

# **Rescue Refresher: Vehicle Extrication**

## **Instructor Guide**

**Session Reference:** 1

**Topic:** Vehicle Extrication

**Level of Instruction:**

**Time Required:** Six Hours

**Materials:**

- At least one road passenger vehicle, one complete set of rescue equipment, and one instructor for each eight to ten students one vehicle for instructor demonstration

**References:**

- Rescue Technician, Mosby, Sessions 8-14
- Extrication, First Edition, IFSTA
- Vehicle Rescue, Brady
- Emergency Care, Eighth Edition, Brady

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**PREPARATION:**

**Motivation:**

**Objective (SPO):** 1-1

The student will demonstrate a basic understanding of passenger vehicle extrication and the associated tools and techniques through participation in class discussion and practical activities.

**Overview:**

Vehicle Extrication

- Demonstrate knowledge of scene operations
- Demonstrate knowledge of vehicle stabilization
- Demonstrate knowledge of hand and power tool use
- Demonstrate knowledge of vehicle entry and disentanglement

## **Session 1**

## **VEHICLE EXTRICATION**

- SPO 1-1 The student will demonstrate a basic understanding of passenger vehicle extrication and the associated tools and techniques through participation in class discussion and practical activities.
- EO 1-1 Provide a basic understanding of scene operations at an incident involving the extrication of entrapped victims from road passenger vehicles.
- EO 1-2 Provide an understanding of the importance of vehicle stabilization and the methods to stabilize road passenger vehicles.
- EO 1-3 Provide an understanding of the hand and power tools used in the extrication of victims from road passenger vehicles and the operation of these tools.
- EO 1-4 Provide an understanding of basic road passenger vehicle entry and disentanglement techniques.

**I. Scene Operations (1-1)****A. Sequence of Operations**

1. Preparation
2. Response
3. Assessment
4. Hazard control
5. Support operations
6. Gaining access
7. Emergency care
8. Disentanglement
9. Removal and transfer
10. Termination

*NOTE: This session will deal primarily with assessment, hazard control, support operations, gaining access, disentanglement, and termination. Emergency care and removal and transfer will be addressed solely from the viewpoint of coordination with other activities and assisting emergency care providers. More detailed information on these topics should be included in separate training activities. Preparation and response will be addressed in an overview only.*

**B. Preparation**

1. Stress importance of adequately trained personnel
2. Equipment that is available and ready for use

**C. Response**

1. Discuss importance of getting to the scene safely
2. Remember that this is not your emergency and that you have been called to assist someone else

#### D. Assessment

1. Scene hazards - downed power lines, unstable structures and vehicles, hazardous materials
2. Victims outside vehicles
3. Outer and inner circle check
4. Size up before beginning activity
5. Stress personal safety and the importance of full personal protective clothing for all personnel

#### E. Hazard Control

1. Stabilize vehicles - equipment and techniques
2. Fire prevention and control - hoselines and ignition sources
3. Traffic control

#### F. Support Operations

1. Lighting - scene, extrication area, and patient assessment
2. Helicopter landing zones

#### G. Gaining Access

1. Discuss hand and power tools and techniques for gaining access
2. Normal means - unlocked or open doors and windows
3. Alternate means - front and rear windows, locked doors and windows

#### H. Emergency Care

1. Patient assessment
2. Coordination with extrication personnel
3. Patient immobilization - assisting with traction and placement of victims on backboards

**I. Disentanglement**

1. Coordination with EMS personnel concerning route of removal
2. Discuss hand and power tools and disentanglement techniques
  - a. Door removal
  - b. Roof opening and removal
  - c. Seat displacement
  - d. Steering wheel cutting
  - e. Steering column displacement
  - f. Pedal displacement
  - g. Dash roll-up

**J. Removal and Transfer**

1. Assisting with victim removal

**K. Termination**

1. Scene clean up

**II. Practical Activities**

This portion of the class consists of demonstration by the instructor followed by practice by the students under the supervision of an instructor.

- A. Stabilize vehicles using a box crib, step chocks, mechanical and hydraulic jacks, and air bags (1-2)
- B. Gain access to a road passenger vehicle using a spring loaded center punch, an axe, and a haligan bar (1-3)
- C. Demonstrate disentanglement as follows: (1-4)
  1. Door removal using hydraulic spreaders at the latch and in the window, hydraulic cutters at the hinges and the door post. Also consider using wrenches or sockets to remove a door.
  2. Roof opening and removal using a hack saw, an air chisel, hydraulic cutters, and electric reciprocating saw

3. Seat displacement using the seat adjustment device in the vehicle and hydraulic cutters
4. Steering wheel cutting using bolt cutters
5. Steering column displacement using the steering column tilt device (if present). Students should be discouraged from displacing columns by any other means.
6. Pedal displacement using chain or rope and high lift jack
7. Dash roll-up using hydraulic rams or mechanical jacks

*NOTE: All students are expected to perform all the practical skills to the satisfaction of the evaluators. Assistance should be provided when required.*

### **III. Critique**

The instructors should conduct a review of the practical activities, discuss any problems observed, solicit student comments, and summarize the activities.

**SUMMARY:**

**Review:**

Vehicle Extrication

- Demonstrate knowledge of scene operations
- Demonstrate knowledge of vehicle stabilization
- Demonstrate knowledge of hand and power tool use
- Demonstrate knowledge of vehicle entry and disentanglement

**Remotivation:**

**Assignment:**

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**EVALUATION:**

All students are expected to perform all the practical skills to the satisfaction of the evaluators. Assistance should be provided when required.