

VERDUGO FIRE ACADEMY
CSEFM FSTEP FIREFIGHTER TRAINING
S.H.A.D.E.



I. ORGANIZATION MNEMONIC: **S.H.A.D.E.**

A. **S**

1. **Size-up**

- a. Begins with dispatch information
- b. Continues enroute - at least one block out, check with binoculars if needed, for possible hazmat involvement, particularly if any cargo-carrying vehicles are involved
- c. Relay exact location and best egress in to other incoming units
- d. Once on scene, determine
 - 1) Number of patients
 - 2) Severity of injuries
 - 3) Level of entrapment
 - 4) Resources - What is on-scene?
 - a) What is enroute?
 - b) Is anything else needed? If so, what? And how do we get it? How should they be deployed to maximize effectiveness?
 - 5) Hazards present
 - 6) Continually re-evaluate incident status

2. **Stabilization** (for details see “General Principles of Vehicle Stabilization” and “Specific Methods of Vehicle Extrication”)

- a. This involves increasing the number, size and total area of contact between the vehicle(s) and the ground/pavement.
- b. Orientation of vehicle(s) will determine stabilization needs.
- c. Consider cable come-a-longs for inclines.

3. **Scene Management**

- a. Establish zones
 - 1) Interior Zone: Activities inside the vehicle. Includes personnel and equipment necessary for patient care and treatment.
 - 2) Hot Zone: Immediately adjacent to vehicles being worked on, only those personnel directly involved in patient care or extrication operations should be inside this perimeter.

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- 3) Warm Zone: Equipment cache
Firefighter with pressurized hotline, with air bled out
Command Post
Pumper supplying hotline
Staging area for:
Personnel and apparatus not currently involved in patient treatment or extrication
- 4) Cold Zone: People and equipment not directly involved in the rescue effort.
 - Ambulance Staging
 - Media
 - Onlookers

4. **Safety**

- a. Rescuer
 - 1) All personnel wearing PPE with eye protection.
 - 2) Lighting for night responses
 - 3) Identify slip/trip hazards
- b. Patient
 - 1) C-Spine stabilization as soon as safely possible.
 - 2) Cover patient before starting more aggressive maneuvers

B. **H - Hazard Control**

1. Fuel Leaks
 - a. Secure with Class “B” foam
 - b. Control leak if possible using wax toilet ring, golf tee or putty.
 - c. Dike spill or use a small container to reduce size of spill
 - d. Requires sufficient quantity of foam
 - 1) All Pierce apparatus
 - 2) Foam 23
 - 3) Station 23
 - 4) Station 16
2. Continuous application may be necessary

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OR- (if foam is not an option)

- a. Pressurize and bleed air from HOTLINE! - not booster
 - b. Tests show both boosters combined do not provide enough GPM to protect nozzle person from volume of fire produced by amount of gasoline found in average passenger vehicle, if it should ignite unexpectedly! If boosters won't protect firefighters on the nozzle, they definitely won't protect our patients!!
3. Traffic Control
- a. Law enforcement responsibility on freeway - call for CHP; Local PD may assist in severe accidents.
 - b. City streets – Local PD
 - c. Expedite CHP/PD by calling Cal-Trans/Public Service respectively for cones/ barriers, tow trucks/heavy wreckers or other heavy equipment if needed. Position apparatus in protective ring around scene, heaviest vehicle between site and on-coming traffic with rig and wheels angled, leave space for buffering in case apparatus is struck by another vehicle.
4. Crowd Control
- a. Law enforcement responsibility, Public Service can assist with barriers
5. Hazardous Materials Involvement
- a. Notify Fire Dispatch, they will begin required notifications
 - b. May call for Health Department, Local or Mutual Aid Haz Mat Unit, Chemtrec, responsible party, if on City streets; on freeway work through CHP/Cal-Trans
 - c. Notify in-coming units of safe approach route, consider upwind-uphill
6. Electrical Involvement
- a. Downed lines - call SCE; use AC Hotstick or other power-testing device
 - b. Damaged street lights/traffic signals
 - 1) Minimum 220 volts - 15 amps, most areas much higher
 - c. Call Public Service Street Lighting Traffic Division
 - d. Battery(ies) - do not disconnect unless active arcing/sparking is occurring, with fuel spilled. If not, leave connected for use with power doors locks, windows, seats, hatch releases and steering columns

C. A



1. **Access**

- a. Gaining access to patient by removing windows/windshield/rear glass and enlarging openings
- b. Try simple maneuvers such as trying doors, tilting/telescoping the steering wheel and try sliding the seat back; simultaneously, other crewmembers should be rigging more complex techniques for accomplishing the same goal, in case the simple techniques are unsuccessful
- c. Glass removal (for details see “Glass Removal” Handout)
 - 1) Notes about Glass
 - Most common contaminant of our patients’ wounds
 - Invisible to x-ray
 - Once mixed with blood impossible to see visually
 - Cannot be irrigated out of wounds
 - Wound usually heals with glass slivers/chips still inside which continues to irritate/delay healing until the skin grows out and naturally sloughs the glass off
 - a) After the vehicle is stabilized remove all of the side windows
 - (1) If possible, start glass removal as far away from patients as possible on vehicle; this may allow access to be gained enough that remaining windows can be rolled down and then broken inside the doors, minimizing the patient’s and our exposure to glass debris.
 - (2) Protect patients from glass debris with fire blanket or sheets.
 - (3) If the patient’s physical condition is sufficiently grave, don’t waste excessive time in removing windshield, use an axe, but always protect patient.
 - (4) The tempered glass on the side of the vehicle is best removed by rolling down the window until 1/4" is above the sill, then breaking with channel locks, or a striking tool.



2. **Assess**
 - a. Assess patient's injuries, and treatment needed; level of entrapment
 - b. Consider "Smash & Grab" if patients are critical without physical entrapment.
 - (1) Remove roof, extricate patient utilizing KED board.
3. **Assist**
 - a. Begin treatment
 - C-spine stabilization
 - Large bore IV's
 - High flow O₂
 - Dress bleeding
 - b. Treatment should begin and continue while additional access is gained and the extrication progresses.

D. D - Disentanglement

1. Process of removing vehicle away from around patient with minimum of manipulation of the patient. (for details see "Gaining Access / Disentanglement" handout)
 - a. Door Removal
 - b. Force seats
 - c. Move pedals
 - c. "B" Pillar Removal on 4-Door vehicles
 - d. "Third Door" technique on 2-Door vehicles
 - e. Hatchback considerations
 - f. Roof Removal
 - g. Dash/Firewall Push

E. E - Extrication

1. Patient Packaging and Removal with minimal manipulation, thereby minimizing aggravation of any injuries.