



Virginia Department of Fire Programs

Technical Rescue Division

VEHICLE– LEVEL II

Chapter 10 (10.2)NFPA 1006, 2013 edition

VEHICLE SEARCH AND RESCUE TECHNICIAN

Chapter 8 (8.4) NFPA 1670, 2009 edition

MACHINERY SEARCH AND RESCUE TECHNICIAN

Chapter 12 (12.4), NFPA 1670, 2009 edition

Section 1 - ADMINISTRATIVE GUIDELINES

1.1 Course Description:

This program meets or exceeds the requirements for NFPA 1006 *Standard for Technical Rescuer Professional Qualifications*, Chapter 10, Level II. The student will learn to perform at the Technician Level as specified in NFPA 1670, *Standard on Operations and Training for Technical Search and Rescue Incidents*, Chapters 8 and 12.

This 24-hour program includes classroom and practical training which applies to those incidents where commercial or heavy vehicles are involved, complex extrication processes will have to be applied, or multiple uncommon concurrent hazards are present, or that involve heavy machinery or more than digital entrapment of a victim. Emphasis will be placed on heavy vehicle lifting and stabilization, utilization of heavy towing and recovery services, and complex patient packaging and removal techniques.

Heavy vehicles are generally heavy duty highway, off-road, construction, or mass transit vehicles constructed of materials presenting resistance to common extrication procedures, tactics, and resources and posing multiple concurrent hazards to rescuers from occupancy, cargo, size, construction, weight, or position.

1.2 Course Information:

This course is designed to meet or exceed:

NFPA 1006 Standard on Technical Rescuer Professional Qualifications, 2013 edition Chapter 10.2 Vehicle Rescue.

NFPA 1670 Standard on Operations and Training for Technical Search and Rescue Incidents 2009 edition; Vehicle Search and Rescue Technician, Chapters 8.4 and 12.4.

1006 Standard

Course Correlation

10.2.1	Plan for a heavy vehicle or large machinery incident	Session 1, Session 2
10.2.2	Stabilize commercial/heavy vehicles and large machinery	Session 1, Session 2, Session 4
10.2.3	Determine a heavy vehicle/large machinery access/egress	Session 1, Session 2
10.2.4	Create access/egress openings for rescue	Session 1, Session 2
10.2.5	Disentangle victims given a Level II incident	Session 3



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1670 Standard

Course Correlation

8.4.2(1)	Evaluating existing and potential conditions at vehicle search and rescue incidents	Session 1, Session 2
8.4.2(2)	Performing extrication and disentanglement operations involving packaging, treating, and removing victims injured or trapped in large, heavy vehicles	Session 3
8.4.2(3)	Stabilizing in advance of unusual vehicle search and rescue situations	Session 1, Session 2, Session 4
8.4.2(4)	Using all specialized search and rescue equipment immediately available and in use by the organization	Session 1, Session 2 Session 3, Session 4 Session 5

1.3 Logistical Requirements of Host Jurisdiction

1) Classroom facilities

- Suitable size, comfortable and meeting the needs to deliver course lecture.
- Adequate and appropriate restroom facilities (to include training grounds).
- Lighting able to be controlled for projector operation.
- Tables and chairs for 24 students.
- LCD Projector and screen, computer with remote mouse.
- Chalkboard, whiteboard or easel pad with chalk or markers.

2) Needed Vehicles:

- 2 ea Type C or D school busses or commercial busses – for extrication demonstration.
- 3 ea Vehicles of the jurisdictions choice (road tractor, cement mixer, boxed van, dump truck, tanker truck) Jurisdictions should take into consideration the typical type of extrication they may encounter given the type of roads, industry, or other factors in their locality.
- 3 ea Passenger vehicles to be used in setting up practical evolutions with the above listed equipment.
- 1 ea Operational Tractor Trailer – WILL NOT be used for extrication demonstration. To be used to demonstrate securing of air brake systems and vehicle stabilization only.

Vehicles to be staged or set by VDFP Instructional staff during the first day's activities. Equipment capable of setting up heavy vehicles (heavy wrecker, fork truck, or loader) to be available throughout the duration of the class.



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- 3) Heavy vehicle (3/4 ton or heavier) to relocate VDFP equipment trailer as needed. Vehicle must be owned by municipality or hosting agency. Privately owned vehicles are not insured or authorized to tow State property.
- 4) Strongly encouraged to include participation of local commercial heavy towing and recovery services (with an experienced operator) which might be called upon to assist at incidents involving large transportation vehicles.
- 5) Detailed logistical list will be provided by VDFP to the hosting agency or point of contact.

1.4 Required Student Materials/Equipment/Uniforms

- 1) PPE
 - a. NFPA rated fire helmet or technical rescue helmet
 - b. Steel toed boots
 - c. Gloves
 - d. Eye protection
 - e. Minimum long pants/long sleeve shirt and full turn-out gear with the option of long sleeve coveralls or USAR turn out gear. Various levels of protection required at different times throughout the class.

1.5 Course Pre-requisites:

- 1) Students **MUST** be 18 years of age.
- 2) Successful completion of Virginia Department of Fire Programs *Introduction to Technical Rescue Module 1 and Module 2* programs.
- 3) Successful completion of Virginia Department of Fire Programs *Vehicle Rescue Level 1 (Operations)*.
- 4) Students must be a member in good standing with a recognized fire, EMS, or emergency services agency/department to apply to attend.
- 5) Students shall be psychologically, physically, and medically capable to perform assigned duties and functions at technical search and rescue incidents and to perform training exercises in accordance with of NFPA 1500 *Standard on Fire Department Occupational Safety and Health Program*, Chapter 10-Medical and Physical Requirements.

Technical rescue is psychologically and physically demanding work. Students must be capable of lifting heavy loads, working at various elevations and operating in potentially hazardous environments.



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1.6 Course Registrations

- 1) All students must be pre-registered in VDFP's Fire Service Training Records System (FSTRS) before being allowed to participate in the class.
- 2) Students will be required to sign a Virginia Department of Fire Programs *Notice of Acknowledgement* form verifying the students meets the course pre-requisites.
- 3) No unregistered students (walk-ins) will be allowed.
- 4) Class size is limited to 24 students.

1.7 Course Curriculum/Outline

Vehicle and Machinery Rescue – Level II (Technician Level) 24 hour program

Session 1

- | | |
|-----------------------------------|-------------------|
| 1) Welcome/Introduction/Paperwork | 0.5 hour lecture |
| 2) Heavy Truck Anatomy | 1.5 hours lecture |
| 3) Heavy Truck/Bus Stabilization | 1.5 hours lecture |
| 4) Heavy Truck Rescue Techniques | 1.5 hours lecture |

Session 2

- | | |
|--|-------------------|
| 5) Bus Anatomy | 1.0 hour lecture |
| 6) Bus Rescue Techniques | 1.5 hours lecture |
| 7) Introduction to recovery vehicle operations | 1.5 hours lecture |

Session 3

- | | |
|--|----------------|
| 8) Heavy Vehicle orientation | 1.0 hour skill |
| 9) Wrecker orientation | 1.0 hour skill |
| 10) Stabilization and air bag lifting review | 1.0 hour skill |

Session 4

- | | |
|--|------------------|
| 11) Patient packaging and removal techniques | 1.0 hour skill |
| 12) Chain, slings, hooks, and hoist lifting | 1.5 hours skills |
| 13) Struts, strapping, and alternative stabilization techniques. | 1.5 hours skills |

Session 5

- | | |
|--------------------------|------------------|
| 14) Scenarios | 6.0 hours skills |
| 15) Incident Termination | 2.0 hours skills |



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1.8 Reference Material and Supplemental Information

Principles of Vehicle Extrication, Third Edition, IFSTA 2009

Vehicle Extrication - A Practical Guide, Anderson, Fire Engineering, 2005

Vehicle Extrication Levels 1 & 2, Sweet, Jones and Bartlett, 2012

1.9 Course Completion Requirements for Students:

- 1) Students are required to attend 100% of the classroom and practical sessions.
- 2) Successful completion of all required skills as indicated in the course outline.
- 3) Students are required to successfully complete a “Skills Check-Off” sheet. Each skill is pass/fail, with two opportunities to complete each skill.