

Opening statement

Please read these instructions fully before placing an order. Our prices are low due to low overhead, we don't have the staffing to support repetitive questions about our products. We do our best to provide the necessary information such that you can make an informed decision on your purchase. There are other higher priced alternatives out there so please help keep our prices low for everyone! If something isn't clear please contact us via the website and we will add it to this document to clear it up for everyone. If your question is already addressed in this document we will refer you back here and likely choose not to sell you a kit as you can't follow directions. We would rather lose a sale than have someone unqualified try to install our product.

Please read this fully

Please read the FAQs on the website and the next few pages

We apologize in advance if we can't respond immediately we are out in the shop making someone's kit. Again we won't respond to questions that are clearly addressed in this document.

Frequently Asked Questions

- **How long will it take to get my kit?**
 - The longest so far has been 3 weeks due to some shipping delays out of our control.
 - A kit is typically made and shipped in 5 business days or less.
- **Can I get shipping cheaper?**
 - No, FedEx picks up from our shop and delivers to your door.
 - We bundle and wrap each kit and then get a price from FedEx – we aren't making any money on shipping.
 - We averaged the typical cost for each kit to determine a flat rate price for each kit.
 - Still think you can do it cheaper – Choose local pickup and give it a go! We charge \$75 for packaging a kit
- **What's included?**
 - tubes notched and bent ready for assembly, 6 cage bungs, door hinges and striker plates
- **What about a roof?**
 - No, We can't ship a roof affordably and it's easy to make if you can assemble this kit.
 - The roof tubes are flat and ready for you to cut a sheet of aluminum or lexan.
 - FAQ's have the part number of the tabs and clips we use with ¼-20 bolts.
 - www.aa-mfg.com has some neat bolts and washers too
 - What about a roof file? With custom height the size changes, so not a this time.
- **Whip tabs, light bar/speaker tabs?**
 - No, we only supply prefab tubing, everything else is ordered from suppliers.
 - www.aa-mfg.com or your favorite tab place can help you out.

Frequently Asked Questions

- **What's about my windshield, will it fit?**
 - There are too many options for us to ensure they all fit.
 - Most will, especially if you have it and use during installation of the kit.
 - The windshield is laid back ~2.5 degrees from stock.
 - The upper portion is slightly wider than stock cage.
 - Intrusion bars are in the same plane with the a-pillars.
 - Gussets and intrusion bars may interfere with mounting locations.
- **Do you offer full doors?**
 - No, We can do anything custom in house but unless you can bring the machine to 63362 we can't do anything by mail.
- **Harness tabs?**
 - We can provide the click 6 tabs but at a markup from utvdistribution.com so it's best to order directly from them.
 - www.aa-mfg.com for trick tabs is a good option if you know the bolt size needed.
- **Can I install and weld this myself?**
 - Sorry, if you ask this then the answer is no, please find a qualified fabricator in your area.
- **What shop in my area can install this kit?**
 - I'd like to know as well and will start a page on the website for recommended shops around the country – please have them contact us to be added to the list and get special pricing.

Height

In the following pictures the drivers seat has a lowering base on it and all others are factory plastic bases.

Drivers seat to bottom of tubing = 10.25"



Height

In the following pictures the drivers seat has a lowering base on it and all others are factory plastic bases.

Passenger seat to bottom of tubing = 8.25"



Height

In the following pictures the drivers seat has a lowering base on it and all others are factory plastic bases.

Rear seat to bottom of tubing = 8.25"



Custom Height

Now that you know our standard kit height measurements you'll need to measure you and your machine.

We recommend sitting in the seat with proper harnesses and helmet and placing a closed fist on top of your helmet and measuring vertically.

Compare that measurement to ours and let us know what the difference is that you want, up or down. It's best to error on the side of too much room rather than not enough.

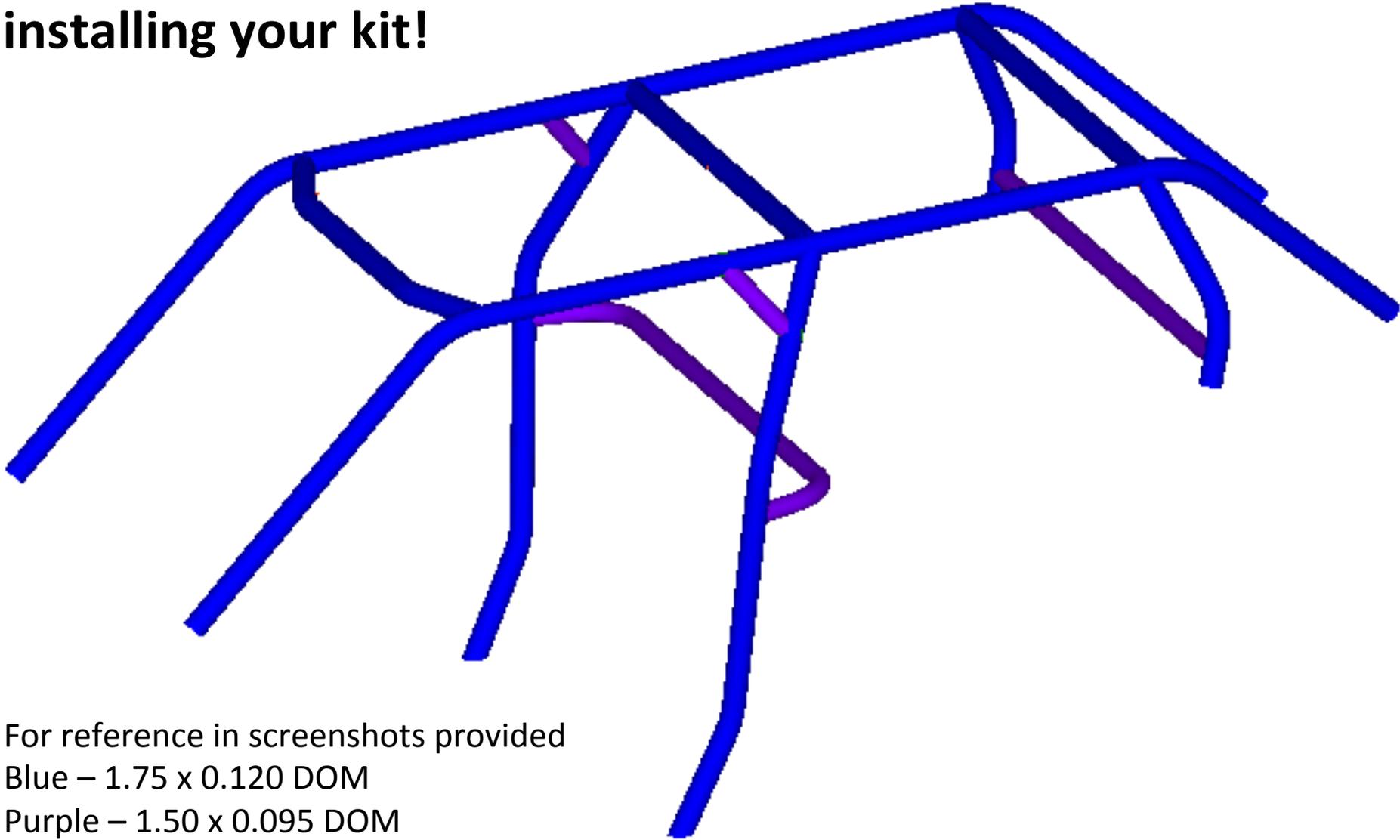
We don't have stock cage measurements and we can't make a 5" from factory height etc. We can only go off of what is in the computer for this kit.

We won't make a cage that we don't feel is safe. For instance you want 10" lower than our standard kit, we just won't do it!

Our standard cage is about as low as it can be for safety with typical adult male driver with lowering base seats. Think about your passengers too! Most of the time there are only kids in the back and head room is not an issue but think about that one time an adult sits back there and gets hurts – that's on you.

We can tilt or slant the height with custom height if you'd like – just specify in the notes.

Now that's out of the way lets get to installing your kit!



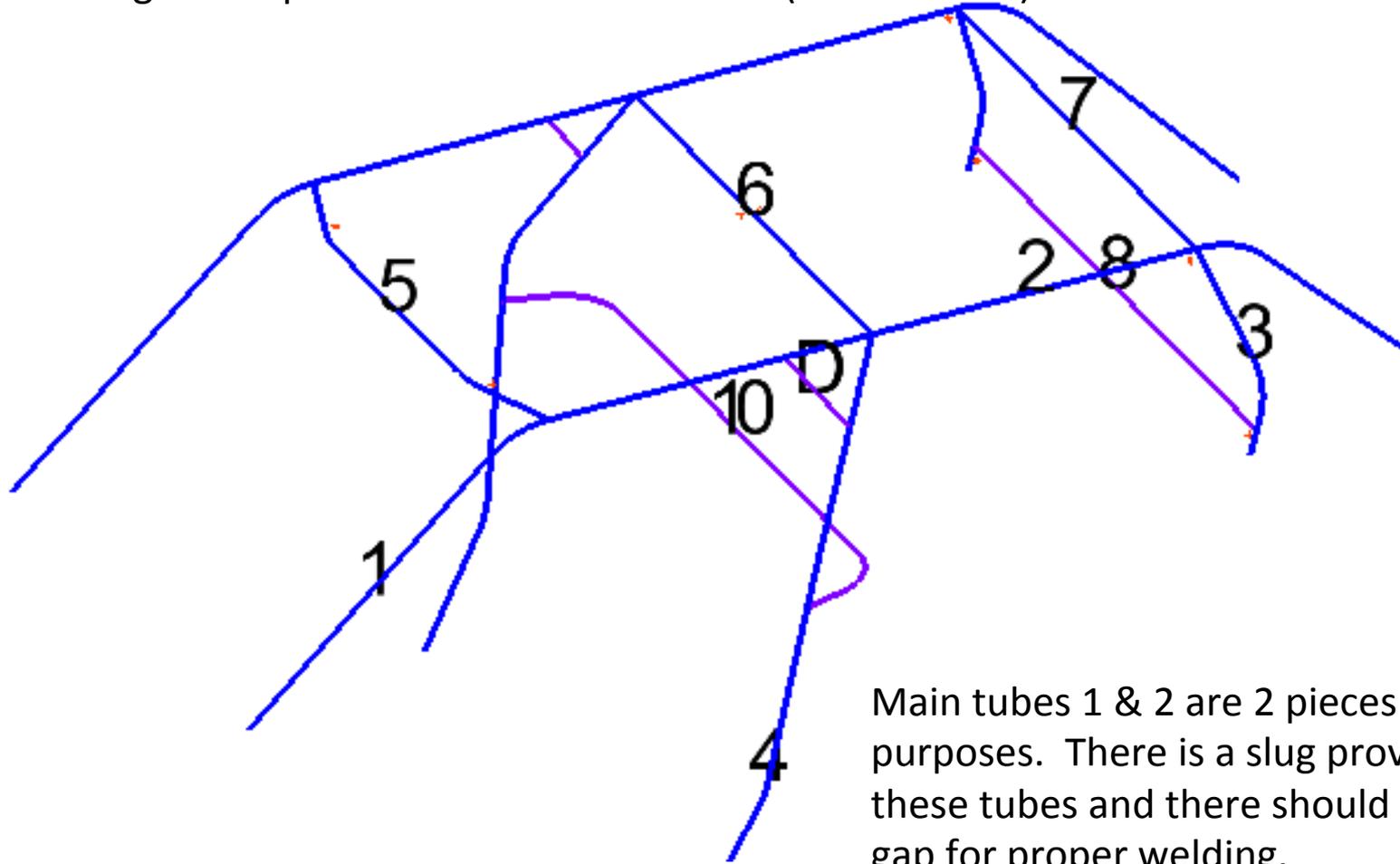
For reference in screenshots provided
Blue – 1.75 x 0.120 DOM
Purple – 1.50 x 0.095 DOM
Yellow – 1.75 x 0.095 DOM
Internal bracing is 0.095 wall thickness

Parts

For visualization the parts are shown as centerlines only

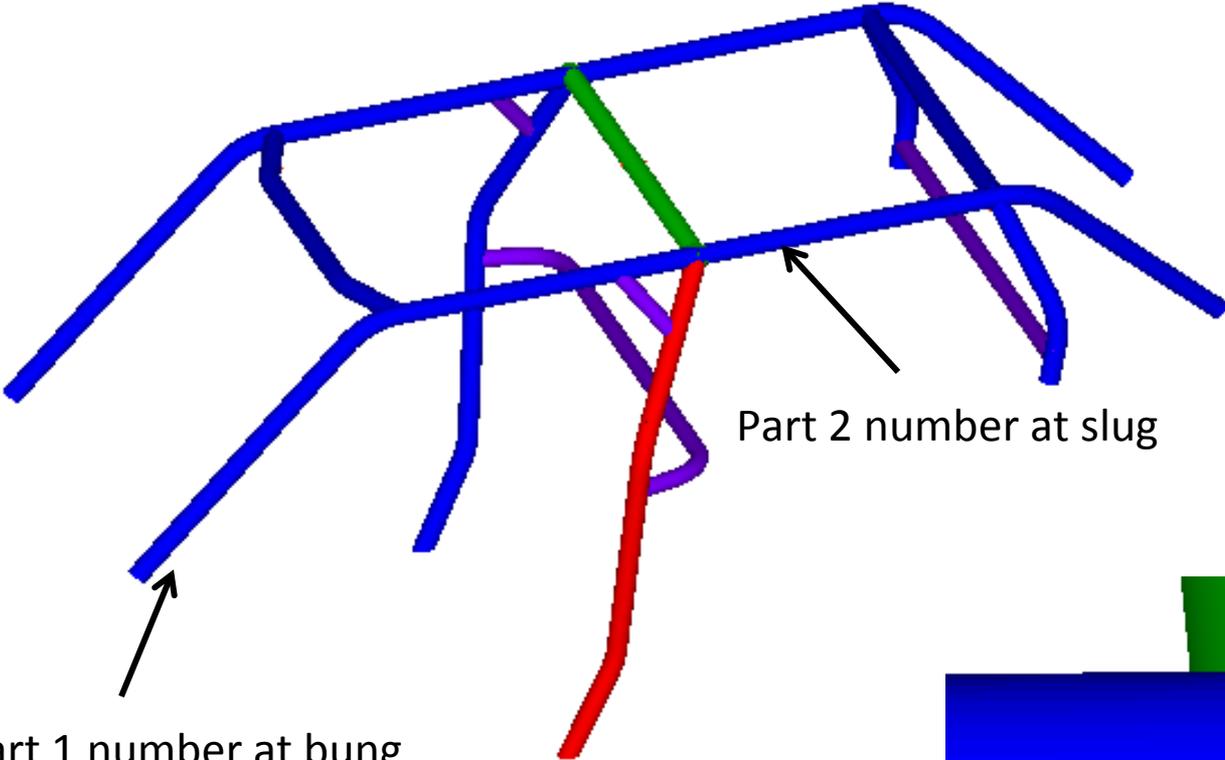
Part Numbers engraved within 3" of the end of part

Passenger side parts are followed with a M (for Mirrored)



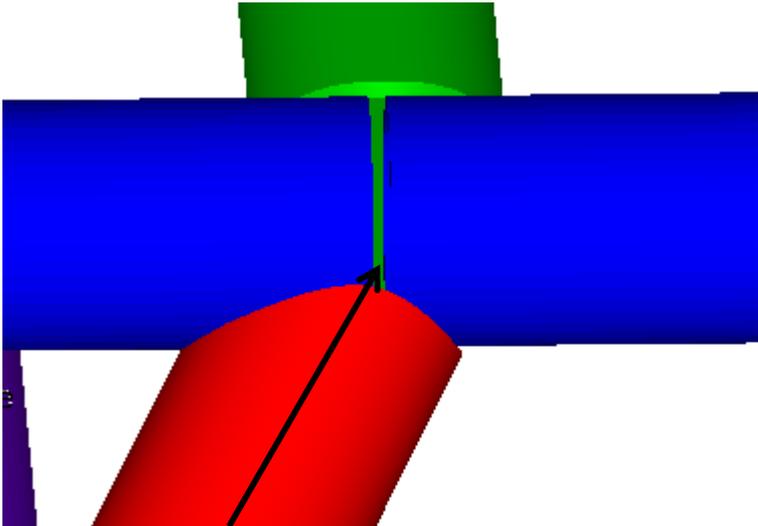
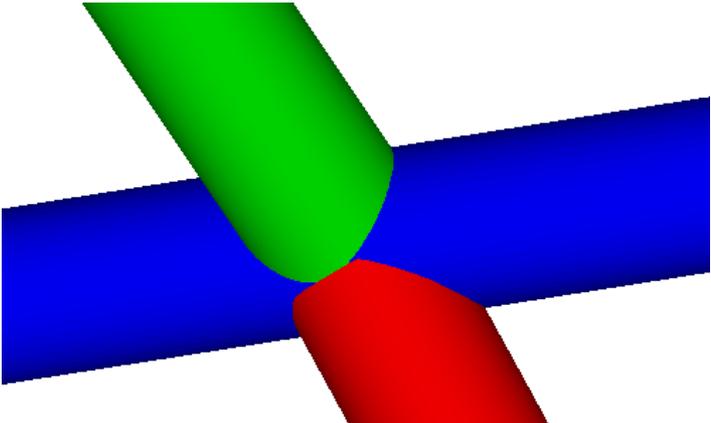
Main tubes 1 & 2 are 2 pieces for shipping purposes. There is a slug provided for joining these tubes and there should be about an 1/8" gap for proper welding.

Part Orientation



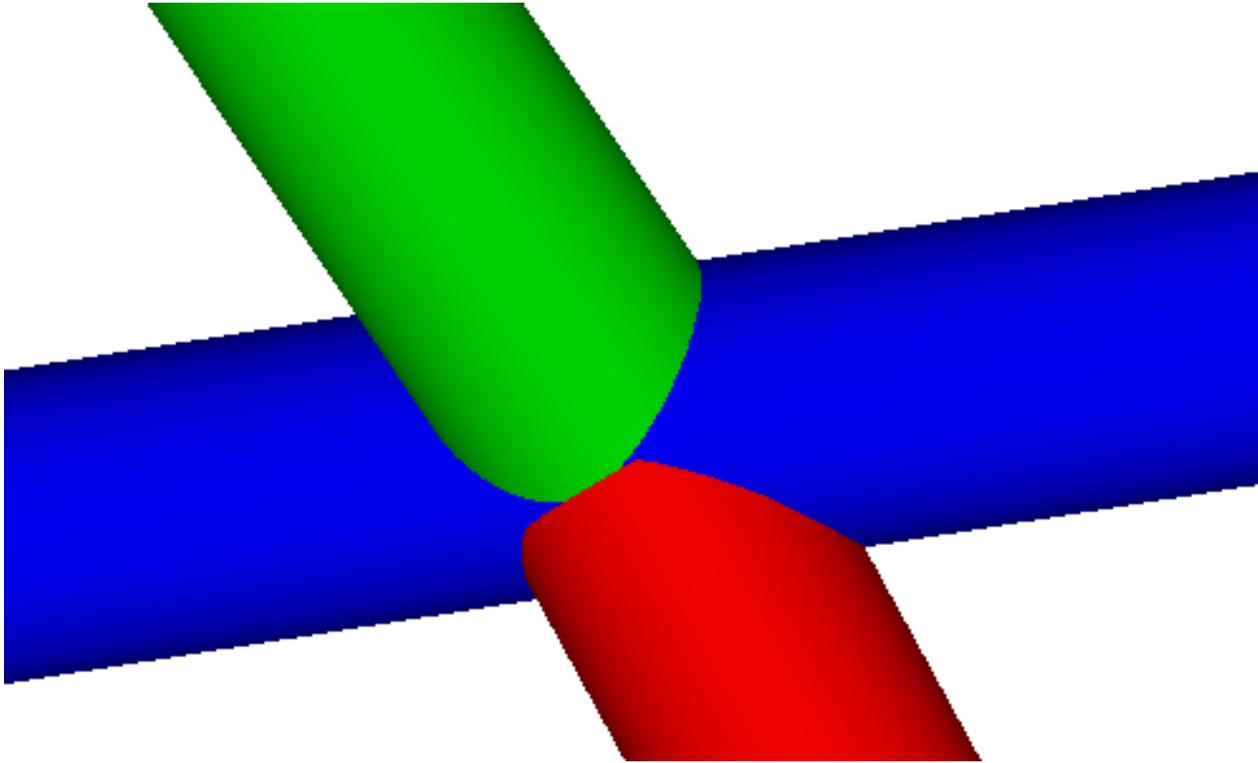
Part 1 number at bung

Part 2 number at slug



1/8" gap for slug welding

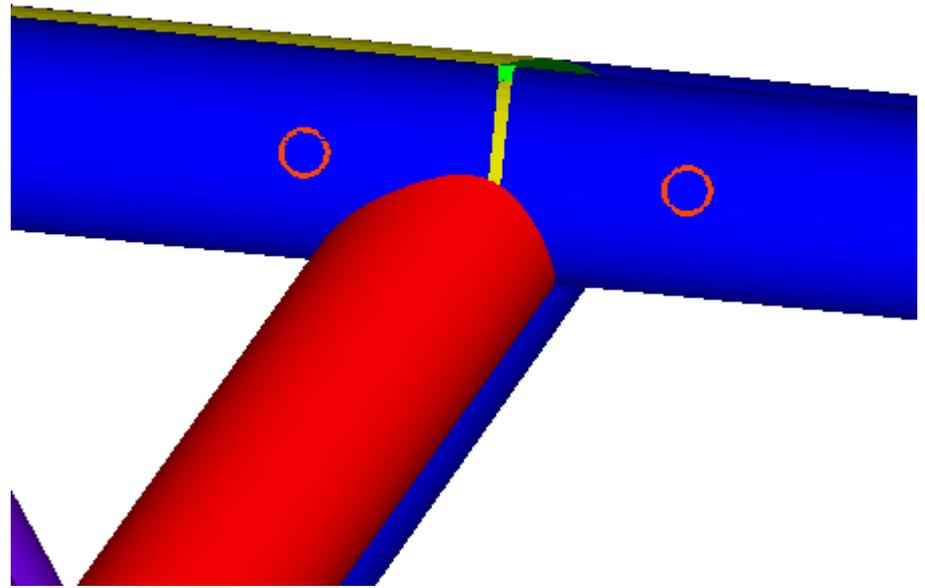
Part Orientation



Parts 4 and 6 will cover up the slug gap. All parts should be fit and tacked in place but these parts need to be removed and the slug joint fully welded and then refit parts 4 and 6.

Part Orientation

Holes are provided for plug welds on parts 1 & 2. These should be inline with each but can be rotated for better fit on your machine.



There may still be some slag from the cutting of the holes. We try to knock all of this off prior to shipping but some may still be present. A half round file will help as well as rotating the tube on insertion. Be careful tapping the slug in with a hammer as you can deform the end and it will be difficult to get in the other tube. Light sanding of the slug is ok too but you want it to be a very tight fit. Lube can be used too, but will contaminate the weld.

Clamp some angle iron or straight edges to these parts to ensure it is straight before welding. A tight fitting slug helps with this but it can still get some bow to it if you aren't careful.

When we make these in house this tube is one pieces so this will add some difficulty to the install. Ideally you could weld this up on the table prior to install with 1/8" gap and holes aligned but that is not recommended.

Harness Bar

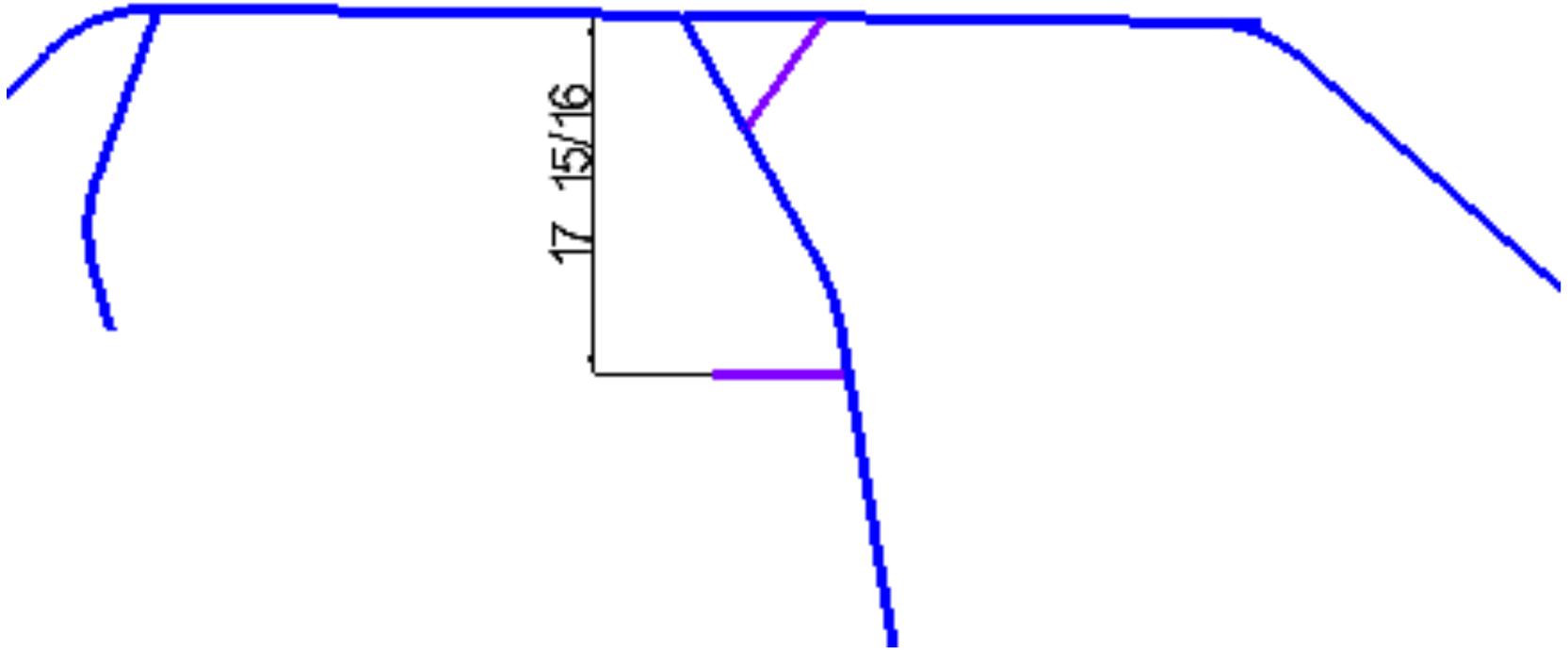


The harness bar will come prebent but not notched. The notch will be engraved where it needs to be cut to fit a seat with a lowering base. This is easy to cut to the line but also offers some adjustability so the bar isn't too far back. Also the bar can be adjusted up and down to get the proper harness location.

The installation of this bar is a chicken and the egg situation. It needs to be used to set the width of the b-pillars but also should be one of the last bars installed. Typically it is installed last and has required a strap to pull it into place.



Harness bar Placement



The front harness bar was made to fit $\sim 17 \frac{15}{16}$ " c-c front the top bars but can be adjusted to fit your needs. Ensure the seat can go into all necessary positions before placing this bar. The angle and placement of the b-pillars can be adjusted to help with this position as well.

REMEMBER – LIGHT TACKS!!! Until every tube is fit. Even the best fabricator will have to cut and break tacks to reposition something, especially on a 4 seat model. Put tacks in locations that are easy to cut and small enough to weld over. Don't weld from tack to tack as there will be a lack of penetration at those locations.

Optional Bracing

Windshield options will be number 13 & 14

Roof bracing options will be numbered 11 & 12

Rear bracing options will be numbered 15

Door Mounts – B-pillar

Door mounts are difficult to say the least! This is the worst part of the whole thing, little pieces and plastics in the way! We purchase them from utvdistribution.com and there are no instructions just a few photos.

The best advice we can give is to weld the round piece into the brackets on the bench (centered!) then mount to the door. Close and latch the door with the plastics mounted as well. Tack the brackets to the b-pillar and bend into position.

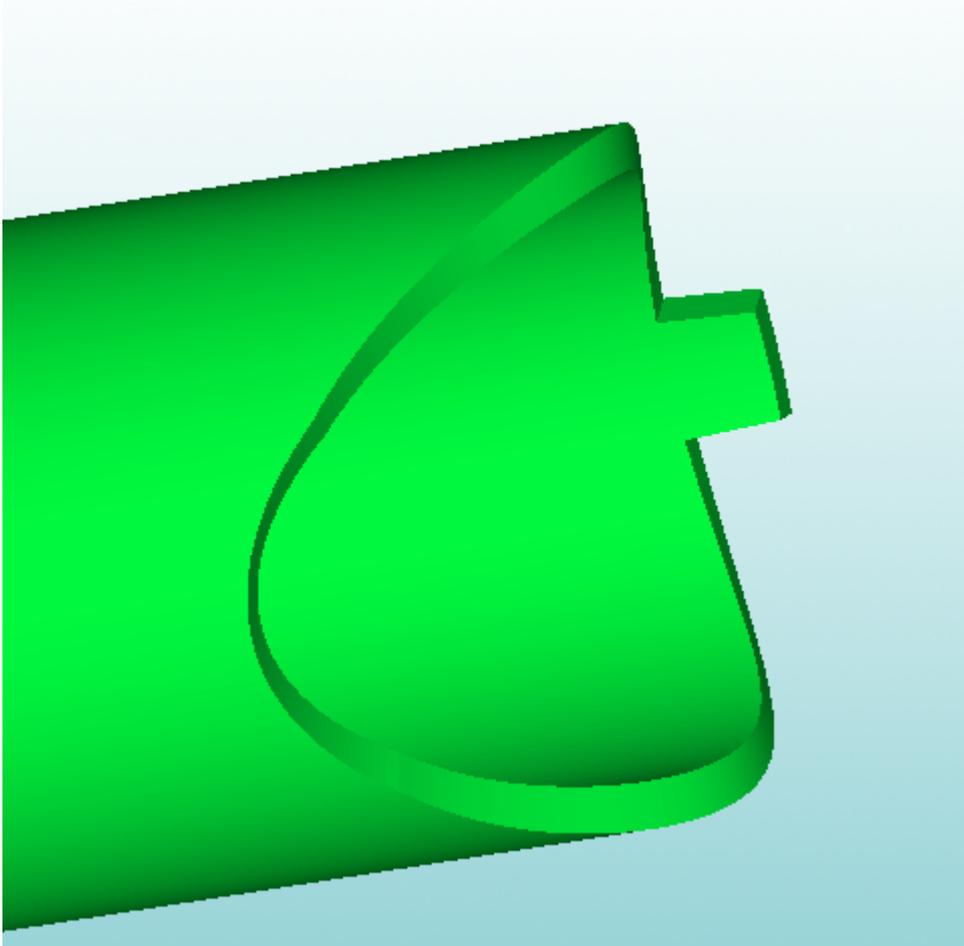
Remember the mounts also act as the door stop to keep it from opening too far, ensure the door opens enough and adjust as necessary.

The doors have adjustments in them but the mounts need to be placed properly within the range of adjustment. Lower doors should be attached and used to set placement at the same time.

<<< Not our cage kit – stolen from UTVDistribution.com.



SLOT AND TABS



Slot and tab cuts will locate the parts with these features.

It is a good practice to assemble ALL parts to ensure they fit prior to tacking any of the pieces. Good clamps, magnets, ratchet straps and a few extra hands make this easier.

It is possible to flip a part backwards and still fit, but the mating parts will not fit and you'll know something isn't right. Please check this before contacting us. We are glad to help but are trying to keep cost down and after sales support will drive future costs up.

Tips

- Jack the center of the machine up prior to cage removal. Keep it supported during the entire install.
- Heat the bungs prior to welding as they are solid steel and this weld joint benefits from preheat.
- Clean bungs of oil and residue prior to welding
- Clean all tubing in the area of welding prior to welding
- Install b pillar and harness bar last
- 2 people are a must for the door pieces
- Test fit all pieces first maybe a few times then weld around all joints fully and grind next piece to clear the welds.
- If you have to grind welds for appearance – maybe rethink welding it yourself and hire someone.
- Clean shiny metal is the best for welding, if tig welding a light sanding of the cut edge is preferred as well as cleaning of the inside of the tube.
- Knock all the weld spatter off before painting or powder coat
- If using a powder coater make sure they are going to blast it first. The tubes will have mill scale and oil residue on them and nothing will stick without proper prep.
- Weld as much as you can on the machine as once pulled from the vehicle things will spring due to the heat of welding. I prefer to tack the bungs and weld almost everything else on the machine then do the bungs last as much as you can before pulling the cage off for final welding and paint.

Welding

Again this is a crucial part of your machine's safety and should only be assembled by a qualified welder, don't skimp here. And please pay your welder fairly! These kits can and have been fit and welded in a few hour but that isn't typical. 2 seat cage kits should expect 4-5 hrs of shop time at a standard rate. 4 seat cages should likely double that.

All tubes are mild steel and can be mig, tig or even stick welded.

Once the kit has been assembled/fit on the chassis with all the pieces you can start to tack pieces together. Having dry fit the kit once you should be able to figure out what pieces can be installed in what order. Some of our kits have tubes that can't fit back in after other pieces are installed – we try to avoid this though! It's recommended to fully weld every joint, even under joints that will be covered by another tube, slight grinding to clear the previous weld may be necessary.

There should be no excessive gaps or holes to fill, if there are STOP and check fitment of all the other tubes. If nothing is working please to contact us!

The tubes are CNC plasma cut and therefore the edges have some scale from the plasma. Tubes also have mill scale, contaminates and oils on or inside of them. For best results a light sanding of the outside/inside and edges to be welded is recommended. With any welding process bright shiny clean metal produces the best results.

RE-INSTALL

After the cage is fit to the vehicle and welded by a qualified professional, you may experience difficulty re-installing it onto the factory cage mounts. This is likely due to the factory chassis flexing and/or the cage moving from the welding process. The cage is now more rigid than the factory cage and the chassis will move some to accommodate this. It is a good idea to support the chassis (no weight on suspension) **PRIOR** to removing the factory cage and **DURING** assembly of the cage kit.

Since the cage is assembled and welded on the chassis it should fit back on nicely but may not fit a different vehicle of the same year/model. If there is excessive fitment issues please call us and we'll try to help but don't use anything more than a small ratchet strap to locate the cage.

A small washer under one side of the A & C pillar bungs, 1/8" or less will aid in removal and reinstall. I use 0.100" machine shim on all cages welded on our jig and they come on and off with ease on many machines.