

## Door Opening Techniques

During an incident that requires casualty care to be administered, either with actual entrapment or relative entrapment (by virtue of their injuries), the best way to gain immediate casualty access is to open the casualties door or the next closest door and so on, this should be the first option, if that does not work we will need to look at alternatives such as door forcing or glass management to gain access.

As basic as opening the door may seem to most, and you ask why have I mentioned such a simple procedure, a lot of times at incidents I have witnessed crews / medics working on the casualty through the window, and all that needed to be done was open the door, very often overlooked.

If the casualty is unresponsive with a compromised airway we will need to gain immediate access through a window if open, if that is not possible we will need to make access by managing the glass or rapid door forcing.

A point to consider is that if you can open the door to 90 degrees or more, then little actual benefit will be gained in space creation by removing the door and the only problem it may cause is the need to move and work around the door.

(Always try to plan ahead as sometimes the upper door hinge can be used as a ram purchase point especially when the integrity of the upper A-post has been compromised)

To do this, simply cut the check strap with bolt croppers and force the door back with steady man power and secure it with a ratchet strap or similar.

Best practice would generally be to remove the door as this procedure only takes minutes to carry out, door removal is often missed, or not completed at many incidents, remember the more space we create the easier it will be to work on and extricate casualty.

Door hinges are generally made from stamped or cast metal, cast metal being the thick, large type we usually see in older vehicles.

The type of impact the vehicle has sustained will normally dictate what type of door removal technique we decide to use.

Firstly, we will look at a door that is accident jammed shut. **Never** forget the obvious, **try** the door first, sometimes a bit of assistance will be all that is needed, however, do not jerk or force the door too much until the vehicle is fully stabilised, as this will cause movement in the vehicle, especially if we have not fully stabilised the vehicle first due to rapid access being required.



The door can be forced open either from the lock side or from the hinge side; again crash damage will often decide which technique we will use. Try

and work to the easiest option and the one which will need the least amount of metal relocation.



The lock side is the most common start point, if there is no purchase point for the spreaders we will need to make one using either a jimmy bar or other suitable tool, or alternatively we can pinch and peel the metal with our spreaders to gain access.

On many occasions we make a purchase point right near the lock mechanism and then start to spread the door open, doing it this way often leads to most of the door skins being torn and separated, this causes structural stability in the door to work against us, causing a lot of mess and taking some time to complete.



One way around this is to start spreading from the window frame and work down; this encompasses the whole of the door and in most cases prevents the door skins from separating, making for a quicker evolution.

Always work with a tool buddy who can brace the door and prevent it from shooting uncontrollably from the lock as it pops

Opening the door from the hinge side is pretty much the same, you will first need to create purchase points, either by jimmy bar, or by tactical crushing of the wheel arch to make a purchase point.

Alternatively, a technique called the vertical spread can be carried out to make a purchase point, this is where you spread from the Cantrail / side header rail against the top of the door to force it down and out, this is best achieved with dedicated spreaders. Bear in mind that you may have to remove the window frame as well if using this technique. This will be on youtube soon.

Where you crush to make your purchase points, will also depend on SIPS systems that may be within the door etc.

Once a good purchase point has been created, we can then either spread the door off, or cut the hinges, this will depend on the type of hinge the vehicle has and what the capability of your cutters are..

Cutting the hinges is a lot more controllable than spreading and reduces the sudden ejection of the door as the hinges give way as it is being spread, but this will depend on whether the door has SRS fitted and the type of cutters you use and if they are capable of cutting heavy duty hinges. So an alternative plan may be needed.



A point to note when spreading a door off from the hinges, is that it's good practise to spread above the top hinge and below the bottom hinge.



**When spreading or cutting a door off from the hinges, make sure you are not positioned between the vehicle and the door when the door is equipped with door mounted airbags and always keep on the outside of the tool. Remove this type of door from the outside away from the deployment zone.**

If you spread above the top hinge you are using the dash structure and dash cross member as a strong point and similarly the bottom of the lower hinge uses the strength of the sill and floor cross members to act as a strong point.

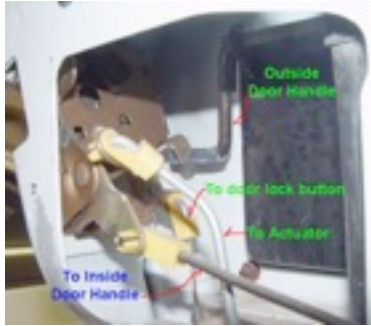
Remember to have someone supporting the door during spreading and watch that the bottom of the door does not come into contact with the ground as this will lift the vehicle, which is obviously bad practice and dangerous.

We always seem to go for the use of hydraulics, probably because they are deemed easier and quicker but actually with good vehicle knowledge we can carry out just as good a job using hand tools with the application of good understanding, never forget sometimes simple is easier.

A tool such as a Torque wrench can remove a door in seconds if we have access to the bolts etc, although I'm aware that this is often not the case.

Or simply punching out the hinge pin will allow the door to come away with ease.

If we do not have the luxury of hydraulics we can simply remove the door skin from around the door lock and operate the lock from the internal mechanism, all that is needed then is a crow bar to lever the door open. This in itself may be all that is needed for the door to open.



Sometimes the outer door handle will be damaged but the door handle on the inside of the door may still work because the door handles are operated by two independent control rods, this means that if the outside door handle rod is damaged, the interior handle rod may still be intact



and work.

So always try the inside door handle if the outside one fails, this in itself may be all that is needed to release the door.

Or in some cases we can expose the mechanism and operate the rod from internally.



A good technique is to use a sponge ball to hold the door handles (both inner and outer) in the open position, this releases the burst proof mechanism, so that when we pop the door it will open a lot easier as we are not working against this mechanism.



Always try and spread a door open in its natural direction of opening.

Tailgates are very similar, create a purchase point and spread the tailgate open, this must be carried out in a controlled manner as the gas struts will cause it to open with considerable force especially if the vehicle is upside down.

Alternatively, we can remove the inner trim / plastic from the inside of the tailgate in front of the lock mechanism and unlatch the lock with the use of a screwdriver which fits into the small access hole at the lock location.

Another technique is to use the point of a Halligan tool to punch out the tailgate lock cylinder from the outside of the tailgate, but not so hard that we damage the inner mechanism, then insert a flat head screwdriver and turn to open the tailgate.

As I have stated many times, pick the right option for the right situation, do not delay casualty access or rescue for over zealous safety or over the top techniques. Keep it simple and safe, get out there and train with these techniques and the many more options that are available, don't be afraid to try something new.