

CDC 10024

Driver/Operator Aerial

Volume 1. Instructor Guide Sheets



Air Force Institute for Advanced Distributed Learning
Air University
Air Education and Training Command

Author: Mr. Tom Seaman
Headquarters Air Force Civil Engineer Support Agency
HQ AFCESA
CEXF
139 Barnes Drive, Suite 1
Tyndall Air Force Base, Florida, 32403-5319
DSN: 523-6155
E-mail address: cdchelp@tyndall.af.mil

Instructional Systems

Specialist: Jeffrey Dzedzic

Editor: Maxine Baldwin

Air Force Institute for Advanced Distributed Learning
Air University (AETC)
Maxwell Air Force Base, Gunter Annex, Alabama 36118-5643

Welcome to the Career Development Course (CDC) program, a vital element of the Department of Defense (DOD) Fire and Emergency Services Certification Program. If this is your first attempt at a CDC we recommend you read DOD Manual 6055.06, *Department of Defense (DOD) Fire and Emergency Services Certification Program* and watch the Department of Defense Fire Fighter Certification Program Video DOD P/N 612888. If this is not your first CDC we're pleased that you are progressing well through the certification program and encourage you to continue your efforts to complete this CDC and obtain your certification for Apparatus Driver Operator-Aerial. This course, CDC 10024, *Apparatus Driver Operator-Aerial* is designed to give you the requirements and references to obtain certification.

These requirements are based on NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, 2003 edition. The relevant NFPA standard is listed in each section of the certification material. Use each section in conjunction with the NFPA standard to make sure all information is covered. Due to the unique nature of the NFPA Job Performance Requirement (JPR) format, many topics may be repeated. Study the information thoroughly because you may see related questions in any objective throughout the course. You will see notes to bring the repetition to the candidates' attention.

Throughout the certification materials, Department of Defense enhancements to the NFPA standards are underlined.

Instructor Guide Sheets briefly outline the information for each objective. The Guide Sheets are broken into three columns. Column one indicates both the learning objective and NFPA line item. Learning Objective (LO) numbers shown in the extreme left column of the Instructor Guide Sheets are primarily for ECI tracking purposes but may be used by candidates for correlation to the Certification Course Review Exercises used with CerTest (see the CerTest Procedural Guide for more information).

Column two contains the outline of information.

Column three provides reference notations indicating where additional information may be found (**test questions come from these references**). Instructors should develop their own lesson plans using the guide sheets as a starting point. Performance tests provide detailed performance checklist items for candidate testing.

Code numbers on figures are for preparing agency identification only.

The use of a name of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

To get a response to your questions concerning subject matter in this course, or to point out technical errors in the text, unit review exercises, or course examination, call or write the author using the contact information on the inside front cover of this volume.

NOTE: Do not use the IDEA Program to submit corrections for printing or typographical errors.

Consult your education officer, training officer, or NCOIC if you have questions on course enrollment, administration, or irregularities (possible scoring errors, printing errors, etc.) on unit review exercises or course examination. For these and other administrative issues, you may also access the AFIADL E-Customer Support Center (helpdesk): <http://afiadl.custhelp.com> and do a search for your course number. You may find your question has already been answered. If not, submit a new question or request, and you will receive a response in 4 days or less.

This volume is valued at 6 hours and 2 points.

NOTE:

In this volume, the subject matter is divided into self-contained units. A unit menu begins each unit, identifying the lesson headings and numbers. After reading and studying the references for each unit take the certification course review exercises (CCRE) provided in CerTest. Use of CerTest and the CCRE is explained in the CerTest Procedural Guide.

Acknowledgement

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Student Notes

Unit 1. Preventive Maintenance

Objectives: Perform Routine Tests, Inspections, and Servicing Functions

<i>LO/OBJ</i>	<i>CONTENT</i>	<i>REFERENCE</i>
LO 001/4.2.1	<p>Preventive Maintenance</p> <p>A. Perform routine tests, inspections, and servicing functions so the operational status of the vehicle is verified</p> <ol style="list-style-type: none"> 1. Inside driver compartment 2. Engine compartment 3. Fire pump 4. Water tank 5. Foam tank/system 6. Tools and equipment 7. Local policies and procedures 	<p>NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i>, 2003 Ed</p> <p>IFSTA’s Aerial Apparatus, Driver/Operator Handbook, First Ed</p>
Performance	Given a fire department vehicle, conduct routine tests, inspections, and servicing functions on the systems and components	Skills Station #1 Preventive Maintenance
LO 002/6.1.1	<p>B. Perform routine tests, inspections, and servicing functions so the operational readiness of the vehicle is verified</p> <ol style="list-style-type: none"> 1. Cable systems (if applicable) 2. Aerial device hydraulic system 3. Slides and rollers 4. Stabilizing systems 5. Aerial device safety systems 6. Breathing air systems 7. Communications systems 8. Local policies and procedures 	<p>IFSTA’s Aerial Apparatus, Driver/Operator Handbook, First Ed</p> <p>NFPA Standard 1911, <i>Standard for the Inspection, Maintenance, and retirement of In-Service Automotive Apparatus</i>, 2007 Ed</p>
Performance	Given a fire department vehicle, conduct routine tests, inspections, and servicing functions on the systems and components	Skills Station #2 Preventive Maintenance
LO 003/4.2.2	<p>C. Documentation</p> <ol style="list-style-type: none"> 1. History records 2. Maintenance and inspection forms 3. Service information 	IFSTA’s Aerial Apparatus Driver/Operator Handbook, First Ed
Performance	Document routine tests, inspections, and servicing functioning.	Skills Station #3 Preventive Maintenance

Unit 2. Driving/Operating

Objectives: Drive/Operate an Aerial Apparatus

<i>LO/OBJ</i>	<i>CONTENT</i>	<i>REFERENCE</i>
LO 004/4.3.1	<p>A. Operate a fire department vehicle given an aerial apparatus on a predetermined route on a public way which incorporates the following maneuvers and features:</p> <ol style="list-style-type: none"> 1. Four left turns and four right turns 2. A straight section of urban business street or a two lane rural road at least 1.6 km (1 mile) in length 3. One through-intersection and two intersections where a stop has to be made 4. One railroad crossing 5. One curve, either left or right 6. A section of limited-access highway that includes a conventional ramp entrance and exit and a section of road long enough to allow two lane changes 7. A downgrade steep enough and long enough to require down-shifting and braking 8. An upgrade steep enough and long enough to require gear changing to maintain speed 9. One underpass or a low clearance or bridge 	<p>IFSTA's Aerial Apparatus Driver/Operator Handbook, First Ed</p> <p>NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i>, 2003 Ed</p>
Performance	Perform predetermined driving route on a public way	Skills Station #1 Driving/Operating
LO 005/4.3.2	<p>B. Back a vehicle from a roadway into a restricted space</p> <ol style="list-style-type: none"> 1. 12 feet width clearance 2. Spotter 3. 90-degree right hand turn 4. 90-degree left hand turn 5. No stopping and pulling forward 6. Without striking obstructions 	<p>IFSTA's Aerial Apparatus Driver/Operator Handbook, First Ed</p> <p>NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i>, 2003 Ed</p>
Performance	Perform alley dock exercise	Skills Station #2 Driving/Operating
LO 006/4.3.3	<p>C. Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse</p>	IFSTA's Aerial Apparatus Driver/Operator Handbook, First Ed

<i>LO/OBJ</i>	<i>CONTENT</i>	<i>REFERENCE</i>
Performance	<ol style="list-style-type: none"> 1. Without stopping to change the direction of travel 2. Without striking obstructions Perform serpentine exercise	NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i> , 2003 Ed Skills Station #3 Driving/Operating
LO 007/4.3.4	D. Turn a fire department vehicle 180 degrees within a confined space from the tiller position <ol style="list-style-type: none"> 1. Spotter 2. No U-turn 3. Without striking obstructions 	IFSTA's Aerial Apparatus Driver/Operator Handbook, First Ed NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i> , 2003 Ed
Performance	Perform confined space turnaround exercise E. Maneuver a fire department vehicle in areas with restricted horizontal and vertical clearances <ol style="list-style-type: none"> 1. Forward without striking obstructions 2. Backwards without striking obstructions 3. Maintain speed 	Skills Station #4 Driving/Operating IFSTA's Aerial Apparatus Driver/Operator Handbook, First Ed NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i> , 2003 Ed
LO 008/4.3.5	Perform diminishing clearance exercise	Skills Station #5 Driving/Operating
LO 009/4.3.6	F. Operate a vehicle using defensive driving techniques under emergency conditions <ol style="list-style-type: none"> 1. Passenger restraint devices 2. Safe following distances 3. Maintain control while accelerating 4. Maintain control while decelerating 5. Adverse environment or driving surfaces 6. Use of automotive gauges and controls 7. Automatic braking system 	IFSTA's Aerial Apparatus Driver/Operator Handbook, First Ed NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i> , 2003 Ed
Performance	Perform emergency driving simulation on a driving track or similar controlled area NOTE: Emergency driver training should not be conducted on public ways	Skills Station #6 Driving/Operating
LO 0010/4.3.7	G. Operate all fixed systems and equipment <ol style="list-style-type: none"> 1. Manufacturer's specifications 2. Operating procedures 3. Local policies and procedures 4. Deploy, energize and monitor systems and equipment 	IFSTA's Aerial Apparatus Driver/Operator Handbook, First Ed NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i> , 2003 Ed

<i>LO/OBJ</i>	<i>CONTENT</i>	<i>REFERENCE</i>
Performance	Operate all major equipment and mechanical systems that are attached to the apparatus	Skills Station #7 Driving/Operating

Unit 3. Operations

Objectives: Maneuver and Position an Aerial Apparatus

<i>LO/OBJ</i>	<i>CONTENT</i>	<i>REFERENCE</i>
LO 011/6.2.1	<p>A. Maneuver and position an aerial apparatus</p> <ol style="list-style-type: none"> 1. Incident, situation description and location 2. Assignment 3. Reach 4. Tip load 5. Angle of inclination 6. Angle from chassis axis 7. Topography 8. Weather conditions 9. Use of aerial device 	<p>NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i>, 2003 Ed</p> <p>IFSTA's Aerial Apparatus, <i>Driver/Operator Handbook</i>, First Ed</p>
Performance	Determine correct position for the apparatus, maneuver apparatus into position and avoid obstacles	Skills Station #1 Operations
LO 012/6.2.2	<p>B. Stabilize an aerial apparatus</p> <ol style="list-style-type: none"> 1. Transfer power from the engine to the hydraulic system 2. Manufacturer's specifications for stabilization 3. Stabilization requirements 4. Effects of topography 5. Effects of ground conditions 	<p>NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i>, 2003 Ed</p> <p>IFSTA's Aerial Apparatus, <i>Driver/Operator Handbook</i>, First Ed</p>
Performance	Transfer power from the engine to the hydraulic system and operate the stabilization devices	Skills Station #2 Operations
LO 013/6.2.3	<p>C. Maneuver and position an aerial device from each control station, given a situation description and an assignment</p> <ol style="list-style-type: none"> 1. Raise aerial device 2. Rotate aerial device 3. Extend aerial device 4. Position aerial device to specific location 5. Lock and unlock aerial device 6. Retract and lower aerial device 7. Bed the aerial device 	<p>NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i>, 2003 Ed</p> <p>IFSTA's Aerial Apparatus, <i>Driver/Operator Handbook</i>, First Ed</p>
Performance	Maneuver and position the aerial device to accomplish the assignment	Skills Station #3 Operations

<i>LO/OBJ</i>	<i>CONTENT</i>	<i>REFERENCE</i>
LO 014/6.2.4	D. Lower an aerial device using the emergency operating system, given an aerial device, so that the device is lowered to its bedded position <ol style="list-style-type: none"> 1. Rotate and position aerial device to center 2. Unlock aerial device 3. Retract aerial device 4. Lower aerial device 5. Bed aerial device 	NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i> , 2003 Ed IFSTA's Aerial Apparatus, Driver/Operator Handbook, First Ed Skills Station #4 Operations
Performance	Lower an aerial device using the emergency operating system	
LO 015/6.2.5	E. Deploy and operate an elevated master stream <ol style="list-style-type: none"> 1. Desired flow 2. Effective stream 3. Nozzle reaction 4. Range of operation 5. Weight limitations 	NFPA Standard 1002, <i>Fire Apparatus Driver/Operator Professional Qualifications</i> , 2003 Ed IFSTA's Aerial Apparatus, Driver/Operator Handbook, First Ed Skills Station #5 Operations
Performance	Connect a water supply to a master stream device and control an elevated nozzle manually or remotely	

Bibliography

References:

IFSTA, *Aerial Apparatus Driver/Operator Handbook*, 1st Edition, Fire Protection Publications, Oklahoma State University.

IFSTA, *Pumping Apparatus Driver/Operator Handbook*, 2nd Edition, Fire Protection Publications, Oklahoma State University.

NFPA Standard 1002, *Fire Apparatus Driver/Operator Professional Qualifications*, 2003 Ed, National Fire Protection Association, Quincy, Massachusetts.

NFPA Standard 1911, *Standard for the Inspection, Maintenance, and retirement of In-Service Automotive Apparatus*, 2007 Ed, National Fire Protection Association, Quincy, Massachusetts.

Student Notes

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