



Chapter 04: Avionics Operations

10. Technician Training and Certification

Manage avionics technician training, certification, and competency assessment to ensure qualified personnel perform all avionics work.

Purpose

This process establishes procedures for managing avionics technician training, certification, and competency assessment to ensure all personnel performing avionics work possess the required qualifications, skills, and knowledge. The process ensures compliance with regulatory training requirements and maintains current competency in evolving avionics technologies.

Roles and Responsibilities

Avionics Technician:

- Conduct avionics system assessments and repairs
- Prepare detailed work scope and time estimates
- Document component requirements and procedures
- Coordinate with parts department for availability
- Ensure regulatory compliance for avionics work

Chief of Maintenance:

- Review and approve complex or high-value work orders
- Assign qualified technicians to specific maintenance tasks
- Ensure regulatory compliance for all maintenance work
- Resolve scheduling conflicts and resource allocation issues
- Oversee maintenance quality and safety standards

Process Steps

Training Needs Assessment Phase

- **Evaluate current qualifications** - Review technician certifications, training records, and competency assessments

- **Identify training requirements** - Determine required training based on work assignments and regulatory requirements
- **Assess technology changes** - Identify new avionics systems and technologies requiring additional training
- **Develop training plans** - Create individual training plans addressing identified needs and career development

Training Program Selection Phase

- **Research training options** - Identify available training programs from manufacturers, schools, and training organizations
- **Evaluate training quality** - Review training provider credentials, course content, and industry recognition
- **Coordinate scheduling** - Plan training schedules considering operational needs and technician availability
- **Arrange training logistics** - Coordinate travel, accommodation, and equipment needs for training programs

Training Execution Phase

- **Enroll in training programs** - Register technicians for selected training courses and programs
- **Monitor training progress** - Track attendance, performance, and completion of training requirements
- **Support training activities** - Provide necessary resources and time for effective training participation
- **Document training completion** - Record training completion and obtain certificates or credentials

Competency Assessment Phase

- **Conduct practical assessments** - Evaluate technician ability to apply training knowledge to actual work situations
- **Review work performance** - Monitor work quality and compliance with procedures following training
- **Verify skill application** - Confirm technicians can properly use new knowledge and skills in operational environment
- **Update qualification records** - Document competency verification and update technician qualification status

Process Mapping

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Needs Assessment → Training Selection → Program Enrollment → Training Execution → Competency Assessment → Qualification Updates → Ongoing Monitoring → Recertification

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Tools and Resources

Training Management:

- Training Record Management System
- Certification Tracking Database
- Training Provider Contact Database
- Competency Assessment Tools

Training Resources:

- Manufacturer Training Programs
- Industry Training Organizations
- Technical Schools and Colleges
- Online Training Platforms

Documentation:

- Training Requirements Matrix
- Individual Training Plans
- Certification and License Records
- Competency Assessment Forms

Success Metrics

- **Completion Time:** Required training completed within planned schedule with 95% on-time completion rate.
- **Quality Standard:** 100% of technicians maintain current certifications and required qualifications.
- **Safety Standard:** Zero incidents attributed to inadequate training or technician qualifications.
- **Client Satisfaction:** Technician competency rating of 4.8/5 based on work quality and professionalism.

Common Issues and Solutions

- **Issue:** Training costs exceed budget allocations affecting program implementation

- **Solution:** Prioritize training based on critical operational needs, explore group training discounts and online alternatives, and consider phased training implementation to spread costs over multiple budget periods

Issue: Technicians unable to attend training due to operational demands

Solution: Plan training schedules during slower operational periods, cross-train multiple technicians to provide coverage, and consider flexible training options including online and self-paced programs

Issue: New avionics technologies introduced faster than training can be completed

Solution: Establish relationships with equipment manufacturers for immediate training support, implement mentoring programs pairing experienced and new technicians, and prioritize training for most commonly serviced equipment

Safety Considerations

- **⚠ WARNING:** Never assign technicians to work beyond their training and qualification levels as inadequate knowledge may result in unsafe installations or repairs

⚡ **CAUTION:** Ensure all training includes current safety procedures and regulatory requirements to prevent accidents and compliance violations

i NOTE: All training must be documented and verifiable to support regulatory compliance and technician qualification records

✓ **BEST PRACTICE:** Implement ongoing training programs to keep technicians current with evolving avionics technologies and regulatory changes

Regulatory References

- **14 CFR Part 145.153** - Personnel requirements including training and competency
- **14 CFR Part 65** - Certification of Airmen including mechanic certificate requirements
- **47 CFR Part 13** - Commercial Radio Operator License requirements for avionics work
- **AC 145-9** - Guide to Obtaining a Repair Station Certificate including personnel qualifications
- **FAA Order 8900.1** - Flight Standards Information Management System training guidance