

Lifting Station Goals and Objectives

Goals

The goal of this station is to review high pressure air bags and conduct a lift of a passenger car using them. For anyone who has taken Rescue Tech since 1999, this is a skill that has been taught and therefore should be a review and not a new skill. For anyone who has not had the class or had it before 1999, they may never have been shown this skill and therefore it may be a new skill. As mentioned in the TTT's, this skill was chosen because personnel continue to have difficulty understanding the airbag concept and therefore they have difficulty using them successfully. It is further recognized by the instructor group that a high pressure airbag is not typically the first tool of choice for this evolution, as there are several quicker, low-tech solutions (which will also be shown).

Objectives (listed in suggested order of completion)

- Lift a car sitting on its wheels using a HP Airbag
- Lift a car upside down using a HP Airbag
- Lift a car sitting on its wheels using a floor jack (showing/discussing how this low tech method is much quicker/easier)
- Lift a car sitting on its wheels using a hydraulic spreader or combi-tool (showing/discussing how this low tech method is much quicker/easier)
- Lift a car sitting on its wheels using the jack provided in the vehicle (showing/discussing how this can be completed by an engine company using step chocks as cribbing)
- Lift a car sitting on it's wheels and/or upside down using a pry-bar, haligan bar, or on-site makeshift lever (showing/discussing how this can be completed by an engine company using step chocks as cribbing)
- Perform demonstration of limitations of an airbag using both 7-ton and 24-ton HP airbags and concrete double T

Instructor Notes/Points

- No matter which method is used, some form of progress capture (cribbing, step chocks, etc.) must be employed to guard against failure of the lifting device
- Always discuss the weight of the object being lifted and compare it to the lifting device and stabilization tools
- Students should be instructed on hazards that could puncture or otherwise damage an airbag and how to avoid them (whether above or below the bag)
- Students should be educated that airbags are essentially "columns of air" and if that entire column isn't under the load, then it doesn't push up on the load or contribute to the lift
- In most cases, box cribbing is the suggested method of stabilization for lifting of cars on their roofs and should be employed in this training
- Construction of box cribs will differ slightly based on whether the car is simply being stabilized (as in the stabilization rotations) or actually being stabilized during a lift
- During the airbag and floor jack lifts, the goal is to lift roughly 8"-10", which would typically be enough to remove a victim
- During the car jack and leverage lifts, the goal is simply to show what can be done in a "pinch" when the rescue squad/extrication truck is delayed and someone's life is truly endangered
- During the HP airbag lift of the upside down car, utilize a tiered approach starting with small bags under the A-posts and progressing to a larger bag centered under the hood
- For the HP airbag demonstration, utilize the top double T that sits under the tanker car and place the airbag just a few feet left of the trailer kingpin (single bag under the front leg of the T)

