VOLUME 11 FLIGHT STANDARDS PROGRAMS

CHAPTER 10 AVIATION TRAINING DEVICE

Section 1 Approval, Oversight, and Authorized Use Under 14 CFR Parts 61 and 141

11-10-1-1 PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS)

ACTIVITY CODES. Use activity codes 1351 EVAL SIM/TNG DVC or 1630 SURVL/TRNG DEVICE.

11-10-1-3 OBJECTIVE. This section provides guidance for the approval and oversight of Aviation Training Devices (ATD) and authorized use under Title 14 of the Code of Federal Regulations (14 CFR) parts 61 and 141 pilot schools, and provides guidance to aviation safety inspectors (ASI) for the evaluation, approval, and authorized use of an ATD. Inspectors can find detailed approval criteria and guidance in the current edition of Advisory Circular (AC) 61-136, FAA Approval of Aviation Training Devices and Their Use for Training and Experience. This guidance does not apply to flight simulation training devices (FSTD) approved by the National Simulator Program (AFS-205) and regulated under 14 CFR part 60.

11-10-1-5 ATD OVERVIEW. The Federal Aviation Administration (FAA) categorizes the ATD into two types of approval: basic and advanced. Each ATD category is specifically defined and has standards established for its approval and authorized use. All ATDs must have an approved Qualification and Approval Guide (QAG), be evaluated by the FAA, and receive a letter of authorization (LOA) before they can be used for pilot training and experience requirements. The General Aviation and Commercial Division (AFS-800) is responsible for FAA policy regarding basic aviation training devices (BATD) and advanced aviation training devices (AATD). AFS-800 is the office responsible for the approval of ATDs, as well as for specifying their authorized use. ATDs that are approved by the Administrator may be used for certain pilot certificate and rating experience requirements under parts 61 and 141, and specific instrument experience and training conducted under part 61, § 61.57. The LOA provided for each FAA-approved ATD will describe the specific allowances for pilot training and experience. ATDs may not be used for practical tests or aircraft-type-specific training. FAA-approved ATDs used exclusively for pilot training under part 61 do not require any further FAA approval or acceptance for use. However, ATDs used for training by a part 141 pilot school must also receive approval for use by the operator’s jurisdictional Flight Standards District Office (FSDO). This must be in the form of an FAA-approved training course outline (TCO) and syllabus.

11-10-1-7 OTHER DEVICES: GTD, PCATD, AND LEVEL 1, 2, OR 3 FTD. AFS-800 is responsible for FAA policy regarding previously approved ground training devices (GTD), personal computer-based aviation training devices (PCATD), and Level 1, 2, or 3 flight training devices (FTD).

A. Request an Approval. The FAA no longer issues PCATD or Level 1, 2, or 3 FTD approvals. Training device manufacturers seeking new or revised approvals may request BATD or AATD approval for their devices that qualify. As of January 1, 2015, previously issued LOAs without an expiration date are no longer valid. (Refer to Federal Register (FR) Docket No. FAA-2013–0809, Notice of Policy Change for the Use of FAA Approved Training Devices.)
Using the standards defined in AC 61-136, training device manufacturers may request BATD or AATD approval for devices previously approved and accepted as a GTD, PCATD, or Level 1, 2, or 3 FTD.

**B. Apply for Authorization.** Training devices that have received FAA approval prior to 2004, such as a GTD, PCATD, or FTD (Level 1–3), can apply for a new authorization under the standards required for approval as described in AC 61-136. All LOAs issued by AFS-800 will be valid for 60 calendar-months.

**11-10-1-9 FULL FLIGHT SIMULATORS (FFS) AND FTDs.** The Air Transportation Division (AFS-200) is responsible for the qualification standards, authorized use, and policy regarding all FSTDs, which includes Level A–D FFSs and Level 4–7 FTDs. Evaluation, qualification, and approval for FSTDs is provided by AFS-205 and regulated under part 60.

**11-10-1-11 ATD DESIGN CRITERIA.** To qualify as a BATD or an AATD, the device must meet the approval criteria prescribed in AC 61-136. Those design criteria and capabilities must be fully described in the QAG.

**11-10-1-13 QAG.** The QAG is a manufacturer’s detailed description of the model’s design criteria, possible aircraft configurations, and capabilities for a BATD or AATD. ATDs must meet the standards prescribed in AC 61-136 and be approved by the Administrator. In addition, the manufacturer must ensure that all ATDs it produces continue to meet the criteria as stated in the associated QAG. Any revision to that QAG must be submitted to and approved by the FAA. Any changes or alterations to the design or configuration that are not approved in writing by AFS-800 can result in withdrawal of the manufacturer’s LOA.

**11-10-1-15 ATD APPROVAL PROCESS.**

**A. Request Process.** To request FAA approval of an ATD, manufacturers should send their request by one of the following:

1) Email the request to atdrecords@faa.gov with the necessary documents attached (formal signed application letter requesting an evaluation and the QAG document). This is the preferred correspondence method.

2) Mail the request, using a service that can track the delivery, to:

   FAA Flight Standards Service  
   General Aviation and Commercial Division, AFS-800  
   Aviation Training Device (ATD) Review & Authorizations  
   800 Independence Ave., SW  
   Washington, DC 20591

**NOTE:** The FAA must receive application letters requesting evaluation and approval at least 90 days (120 days is recommended) in advance of any planned use for logging pilot training or experience requirements. These training devices must be fully functional and tested by the manufacturer to the standards described in AC 61-136 prior to requesting an evaluation.
3) Contact AFS-800 by phone at 202-267-1100 for any questions or additional instructions.

B. Evaluation Process. Evaluation of the functionality and use of an ATD is accomplished by a program managed by AFS-800. This process is described in detail in AC 61-136. The approval process begins when the device manufacturer submits a formal request for an evaluation of an ATD. The approval of the ATD is initially based on the QAG document, which the manufacturer develops and submits in advance for FAA review. The QAG includes a detailed description of all components, functions, and capabilities for the training device. Once AFS-800 has accepted the QAG, a functionality test (onsite evaluation) of the ATD will be conducted.

C. Inspector Participation. AFS-800 will solicit assistance from a local FSIO Operations inspector with the appropriate aircraft make and model experience. This will ensure an effective onsite evaluation and facilitate any possible followup inspections and corrections. An ASI based in a Regional Office (RO) or FSIO located near the manufacturer will normally be enlisted to assist with the onsite evaluation. There is no requirement for an inspector to complete on-the-job training (OJT) in advance of an ATD functional evaluation, other than following the guidance and recommendations provided by AFS-800.

D. Approval Process. Following a successful onsite evaluation, AFS-800 will issue an LOA. The QAG and LOA become the controlling documents for the approval. If a manufacturer modifies an approved ATD, a revised QAG must be resubmitted for approval. As a result of the modification, an operator may not use a modified ATD until such time as AFS-800 has approved the revised QAG and issues a new LOA. AFS-800 will maintain a list of FAA-approved ATDs and the manufacturer’s associated LOA and QAG documentation. Operators must ensure that the LOA is available with the ATD when in use. The LOA will be valid for 60 calendar-months. Policy information for FAA approvals can be found in AC 61-136.

11-10-1-17 AUTHORIZED ATD USES. ATDs may be authorized for use for certain flight training and experience activities in accordance with parts 61 and 141.

A. Part 61 Pilot Training. For pilot training conducted solely under part 61, the allowed use for a specific model of an ATD will be found in the LOA issued to the manufacturer by AFS-800. FSIOs do not need to provide any additional authorization for pilot training conducted solely under part 61.

B. Part 141 Pilot Training. For pilot training conducted under part 141, the jurisdictional FSIO must approve how the ATD is to be used in a certificate holder’s part 141 pilot school training curriculum. This approval would be in the form of an FAA-approved TCO and syllabus for the part 141 pilot school.

C. Prohibition of Aircraft-Type-Specific Training. An ATD is not authorized for aircraft-type-specific training and certification requirements. However, a pilot or training provider may use an ATD as a procedural task trainer to support the required training that will be accomplished in an airplane or FSTD.
D. Specific ATD Authorized Uses. The following are the authorized uses for a BATD or an AATD.

1) BATD. A BATD may be approved and authorized for use in accomplishing certain required operations, maneuvers, or procedures as applicable under parts 61 and 141. The FAA will specify the allowable training and experience credit in the BATD LOA for the private pilot certificate, the instrument rating, and instrument recency of experience.

2) AATD. An AATD may be approved and authorized for use in accomplishing certain required operations, maneuvers, or procedures as applicable under parts 61 and 141. The FAA will specify the allowable training and experience credit in the AATD LOA for the private pilot certificate, the instrument rating, instrument recency of experience, instrument proficiency check (IPC), the Commercial Pilot Certificate, and the Airline Transport Pilot (ATP) Certificate.

NOTE: The flight experience allowance for the use of an ATD, FTD, or FFS toward obtaining an instrument rating may be combined. However, that combination may not exceed that allowed under § 61.65 and may not exceed that allowed under part 141 appendix C (50 percent maximum) of the required training.

11-10-1-19 INSPECTOR OVERSIGHT. The jurisdictional FSDO may conduct an inspection or surveillance of any FAA-approved ATD located within its geographical area that an owner or operator uses to satisfy experience or training requirements for pilot certificates or ratings. This would be similar to accomplishing an aircraft inspection and verifying airworthiness compliance and the required documentation. This would include examination of the signed FAA LOA and QAG that must accompany the trainer when in use. Operators who use these trainers to satisfy pilot training or experience requirements are obligated to allow FAA inspection ensuring acceptable function and compliance. If an inspector has concerns with compliance as the result of an onsite inspection, he or she should contact AFS-800 at 202-267-1100.

11-10-1-21 TRAINING CONTENT AND LOGGING PROVISIONS.

A. Integrated Training Curriculum.

1) This is a training program that can use an ATD for training flight tasks where an instructor teaches the required knowledge in the classroom and then follows it with procedural training. For example, within an integrated ground, simulation, and flight instrument training curriculum, an authorized instructor first teaches the required concepts and knowledge for an instrument landing system (ILS) approach with classroom training. After the student has gained the required knowledge and understands the procedures, the instructor then moves to practicing the psychomotor skills of the task. The instructor does this by providing a simulated flight environment and training scenarios in an FAA-approved ATD. When the student becomes proficient in the training device, the instruction would then transition to the aircraft to complete the flight training and demonstrate competency in the aircraft.

2) The FAA recommends that an instructor who intends to use an ATD, for training pilot candidates obtain training from the manufacturer (or person proficient with its use) on all
aspects of the training device operation. This training should include a complete review of the available databases, aircraft configurations, systems review (avionics, aircraft systems, and performance), weather simulations, systems failure capabilities, instructor station use, and support available from the manufacturer. This would be similar to someone becoming familiar with and proficient in a new aircraft, as described for transition or differences training.

B. Course Content. The FAA suggests that the instrument tasks listed below be incorporated into an approved integrated ground and flight training curriculum in which an ATD is used. Inspectors can use this list of tasks to ensure that training programs include important elements of procedural training that can be successfully accomplished in ATDs. Procedural training for private, instrument, commercial, and ATP operational tasks can be emphasized. Tasks can include traffic pattern/airport operations, navigation, slow flight and stalls, basic and advanced instrument maneuvers, and practice emergency procedure scenarios. Preparation for a flight review could also be accomplished. Flight instructors providing training under part 61 are encouraged to use a standardized course syllabus and specify which lessons would be accomplished in the ATD. Pilot training should incorporate the use of ATDs in an FAA-approved TCO for a part 141 pilot school and utilize FAA/Industry Training Standards (FITS).

1) Flight by Reference to Instruments:
   - Straight and level flight;
   - Change of airspeed;
   - Constant airspeed climbs;
   - Constant airspeed descents;
   - Constant rate climbs;
   - Constant rate descents;
   - Level turns, including standard rate turns;
   - Climbing turns;
   - Descending turns;
   - Steep turns; and
   - Stall recognition, prevention, and recovery.

2) Abnormal and Emergency Procedures:
   - Partial panel;
   - Timed turns;
   - Compass turns (and associated errors);
   - Instrument failures;
   - Automation failures (e.g., primary flight display (PFD), Global Positioning System (GPS) navigation, or systems management);
   - Flight automation failures (such as autopilot failure) including recovery from potential loss of control;
   - Encounters with unexpected weather conditions;
   - Electrical, systems, or equipment failures;
   - Procedures for turbulence;
• Loss of control procedures (e.g., due to weather conditions, equipment failure, or flight automation);
• Unusual attitude recovery;
• Engine failure(s) (partial or complete); and
• Hydraulic or boost failures.

3) **Radio Navigation Procedures:**

- Use of Very high frequency Omnidirectional Range (VOR), Localizer (LOC), ILS, and Area Navigation (RNAV) including GPS;
- Holding patterns (VOR, ILS, LOC, GPS, intersection, and waypoints (WPT));
- Use of distance measuring equipment (DME);
- Use of automatic direction finder (ADF)/non-directional radio beacon (NDB) (optional); and
- Use of autopilot/flight director (FD).

4) **Instrument Approach Procedures (IAP):**

- Precision;
- ILS;
- Wide area augmentation system (WAAS) with vertical navigation (VNAV);
- Nonprecision;
- VOR;
- LOC;
- RNAV (including GPS);
- WAAS;
- ADF/NDB (optional);
- ILS/LOC back course (LOC BC); and
- Missed Approach Procedures (MAP) for all of the procedures above.

5) **Communication Procedures:**

- Air traffic control (ATC) clearances;
- Taxi clearance and instructions (emphasis on runway incursion prevention);
- Departure Clearance (DCL);
- En route clearances;
- Holding instructions;
- Arrival clearances;
- Missed approach instructions and clearances;
- Radio advisories and warnings;
- Automated terminal information service (ATIS) and common traffic advisory frequency (CTAF); and
- Significant meteorological information/Airmen’s Meteorological Information (SIGMET/AIRMET), Notices to Airmen (NOTAM), Flight Service Station (FSS), communications, and flight plan changes.
6) **Cross-Country Procedures:**

- Departure;
- En route;
- Diversion to alternate;
- Arrival; and
- MAPs.

C. **Logging Training Time and Experience.** There are no restrictions on the amount of training time a pilot can log in an ATD. However, there are regulatory limitations on the maximum credit permitted toward specific minimum training requirements for a certificate or rating, as specified in parts 61 and 141 and further prescribed in the specific LOAs. Authorized instructors and pilots utilizing an FAA-approved ATD for required flight training, pilot time, or experience requirements are required to log the time as BATD or AATD time. Any columns in a pilot record that reference flight time should remain blank when logging ATD time. Simulated instrument time can be logged in an ATD, but only during the time when the visual component of the training session is configured for instrument meteorological conditions (IMC) and the pilot is maintaining control solely by reference to the flight instruments. Logging time in this fashion will allow a pilot to credit this time toward the aeronautical experience and recent experience requirements specified in part 61 or 141 and as permitted by the LOA for the ATD used. Section 61.51(b)(1)(iv) requires that the type and identification of the ATD be included in the logging of pilot time as described in the LOA. ATD time can only be logged as total time, instruction received (dual), and/or instrument time, as provided on FAA Form 8710-1, Airman Certificate and/or Rating Application, Section III, Record of Pilot Time. It is highly recommended that Designated Pilot Examiners (DPE) and ASIs administering a practical test require the applicant to provide a copy of the ATD LOA when using ATD credit for minimum pilot experience or training requirements for a certificate or rating.

NOTE: Minimum training requirements for pilot certification specific to cross-country, solo, night, takeoff and landings, and the 3 hours of training within 2 calendar-months of the practical test cannot be accomplished in ATDs. Some training and experience requirements must be accomplished in an aircraft. For example, the 3 hours of flight time specified in § 61.109(a)(3) for a private pilot must be accomplished in a single-engine airplane. Similarly, the 10 hours of solo flight time required by § 61.109(c)(4) must be accomplished in a helicopter.

1) The following conditions and limitations for FAA-approved ATDs apply:

a) An ATD must maintain its performance and function without degradation. The minimum instrument requirements specified under 14 CFR part 91, § 91.205 for day visual flight rules (VFR) and instrument flight rules (IFR) must be functional during the training session.

b) Only the aircraft configurations that are in the approved QAG can be utilized.
c) A copy of the LOA must be readily available in a location near the device when in use. Additionally, a copy must be provided to the person using the above training or experience credits for pilot certification or ratings.

d) When an ATD is used for instructional purposes, only an appropriately qualified FAA-certificated flight instructor may make any subsequent endorsements and/or pilot logbook entries.

e) Any changes or modifications to an ATD that have not been individually reviewed, evaluated, and approved in writing by AFS-800 will terminate the LOA.

f) The FAA reserves the right to revoke the LOA at any time if the Administrator determines that an ATD has been used in a manner contrary to FAA regulation, guidance, or safety.

2) It is the responsibility of the flight instructor or certificated pilot to verify the device is qualified and FAA-approved for use when using an ATD to satisfy FAA regulatory experience requirements.

11-10-1-23 through 11-10-1-37 RESERVED.