



Fire Protection Training

Procedures Handbook 4300

VEHICLE EXTRICATION

TOPIC: Vehicle Stabilization

TIME FRAME: 1 Hour

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will list and describe the correct methods to stabilize vehicles with a variety of materials.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Various types and sizes of stabilizing equipment
- Vehicle props
- Full structural protective clothing

REFERENCES:

- IFSTA, Essentials of Fire Fighting, 2nd Edition, Chapter 7
- IFSTA, Fire Service Rescue Practices, 5th Edition, Chapter 9

PREPARATION: Prior to any type of vehicle rescue operation, the rescuer must stabilize the vehicle to provide safety for themselves and the victim(s). Failure to properly stabilize vehicles will often make the emergency condition worse when your function is to be a part of the solution.



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VEHICLE STABILIZATION

PRESENTATION

APPLICATION

I. BASIC OBJECTIVES OF STABILIZATION

A. Objectives

1. To increase the number of contact points with the ground
2. To spread those contact points over as wide an area as possible

What are the objectives of stabilization?

II. STABILIZING DEVICES

A. Wood Cribbing And Wedges

1. Cribbing made from 2x4s or 4x4s of rough unfinished wood, 18 to 24 inches long
 - a. Smooth or painted surfaces tend to be slick, especially when wet
2. Wedges, made from rough unfinished wood, 12 to 18 inches long, 2 to 6 inches thick
3. Attach rope handles to cribbing and wedges for carrying
 - a. Paint ends to identify type and length of block

Why should cribbing be left rough and unfinished?

Why attach rope handles and paint ends?

B. Hydraulic Jacks

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VEHICLE STABILIZATION

PRESENTATION	APPLICATION
<ul style="list-style-type: none">1. Can lift 1 1/2 to 20 tons<ul style="list-style-type: none">a. Place the base on jack plates or on cribbing blocks to increase the surface area and stabilityb. Place a cribbing block on the ram face to increase the surface area and reduce slippingC. Mechanical Jacks<ul style="list-style-type: none">1. Types<ul style="list-style-type: none">a. Automotive bumperb. Scissor jackc. Screw jackd. Railroad jack2. None of these jacks are ideal, but can be used when other devices are not availableD. Air Bags<ul style="list-style-type: none">1. Heavy rubber inflatable bags<ul style="list-style-type: none">a. 1 1/2 inch thick when deflated2. The largest bag inflated with 6 PSI can lift 6,000 pounds3. Top and bottom of the bags are thick neoprene pads to resist cutting and tearing4. Bags can be used singularly or in pairs to achieve optimum stabilization or liftE. Hand Winch (Come-along)	



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">1. Use a chain or nylon strap to secure hand winch to an anchor point (tree, or another vehicle)2. Hook the cable end of the winch to a strong point on the vehicle to be stabilized3. Use a second hand winch or a chain or strap to secure the other side of the vehicle to obtain optimum stabilization4. Avoid securing any lines to the rescue vehicles to keep them mobile <p>F. Vehicle Winches</p> <ul style="list-style-type: none">1. Operator must be proficient with winch controls to eliminate jerky operation and/or mistakes2. Once a vehicle is committed to the stabilization process it is required to stay there until the operation is complete <p>III. STABILIZING VEHICLES WITH AIR SUSPENSION SYSTEMS</p> <p>A. Exercise Caution</p> <ul style="list-style-type: none">1. The vehicle's air compressor inflates rubber bellows for the suspension system2. If the suspension system fails the vehicle will drop to within three (3) inches of the ground <p>B. To Stabilize the Vehicle Body</p> <ul style="list-style-type: none">1. Place jacks or blocks at bulk head points to the front and rear of the wheels2. In event air suspension system fails no harm done	

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VEHICLE STABILIZATION

SUMMARY:

Vehicle stabilization skills will only come after a tremendous amount of training. You should train with tools and equipment available to you while remembering the best stabilization technique is often the simplest technique.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).