800 will determine what permissible use of the device is appropriate under 14 CFR § 61.4(b).

H. For use of a Device Formerly Considered a GTD. For any use of a device formerly considered a GTD other than as outlined herein or under the conferred status of AC 120-45, refer to volume 2, chapter 148.

I. The Use of Simulators (Approved According to AC 120-40) or Airplane Flight Training Devices (Approved According to AC 120-45) to Conduct § 61.58(a) (formerly § 61.58(a)(2) Pilot-in-Command (PIC) Proficiency Checks. Section 61.58(a) requires that to serve as PIC of an aircraft certificated for more than one pilot crewmember, the PIC must have completed a proficiency check in the particular type aircraft since the beginning of the 24th calendar-month before the month in which the pilot acts as PIC. Section 61.58(e) provides that the check or test required by this section may only be performed in a qualified simulator IAW applicable provisions set forth in the regulations. However, those devices formerly approved under AC 61-66 for the conduct of this proficiency check may continue to be used for that purpose.

7. QUALIFICATION AND APPROVAL OF NEW OR MODIFIED FLIGHT TRAINING DEVICES.

A. New training devices placed into service after August 2, 1996, and modifications to existing Level 1 FTDs are ineligible for conferred status under AC 120-45A, paragraph 14. Therefore these devices must be evaluated for level qualification in order to be approved for such use as deemed appropriate under the existing regulations. Three such devices have been evaluated by FAA and authorized for use under applicable regulations as Level 1 or higher FTDs:

- Emulations Systems Model ES-200, S#203 3130 Skyway Drive, Suite 309, Santa Maria, CA93455
- Frasca Models 242 and 135/R22, Frasca International Inc., 906 East Airport Rd. Urbana, IL 61801.
- Copies of letters issued authorizing specific use of these devices is maintained by AFS-800 in accordance with paragraph C.

B. After August 2, 1996, when a new FTD is to be qualified and approved for use in Levels 1 through 5 or a modification is made to an existing model of an FTD IAW AC 120-45A, paragraph 14b, the FSDO in whose jurisdiction that device is located will ensure that the appropriate reference data report (engineering data) pertaining to the qualification and approval of that device, and its authorized use under the applicable regulations, is provided to AFS-205 for review and concurrence in the qualification and approval of the device. Following concurrence by AFS-205, notification of approval in memo form must be sent to AFS-800 with concurrent issuing of FAA authorization for the use of the device.

C. AFS-800 will maintain an active list of all such devices subsequently qualified in Levels 1 through 5 and approved for use under parts 61, 141, and other applicable regulations. The following information is to be submitted to AFS-800 regarding FTDs qualified for use by FSDO inspectors in Levels 1 through 5:

(1) The name and address of the FTD manufacturer;

(2) The make/model, application FAA Systems Engineering Office/Aviation Medical Examiner and date of manufacture;

(3) The Level(s) for which the device is qualified;

(4) The specific maneuvers and/or procedures for which the device is authorized for use; and

(5) The 14 CFR sections believed applicable to the above authorized use.

D. This policy is necessary to permit Flight Standards to satisfy its oversight responsibility in providing clear and effective national policy guidance regarding the authorized use of the simulation technology represented by these devices. Ultimately, FAA plans to track the qualification and use of Level 1 through 5 FTD's in the Flight Standards Automation System (FSAS).

NOTE: Flight Standards District Office inspectors should be aware that a new or modified FTD qualified and approved in Levels 1 through 5, for which the information listed above has not been recorded by AFS-800, is not authorized for use under existing federal regulations.

8. EXEMPTIONS.

A. Exemptions. The FAA has issued exemptions from numerous sections of part 61 to permit the exemption holder to complete various flight training and testing requirements in an FAA-approved flight simulator, subject to specified conditions and limitations. For example, the pilot taking a proficiency check must have completed three landings within the past 90 days, in the particular type aircraft for which the proficiency check is required, if the simulator is not approved for the landing maneuver.

B. Inspector Familiarity with Exemptions. Each FSDO will take necessary action to ensure that the simulator approval criteria outlined in AC 120-40 is followed closely. Inspectors should be familiar with exemptions issued to ensure that trainees receive the required training from the exemption holder and the conditions and limitations of the exemptions are strictly observed.

SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites. This task requires knowledge of Advisory Circulars (AC) 120-40 and 120-45; PTS; 14 CFR parts 1, 61, and 91; FAA policies; and qualification as an ASI (operations).

B. Coordination. This task may require coordination with the National Simulator Program Manager (NSPM).

2. REFERENCES, FORMS AND JOB AIDS.

A. References.

- Parts 1, 61, 135, 121, 141 and 142
- AC 120-40, Airplane Simulator Qualification
- AC 120-45, Airplane Flight Training Device Qualification
- FAA Order 8400.10, Air Transportation Operations Inspector's Handbook

B. Forms.

- None.

C. Job Aids.

- Sample letter of authorization (figure 34-1)

3. PROCEDURES.

A. Applicant requests an LOA for, or the re-evaluation of, a FTD or a GTD for airplanes or helicopters.

(1) When an applicant requests an LOA, determine if the training device has been given conferred status.

(a) If the training device was not previously given conferred status, is a new device, or if it was evaluated after August 1, 1996, it must be "Level" qualified, under the provisions of AC 120-45 or re-evaluated under paragraph 6G(2) as applicable, to determine its permissible use, if any, under 14 CFR § 61.4(b).

(b) If the training device was previously given conferred status, it's continued use is permissible as outlined in AC 120-45 and 14 CFR § 61.4, as well as outlined in this chapter. However, if the device was previously given conferred status and has been modified, but has not, for any reason, demonstrated that it meets the standards of a specific level, confer or continue temporary status if the following conditions are met:

i. The device was manufactured prior to February 5, 1992, and a letter was issued by AFS-800 authorizing its specific use; and

ii. Local Flight Standards District Office (FSDO) personnel have been notified that a modification is pending.

(2) In consultation with the NSPM and AFS-800, determine if the performance of the modified device either meets, or exceeds, that of the original equipment as outlined under AC 120-45, paragraph 14b.

NOTE: This determination is solely subjective in nature and is based upon those maneuvers/procedures for which the device had been previously approved for use. In the interest of information gathering, request that the person(s) involved in the design and/or installation of the modification provide documentation, test results, other significant data, and conclusions to the FSDO.

(3) Inspect the exemptions, if applicable, to ensure the following:

(a) That the simulator approval criteria outlined in AC 120-40 is closely followed.

(b) That trainees will receive the required training from the exemption holder.

(c) That conditions and limitations of the exemptions will be strictly observed.

(4) Check the manufacturer's data to determine if the device is capable of performing its intended function.

B. Inspect the Device. Conduct the inspection of the device by performing the following:

(1) Qualify the device under AC 120-45.

(2) Approve a training program, if any, in which the device is to be used.

(3) Determine the specific maneuvers and procedures or tasks identified in PTS for which authorization for use will be granted.

C. Complete the Evaluation.

(1) If the device is found to be acceptable, issue the LOA detailing the following:

(a) The qualification of the training device under AC 120-45.

(b) The approval of a training program in which the device is to be used, listing the jurisdictional FSDO, or the use to be authorized under part 61.

(c) The approved maneuvers and procedures or tasks listed in the PTS, based on the qualification level of the device.

(d) Prepare a letter of notification to AFS-800 IAW paragraph 7.

(2) If the device is found to be unacceptable, perform the following:

(a) Notify AFS-800 with details of the evaluation concerning the continued or permissible use of the device; and

(b) Issue a letter of denial.

4. TASK OUTCOMES. Completion of this task results in one of the following actions:

A. Issuance of an LOA for the use of the training device at a specific level for specific use in an FAA-approved training program or under part 61 IAW 14 CFR § 61.4.

B. Issuance of a letter of denial and, if applicable, recommendations for the use of the training device at an alternate level.

5. FUTURE ACTIVITIES.

A. A re-issuance of the LOA.

B. A reevaluation of the training device.

FIGURE 34-1
SAMPLE LETTER OF AUTHORIZATION

FAA Letterhead
[*date*]:

[*applicant's name and address*]:

Dear [*applicant's name*]:

After an evaluation of [*make and model of training device*] by representatives of the Administrator, the Federal Aviation Administration (FAA) has determined that [*make, model, and serial number of training device*] contains sufficient features to permit its use under Title 14 of the Code of Federal Regulations (14 CFR) part 61 and/or 141 as follows:

NOTE 1: If formerly a conferred device now classified as Level 1, cite section 61. 4(b) as authority for continued use and limited *only* to that use, or as provided under existing regulations.

NOTE 2: Unless limited in use, as in the case of the Inverted-A-Device, the standard authorized use of these devices under parts 61 and 141 are as follows:

(1) Section 61.51 (g)(4), Logged instrument flight time (Optional);

(2) Section 61.57 (c)(1), Instrument experience;

(3) Section 61.57 (d), Instrument proficiency check;

(4) Section 61.65 (e)(2), Use of flight simulators or flight training devices;

(5) Section 61.129 (i)(1)(i), Permitted credit for use of a flight simulator or flight training device; and

(6) Section 61.159 (a)(3)(i), Permitted Use of a Flight Simulator or Flight Training Device;

(7) Section 141.41 (b), Flight training devices, as permitted in the appropriate Appendix to part 141 or as limited under section 61.4 (b).

THIS AUTHORIZATION IS CONTINGENT UPON:

The FAA's periodic evaluation of the device to ensure that it's ability to perform the above listed (tasks/maneuvers) has not deteriorated; and

The manufacturer/operator of the device continues to pursue qualification to a level or levels described in the current edition of Advisory Circular (AC) 120-45, Airplane Flight Training Device Qualification.

The authorization for use of this device, as stated above, is valid until modified or rescinded by the FAA and provided that an annual report regarding its status and continued use is submitted to the jurisdictional Flight Standards District Office.

Sincerely,

[*FSDO Manager's signature*]

FIGURE 34-2

SAMPLE LETTER OF AUTHORIZATION(LOA)
Flight Training Devices (FTD), Levels 2, 3 and 5

Date:

XYZ Airline Training Center, Inc.,
2100 North Airport Drive, Suite 210
Ravenswood, Illinois 61603

Dear:

Representatives of the _____Federal Aviation Administration's (FAA) Flight Standards District Office (FSDO) completed an evaluation of the _____ Serial Number_____Flight Training Device (FTD) identified herein. The Qualification Test Guide for this FTD is based on __(Reference Data Report ##)_____ approved by the Manager, National Simulator Program, on_____ . This FTD was evaluated to Level_____ standards as outlined in Advisory Circular (AC) 120-45A, Airplane Flight Training Device Qualification, and is approved for use by XYZ Airline Training Center, Inc., as outlined below:

PART 61.4(a) Qualification and Approval of Flight Training Devices

Training, testing, or checking of maneuvers, procedures, or crewmember functions listed in the appendices of the following Practical Test Standards for a Level_____FTD.

Commercial Pilot Airplane Practical Test in accordance with FAA-S-8081-12A, Practical Test Standards:
Exceptions:

NOTE: The use of Levels 2 and 3 is authorized only for airplanes not requiring a type rating.

Instrument Rating (Airplane) Practical Test in accordance with FAA-S8081-4C, Practical Test:
Exceptions: (none)

Airline Transport Pilot and Aircraft Type Rating(Airplane) Practical Test in accordance with FAA-S-8081-5C, Practical Test Standards:
Exceptions:

NOTE: The use of Levels 2 and 3 is authorized only for airplanes not requiring a type rating.

FIGURE 34-2

SAMPLE LETTER OF AUTHORIZATION(LOA)
Flight Training Devices (FTD), Levels 2, 3 and 5

Part 142.59 Flight Simulators and Flight Training Devices

Training, testing, or checking of maneuvers, procedures, or crewmember functions listed in the appendices of the following Practical Test Standards and approved in the Training Course Outline and Curriculum required by Part 142, Subpart B for a Level____FTD

Commercial Pilot Airplane Practical Test in accordance with FAA-S-8081-12A, Practical Test Standards:
Exceptions:

NOTE: The use of Levels 2 and 3 is authorized only for airplanes not requiring a type rating.

Instrument Rating (Airplane) Practical Test in accordance with FAA-S8081-4C, Practical Test:
Exceptions: (none)

Airline Transport Pilot and Aircraft Type Rating(Airplane) Practical Test in accordance with FAA-S-8081-5C, Practical Test Standards:
Exceptions:

NOTE: The use of Levels 2 and 3 is authorized only for airplanes not requiring a type rating.

This Authorization is Contingent upon the following:

1. Instruction in this device is given by an authorized instructor who has demonstrated competency in the operation and use of the device as authorized;

2. The FAA's periodic evaluation of this device to ensure that its ability to perform the approved Tasks and/or Maneuvers authorized has not deteriorated.

3. The manufacturer/operator maintains continuous qualification of the device in accordance with AC 120-45A, Airplane Flight Training Device Qualification.

4. Any modifications of this device will be made in accordance with AC 120-45A.

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