

VEHICLE STABILIZATION



Vehicle Stabilization Objectives

- ◆ Define stabilization
- ◆ Describe the various reasons for stabilization
- ◆ Describe the various equipment and materials utilized in stabilization operations
- ◆ Describe the different methods of stabilization

Stabilization Objectives

- ◆ Describe the various types of wood cribbing used in stabilization operations as well as their applications
- ◆ Describe the locations on a vehicle where stabilization is most effective
- ◆ Describe the safety concerns present during stabilization operations

Vehicle Stabilization

Stabilization is the process of assessing the potential movement of a vehicle followed by the application of the proper techniques and equipment for the situation.

Vehicle Stabilization

◆ Reasons for Stabilization

- Keeps the vehicle from moving or rocking
- Keeps the car from “relaxing” when the roof posts are cut
- Secures a vehicle on a hill/slope/embankment
- Vehicle hanging over barriers/guardrails/bridge abutments
- Vehicles into buildings or other structures

Vehicle Stabilization

◆ Key Concepts

- Increases the number of contact points the vehicle has with the ground
- Spread these points over as wide an area as possible
- The wider the base the more stable the vehicle

**BE SURE NOT TO BLOCK
ACCESS TO THE PATIENT**

Vehicle Stabilization

DO NOT BLOCK PATIENT ACCESS



Vehicle Stabilization

◆ Key Concepts

- Stabilize as you go (Crib-as-you-go)
- Constantly reevaluate stabilization operations
 - Insertion of rescue personnel into the vehicle
 - Removal of patients from the vehicle
 - Changing environmental conditions
 - Vehicle shifts due to extrication activities

Vehicle Stabilization

◆ Cribbing Safety Guidelines

- Never work under the load
- Wedge to provide maximum contact
- Use adequate blocking and cribbing
- Monitor load continuously for shifting
- If you lift an inch, crib an inch

Vehicle Stabilization

- ◆ Cribbing Safety Guidelines
 - Never allow hands and fingers to be placed between the object being raised and the cribbing



Vehicle Stabilization

◆ Evaluating Stability

- Rescuers should use the principles of mechanics to evaluate stability
- When stabilizing a vehicle consider the following:
 - Center of gravity
 - Estimated weight of the vehicle
 - Force it will take to move it
 - Stability of its base

Vehicle Stabilization

◆ Tools Used for Stabilization

- Wood cribbing
- Wheel chocks
- Hydraulic jacks & rams
- Come-along
- Jack stands
- Chains, rope, winches and straps
- Struts

Vehicle Stabilization

Tools Used for Stabilization



Vehicle Stabilization

- ◆ Wood Cribbing
 - Base cribbing
 - Box cribbing
 - Wedge cribbing
 - Step cribbing
 - Buttress cribbing

Vehicle Stabilization

Base Cribbing



Vehicle Stabilization

Box Cribbing



Vehicle Stabilization

Wedges



Vehicle Stabilization

Step Chocks



Vehicle Stabilization

Buttress Cribbing



Vehicle Stabilization

◆ Common Vehicle Positions

- The three most likely positions a vehicle will end up in after an accident are:
 - On all four wheels
 - On its side
 - On its roof

Vehicle Stabilization

◆ Placement of Cribbing

- Place cribbing for maximum effect, allowing for patient contact and removal
- When using step chocks, cribbing should be placed ahead of the door at the “A” post and ahead of the rear wheel for an upright vehicle
- In simple terms place the cribbing where it will prevent the vehicle from moving

Vehicle Stabilization

VEHICLE ON ALL FOUR WHEELS

Place 4 step chocks between the wheels



Vehicle Stabilization

VEHICLE ON ITS SIDE



Vehicle Stabilization

Using the Struts

Place two struts on the underside of to strong points and secure the base



Vehicle Stabilization

Using the Struts

Apply force to the struts using a winch or come-a-long



Vehicle Stabilization

VEHICLE ON ITS ROOF



Vehicle Stabilization

Vehicle under a Tractor Trailer/Large Vehicle



Vehicle Stabilization

Vehicle under a Tractor Trailer/Large Vehicle

Trailers are naturally stable, but you need to be able to stabilize as you lift



Vehicle Stabilization

Vehicle under a Tractor Trailer/Large Vehicle

Know your resources, this rig stabilizes and lifts at the same time

