



# BFFA'S FIRE OPS 101

## VEHICLE EXTRICATION

Vehicle extrication is the process of removing a person from a vehicle that has been involved in a motor vehicle accident when conventional means of exit are impossible or unadvisable. This is typically accomplished by utilizing hydraulic tools, including the Jaws of Life.

The forces involved in a vehicle collision are so intense that on many occasions a vehicle is mangled beyond recognition. These incidents call on the skills of one of Berkeley's two Truck (ladder) companies. The personnel assigned to these apparatus are highly trained in the art of vehicle extrication in addition to many other skills.

Vehicle extrication consists of four steps:

- Protection of the zone, to avoid a risk of secondary collision (marking the operational zone, lighting) and of fire (switching off the ignition, disconnecting the battery, using absorbing powder on oil and gasoline pools, fire extinguisher and fire hose ready to use);
- Stabilization of the vehicle, to avoid the movements of the vehicle itself (e.g. falling in a ditch), and the movements of the suspension (risk of worsening of an unstable trauma patient's injuries);
- Opening of the vehicle and the deformation of the structure to release a possible pressure on the casualty, and to allow the intervention of a first responder, paramedic or of a physician inside the vehicle;
- Opening a section of the cabin (usually removal of the roof) to allow an extrication in good conditions, especially respecting the head-neck-back axis (rectitude of the spine).

As soon as possible, best before beginning the mechanical operation, a rescuer enters the cabin to perform first aid to the casualty: assessment, controlling any bleeding, placing a cervical collar (these operations are likely to provoke vibrations), providing oxygen first aid. Paramedical acts such as intubations or placing an intravenous drip will also be performed during this time. When the casualty is in cardiac arrest, cardiopulmonary resuscitation can be performed during the freeing.

New technologies:

Active systems such as airbags make the operations more complicated: if these systems do not activate during an accident, they pose grave danger throughout the extrication. If they detonate they can cause additional trauma to the victim or to the rescuers.

New hybrid technologies also include high voltage batteries, or batteries located in unusual places. These can expose occupants and rescuers to shock, acid or fire hazards if not dealt with correctly.

Hydraulic tools may not only be utilized for vehicle extrication, but all kinds of rescues, from collapsed buildings to disentanglement of victims from machinery. Truck work is a specialized skill and is best performed by seasoned, experienced and well trained "truckies".