



INSTALLATION INSTRUCTIONS **8-POINT ROLL BAR (TRUCK)**

Please read the instructions completely BEFORE starting this project.

Competition Engineering 8-Point Roll Bars are not designed for use in vehicles where the stock floor has been removed. Check your sanctioning body's rulebook for installation guidelines. To help you install this 8-Point Roll Bar, we've provided you with this step-by-step instruction manual. These directions are a general guideline for a typical roll bar installation and are not written specifically for your application. If you have installed a roll bar before, this will be a quick refresher course. The installation process will involve fitting the bar components into the race truck, trimming the bars to fit and then tack welding the tubing together before making the final welds. By following this procedure, any minor mistakes can be corrected easily and with the smallest loss of valuable time.

NOTE: THE MATERIAL FURNISHED IS NOT TO BE CONSIDERED A COMPLETELY FINISHED AND FITTED ASSEMBLY. INSTALLED DIMENSIONS ARE NOT PROVIDED WITH THESE INSTRUCTIONS. THE ROLL BAR IS TO BE INSTALLED TO YOUR OWN PERSONAL SATISFACTION, WITHIN SANCTIONING BODY RULES AND THE GUIDELINES SET BY COMPETITION ENGINEERING IN THESE INSTRUCTIONS.

This Roll Bar has been designed to eliminate some of the more critical operations for you, the installer. Some of the tubes have had the notches roughed in for you but will still require some minor trimming to meet your specific needs. Refinement of the notches should be done as carefully as possible. We recommend using a hand grinder or if possible a holesaw type tube notcher to prepare the ends of the tube for proper fit. The notches should allow for a slight gap to help maximize weld penetration. Also make sure to dress the notched end of the tube with a grinder or hand file to remove burrs and provide a chamfer for improved weld appearance.

We recommend that all welds be done with the approved MIG or TIG welding process. A machine with 130-amps or higher should be used. **DO NOT USE FLUX CORE WIRE TO WELD THIS ROLL BAR.**

If you are unsure about your welding abilities, have a professional welder complete the installation. Follow all safety guidelines that are provided with the equipment you are using. Always wear eye protection.

*For Technical Assistance, call Competition Engineering's Tech Line at
(203) 458-0542, 8:30am-5:00pm Eastern Time*

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I. PARTS LIST

- | | |
|--------------------------------|---------------------------------|
| 1) Main Hoop (Sold Separately) | 2) Formed Rear Struts |
| 2) Door Struts 56" Long | 2) Diagonal Braces 39" Long |
| 1) Main Hoop Crossbrace | 6) Gussets |
| 6) 6" x 6" Plates | 1) Length of 2" x 3" Box Tubing |

II. TOOL LIST

- Power Band Saw or Hand hacksaw to shorten tubing
- Body Grinder with coarse wheel to remove paint and rust. Also to refine tube notches.
- MIG or TIG Welder with 130 amp minimum rating
- Protective Face Shield for grinding and welding
- Sheetmetal Shears to modify or remove interior panels.
- Die Grinder or Electric Drill with rotary file to notch tube ends.
- Tape Measure, Hammer, C-Clamps, Locking Pliers, Magic Marker
- 4 Jack Stands to support vehicle
- Carpenter's Level and Angle Finder
- Bench Vise to hold tubing while grinding and cutting.

For a professional looking installation we highly recommend the following materials and tools:

- .030"-.035" Mild steel welding wire
- Cardboard to cover windows. This protects the glass from welding and grinder sparks.
- 80-Grit sandpaper to remove paint and light surface rust
- Holesaw type tube notcher
- Scrap pieces of sheetmetal to protect the headliner during welding.

III. INSTALLATION

1. Begin the installation process by removing the interior from the vehicle. This includes seats, carpet and sound deadening.
2. Install the protective cardboard over all exposed interior glass. Don't forget to cover-up your gauges and radio if they are installed, grinder and welding sparks go everywhere.
3. Jack-up the vehicle and support it in four places with approved jack stands. You want to take extra time to make sure the vehicle is level from front to back and side to side. Steel shims can be used between the jackstands and the chassis to achieve proper level.
NOTE: Do not let the chassis droop on the jackstands. If this is allowed to happen during the roll bar installation this droop will become permanent.

LOCATING THE MAIN HOOP

1. NHRA specifies that any vehicle constructed with frame must have the roll bar mounted to the frame. A truck frame, in most cases does not extend to the outside of the vehicle like a passenger car. Because the truck frame is so narrow, we have supplied 2" x 3" Box Tubing to fabricate Frame Extensions. These extensions will be welded to the outside of the frame to form a bridge between the Frame and the Rocker Panel (See Diagram). This allows the Main Hoop to remain as wide as possible to provide the maximum amount of protection to the driver. Installing the Frame Extension between the frame and cab rocker panel will substantially increase the stiffness of the chassis, providing increased performance and consistency.
2. When selecting a location for the Main Hoop, keep in mind that you will have to weld the Main Hoop to the top of the Frame Extensions. An access hole will have to be cut through the cab floor to expose the Frame Extensions. These holes need to be large enough to accommodate welding of the Main Hoop to the Frame Extension and the Door Bar installation. It is much easier to cut a larger hole so the welding nozzle can reach all the way around the tube. A sheetmetal patch to cover the access hole will have to be fabricated after installation is complete.
3. With the driver's seat installed and the driver seated (helmet on), determine the position of the Main Hoop. NHRA specifies that the Main Hoop must not be further away than 6" from the driver's helmet. Also the top of the Main Hoop must be at least 3" above the driver's helmet.
4. Once you have determined the location of the Main Hoop and the Frame Extensions, we recommend welding the supplied 6" x 6" Plates (trimmed and formed to fit), to the rocker panel. This will strengthen the attaching point where the Rocker and the Frame Extensions are welded together. Grind the rocker panel in the area where the 6" x 6" Plates are to be welded, and tack in place. Measure the distance from the frame to the rocker, cut and trim the Frame Extension to fit. Tack the Frame Extension in place. A Frame Extension will also have to be installed where the door bar is to be welded.

TRIAL FITTING THE MAIN HOOP

1. Take a measurement from the headliner to the top of the Frame Extensions. Turn the Main Hoop upside down on the shop floor and measure from the floor to the desired height and mark the Main Hoop legs for cutting.
2. Trial fit the Main Hoop in the vehicle. Make sure the Hoop is centered, from side to side, at the correct angle, and positioned correctly (as close to center as possible) on the Frame Extensions.

3. If no further fitting is required, tack the Hoop in place.

INSTALLING THE REAR STRUTS

1. The truck chassis creates another unique installation situation. The Formed Rear Struts pass through the back of the cab. This can be accomplished by cutting holes through the steel above the rear window or replacing the rear window with Lexan and passing the Rear Struts through the window.
2. NHRA specifies that the Rear Struts must be attached to the Main Hoop no lower than 5" from top of hoop. A hole can be cut through the cab or Lexan window using a metal cutting hole saw. Careful planning and measuring must be done when determining the support locations. This kit includes Formed Rear Struts, which allow the bars to be installed in either manner.
3. Determine where the bottom of the Rear Strut will attach to the frame. An access hole will have to be cut into the bed floor to expose the mounting point. Cut a hole large enough to allow access for grinding, cleaning and welding. We recommend mounting the Rear Struts to the frame in an area close to the axle centerline and the shock crossmember (see diagram). This will distribute the forces from the rear suspension into the chassis, providing a greater chassis stiffness and consistency.
4. Fitting this Rear Strut will require gradual trimming of either end until the desired fit and location are achieved. Once the first Strut is trimmed to fit, lay it over the second bar and mark the locations to be cut. When both Rear Struts are trimmed to fit, tack them in place.

INSTALLING THE MAIN HOOP CROSS BAR

1. NHRA specifies that the Main Hoop Cross Bar must be installed no lower than 4" below the driver's shoulder, when seated in the driving position. With the driver in position, mark the desired height on the Main Hoop. Measure the width of the Hoop at these marks, allowing 3/4" extra for a notch in the tube.
2. Gradually trim the Cross Bar to fit, make sure it stays level. Tack in place.

INSTALLING THE DIAGONAL BRACES

The Diagonal Braces mount from the intersection of the Main Hoop Cross Bar and the Main Hoop legs to the top of the truck frame (See Diagram). These bars provide a significant amount of increased stiffness and improve chassis reaction time.

1. A hole must be cut, in the cab floor, in order to gain access to the frame for grinding and welding. Make the access hole large enough to work comfortably.
2. Measure the distance from the top of the frame to the intersection point of the Main Hoop leg and the Cross Bar. Be sure to allow for a notch in the top end of the tube, and an angular cut at the bottom end. Each end of the tube will need to be gradually trimmed until the bar lands properly On the frame and Roll Bar.
3. Once the first bar is properly fit, transfer the these measurements to the second bar and trim to fit. Tack weld both bars in place.

DOOR BAR INSTALLATION

The last part of the Roll Bar to be installed is the Door Bars. The Door Bar spans from the Main Hoop to the center of the Front Frame Extension. Most sanctioning bodies require that this bar pass by the driver at a point between the shoulder and the elbow (driver should be seated in truck with hands on the steering wheel).

1. The front of the Door Bar is to be located in the center of the Front Frame Extension. Trim the front of the Door Bar so that it is flush on the Frame Extension.
2. Notch the back of the Door Bar to fit against the Main Hoop. Work slowly and carefully here, mistakes can happen easily on this type of notch.
3. When you are satisfied with the fit, tack weld the bars in place.

RECHECK FIT ADD ADDITIONAL TACK WELDS

1. With all the roll bar tubes tack welded in place, proceed to check each union to ensure that no tack welds have broken. Secondary tack welds are placed at every union and at areas where previous tack welds have been completed. You can obtain the best results by following this procedure. Begin by placing additional tack welds opposite existing tack welds. You will need between two and three tacks around each tube to prevent the cage from drawing.
2. Secondary tacks should also be placed in areas that will be difficult to reach during finish welding. Other areas for secondary tack welds will include tubes that don't fit tightly or are in areas where the tubes form a deep angle.

FINISH WELDING

1. Finally, we come to the last major step, finish welding all frame substructures and floor plates. This should be done from side to side and top to bottom of each union, starting from the inboard and working your way outward to the rocker sill area.
2. Finish weld the entire roll bar in the same order you installed each component part. Work on the center section first, then move on to the rear and then the front sections, using the same side to side, top to bottom welding method.
3. If any porosity is encountered during welding, grind it out and re-weld. The final finish welding procedure will include the placement of the triangular gussets at every union where round tubes are joined in the main hoop center section. Check each union to be sure that they are welded 100%. With the welding completed, the roll bar can be degreased, sanded and painted.

IV. ILLUSTRATIONS



