# 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

Engineer or FF2(Logistics)

* Extrication tools
* Vehicle stabilization
* Preparing and staging equipment
* Assist with extrication when needed
* Scene lighting

Firefighter 3 (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 4 (back up tools)

* Rescue / Extrication Tools
* Hand Tools
* Vehicle Stabilization
* Works with FF 2 or Engineer

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.
  + Circle with a radius of approximately 10-15 ft.
* Outer circle approximately 15-30 ft and should be kept clear of all non-rescuers.
  + Tool staging
  + Parts dump is established for all removed material

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
  + Stay in constant contact
  + Inform them exactly what is happing during the rescue

# the extrication

approach

* Try and approach from the front of the vehicle
* Move around the vehicle and asses for hidden hazards
* Look above, below and around the vehicle
* Patient person makes contact and keeps this contact until pt. is removed
  + 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
  + 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 & 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 and 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
  + Squeeze fender
  + Relief cut fender to allow better spreader movement
  + 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 OR CUT HINGES**

* After hinges are cut, cut strap and door electrical cable
* Remove door from lock
  + 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
  + Protect patient and rescuers
* Cut both B pillars
* Cut both C pillars
* Support roof with rescuers

**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

**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

**dash board 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