AUTO EXTRICATION / STABILIZATION

A systematic approach to an extrication, is the best way to ensure that tasks are performed as quickly yet effectively as possible.

The ideal number of rescuers for a simple single patient entrapment is said to be approximately 5 – 6 persons.

POSSIBLE CREW ORGANIZATION

Captain (Extrication or Rescue Group Leader)

- Vehicle Assessment
- Scene Safety officer
- Responsible for the overall coordination of the rescue team
- Stand back and ensure they have a good overview of the incident
- Addressing what steps will come next
- Communication focal point between rescue teams(s) and IC

Firefighter 1 (Logistics)

- Extrication tool PTO
- Vehicle stabilization
- Preparing and staging equipment
- Assist with extrication when needed
- Scene lighting

Firefighter 2 (Primary Tools)

- Ground Tarp for tools
- Patient Cover/Tarp
- Rescue/Extrication Tools
- Works with (FF2 or Engineer) and has bulk of the actual rescue operation

Firefighter 3 (Back up Tools)

- Rescue / Extrication Tools
- Hand Tools
- Vehicle Stabilization
- Works with FF 1
Ambulance Personnel

• Patient Contact/Care
• Patient logistical needs

SCENE SAFETY

To promote a safe and organized rescue scene it is important that rescue zones be established:

• Inner circle (action area) is an imaginary circle around each vehicle involved
  o Circle with a radius of approximately 10-15 ft.

• Outer circle is approximately 15-30 ft and should be kept clear of all non rescuers.
  o Tool staging is set within here
  o Parts dump is established for all removed materials

Fire Protection

• A charged hose line shall be in place with a firefighter in full PPE and SCBA manning the line at all times during the extrication
• Place a Dry Chemical extinguisher in the inner circle

Patient Care

• Establish patient contact at the earliest opportunity
  o Stay in constant contact
  o Inform them exactly what is happening during the rescue

THE EXTRICATION

Approach

• Try and approach from the front of the vehicle
• Move around the vehicle and assess for hidden hazards
• Look above, below and around the vehicle
• Patient person makes contact and keeps this contact until pt. is removed
  o Disconnect seat belts if applicable

Stabilize the Vehicle

• After assessment, start vehicle stabilization
• Move seats back and roll windows down
• Remove ignition key away from scene (15’ for electric cars)
• Disconnect battery
  o If battery cannot be disconnected, turn hazard lights on as a warning to rescuers
• Set emergency brake
Glass Management
- Cover the patient and rescuer
- Remove glass
  - Center Punch
  - Sharp tool striking the lower corner of the glass
- Remove glass from inside out
- Break glass if window is rolled down into door
- Enhanced Protection Glass (EPG) must be left in place
- If breaking glass to access patient, break glass furthest from patient
- Disconnect seat belts or cut

AVOID DEPLOYMENT PATH OF AIRBAGS

Peel and Peak
- Pull trim on opposite side of extrication point
  - What is found on one side will be a mirror image

Door Removal
- Provides quick access to patient
- 1st Step – Unlock and open if possible
  - Vehicle on its wheels
  - Vehicle on its roof
  - Vehicle on its side

Side Removal – (B pillar and 2nd door removal)
- Create a larger opening if needed for patient care or removal
  - If a dashboard roll is needed, avoid a side removal

3rd Door Conversion – (improved rear seat access)
- Creates a larger opening to the rear seat area

Roof Removal
- Improved patient access and removal
  - Forward roof flap
  - Backward roof flap
  - Partial roof flap
  - Side roof flap
  - Inverted roof flap

Dash Roll
- Aid extrication or gain access to feet
  - Rams

Dash Lift
- Displaces dashboard directly upward, away from patient
EXTRICATION TECHNIQUES
FIELD EXERCISES

STABILIZATION

Vehicle on its wheels
• 3 point system
• 4 point system

Vehicle on its side
• Support under A and C pillars
• Cribbing & Struts

Vehicle on its roof
• Support vehicle at space between vehicle and ground
• Cribbing & chocks

DOOR REMOVAL

Door Removal – Vehicle on its wheels
• Provides quick access to patient
• 1st Step – Unlock and open if possible
• Expose hinges
  o Squeeze fender
  o Relief cut fender to allow better spreader movement
  o Place spreader above upper hinge and find a stable spreading point
    ▪ Remember attack one hinge at a time

Alternative: If the front of the car is inaccessible place spreader in the front corner of windowsill and door and spread against A pillar until hinges are exposed

DO NOT TEAR METAL, STOP AND REPOSITION TOOL OR CUT HINGES
• After hinges are cut, cut strap and door electrical cable
• Remove door from lock
  o Place door in parts dump

Door Removal – Vehicle on its roof
• Squeeze rocker channel
• Spread door outward
• Cut or spread hinges to remove door

Side Removal
• Remove front door
• Remove back door at the hinges
• Cut the top, then the bottom of the B pillar to remove

Alternative
• Start at back door and squeeze the door to create a purchase point
• Spread back door until it opens
• Cut lowest area of B pillar
• Place tip of spreader on rocker channel and into B pillar cut and spread until bottom of pillar is released
• Cut top of B pillar
• Remove front door at the hinges

Third Door Conversion
• Remove front door
• Deep relief cut at base of B pillar
• Cut through B pillar at roof
• Make a vertical relief cut in front of the C pillar
• Place spreader tips into cut and open

ROOF REMOVAL

Full Roof Removal
• Remove safety glass
• Cut both A pillars
• Cut windshield
  o Protect patient and rescuers
• Cut both B pillars
• Cut both C pillars
• Support roof with rescuers
• Confirm all cuts are complete and seat belts detached
• Move to parts dump

**Forward Roof Flap**
• Cut B and C pillars
• Make relief cuts on both side of roof behind windshield
• Support roof with rescuers
• Fold roof forward and secure

**Side Roof Flap**
• Cut A pillar
• Cut windshield on an angle to create a hinge point
  o Remember to protect patients
• Cut B pillar close to roof
• Relief cut the roof just above lower C pillar
• Fold roof down

**Inverted Roof Flap**
• Stabilize vehicle
• Remove glass
• Shore rear of vehicle with struts
• Remove rear seat to gain access to front seat if needed
• Tension roof with a ram placed on roof and vehicle floor
• Cut B and C pillars
• Drive roof down using ram
• Remove side doors as needed

**DASHBOARD ROLL / LIFT**

*Dashboard Roll*
• Stabilize vehicle
• Add additional stabilization on ground below B pillar
• Place Ram Support on front door rocker channel
• Position ram and tension onto dash
• Make a relief cut through the base of the A pillar
• Extend ram
• Place cribbing wedges into relief cut opening

**Dashboard Lift**
• Stabilize vehicle
• Add additional stabilization on ground below A pillar
• Make relief cut into fender to allow spreading
• Make 2 relief cuts into the base of the A pillar approx. 4-6 inches apart
• Clamp spreader on to cut section
• Fold this section outward with the spreader
• Place spreader tips into gap and lift the dash
• A ram can be used simultaneously on the other side