



WATSON RACING 4- & 6-POINT ROLL BAR 2005-2014 Mustang Coupe

p/n WR-BOLTINCAGE
p/n WR-BOLTINCAGE6PT

The Watson Racing 4-Point & 6-Point Roll Bars were designed for superior strength while allowing for installation flexibility. Professional installation is recommended, and this part is intended for off-road (race) use only.

The intent behind the design of the Watson Racing Roll Bar was that it could be quickly bolted in place for a track day, and quickly removed to resume back-seat use.

Installation options discussed:

- 1) Permanent (weld-in)
- 2) Semi-permanent (bolt-in)
- 3) Easy in/out (bolt-in)

PLEASE READ INSTRUCTIONS ENTIRELY, PRIOR TO BEGINNING INSTALLATION.

Tools Needed:

- Metric Sockets
- Ratchet
- Panel/Fork Tool
- Drill Motor
- Drill Bits
- 7/8" Hole Saw
- Rivet Gun
- Air Body Saw, Dremel, or similar
- Allen Wrenches or Sockets
- Tape Measure and Marking Utensils- marker or center punch
- Small Carpenter's Square

Kit Includes:

- Watson Racing Roll Bar Main Hoop
- Watson Racing Left/Right Diagonal bars
- Watson Racing Left/Right Door Bars (if 6-Point)
- (2) medium square sub-floor nut plates (for Rear Diagonal Bars)
- (2) large square sub-floor nut plates (for Door Bars, if 6-Point)
- (4) narrow M10 nuts plates
- (16) M10x1.5x25mm Zinc Flange Bolts (24 if 6-Point)
- (4) M6x1.0x20mm Zinc Socket-Head Bolts (8 if 6-Point)
- (4) M6 Zinc Washers (8 if 6-Point)
- (8) 1/8" Rivets

- 1) Remove rear seat bottom cushion by lifting upward while depressing two retainer tabs, located directly below seat cushion; one per side.



- 2) Remove rear seat back cushion by removing three bolts total- one left, right, and center, bolting hinge brackets to floor.
- 3) Remove interior door sill/scuff plates by grasping firmly and lifting up swiftly. Be cautious of wiring associated with illuminated sill/scuff plates, if equipped.



- 4) Remove interior lower side trim panels by removing push pins (behind seat back & in footwell area) and pulling inward on panel, releasing hidden retainer clips.
- 5) Dislodge wire harness retainers from floor corner gussets using fork/trim panel tool. Harnesses need to be movable to allow installation of 4-point bar.

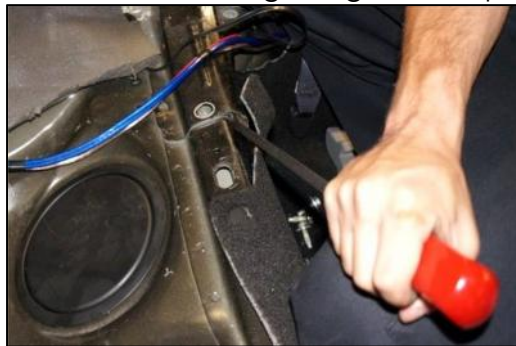


- 6) Place the Roll Bar's main hoop into place, with lower mounts straddling the corner gussets. Measure bar's location side-to-side & center the roll bar. Set the rear diagonal bars in place and bolt machine joints together snugly with provided socket head allen screws. Remove seam sealer if necessary, under rear diagonal bars' mounting feet. This sets the main hoop's fore/aft lean and location. Mark 8 forward hole locations (4 per side) with marker or center punch, repeat on rear 12 holes (6 per side). Remove bar (picture on following page).



NOTE: At this point, the car and bar could be prepped for welding the bar in place. The corner floor gussets, rear floor landing area for the diagonal tubes, and the 4-point bar's mounting 'feet' would need to be ground in preparation for welding. Be sure to disconnect battery before welding to car, and take all necessary fire precautions before welding. For added strength, rear diagonal tube nut plates can be used and welded in place as well. Interior trim panel modifications are discussed in later steps.

- 7) To continue bolt-in process: remove 13mm and 15mm bolts securing factory floor/corner gussets to the car; 9 bolts per side. Note their location in the gusset as the bolts vary in size. Save for re-use.
- 8) Remove gussets from car by using a small pry bar or panel/trim tool to gently pry upward. Some foam adhesive will be holding the gussets in place.

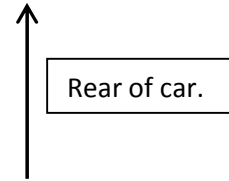


- 9) With gusset secured in a vice, drill 4 marked holes with 1/8" pilot drill bit. Enlarge with a 7/16" drill bit. Repeat with second gusset.



- 10) Return gussets to car and align with original bolt holes. Fasten with some of the bolts removed previously if needed.

11) Looking through the holes just drilled on the rear-facing side of the gussets, you will see that the sub-structure is close to the inside of the gusset, behind center-most drilled holes. This will have to be cleared. Mark this inner structure with a marker through the gusset hole just drilled. Repeat on both sides.



12) Remove both gussets. Drill on your marks into sub-structure metal with a 1/8" pilot hole. Follow this with a 7/8" hole saw. Vacuum shavings from car.



Arrow to rear of car, Pass. side.



Arrow to rear of car, Driver side.



13) Using provided M10 bolts, bolt two nut plates to the inside of each gusset through the holes drilled previously – one nut plate for the front two holes, and one for the rear two holes. Weld-nuts face toward the center of the gusset. Note that weld-nuts are offset on brackets due to mounting hole's proximity to the bends in the floor gusset.

14) With nut plates bolted in place, draw a line between the centers of both bolts, and evenly space two 1/8" holes along this line. Install two 1/8" rivets to secure each nut plate to the gusset. The nut plates may also be welded in as well.



- 15) Loosely re-install gussets into car using all original hardware. Do not tighten at this time.
- 16) Drill the rear diagonal tube mounting holes marked in step 6. The forward 2 and rear-most 2 holes are drilled with 7/16" drill bit. The center 2 holes are drilled with a 9/32" drill bit. Paint raw sheet metal inside holes to prevent rust. ****Note:** the forward two holes in both plates are near a metal brake line. Drilling straight down should clear the line; use precaution and protect the line if needed.
- 17) Elevate rear of vehicle and secure with jackstands under body (NOT under axle), or place vehicle on a lift. With the help of an assistant, hold the two large nut plates under the vehicle (weld nuts facing downward) and align with drilled holes. From inside the vehicle, insert two provided M6 bolts and washers (optional) through the center two holes into the nut plates. Leave M6 bolts loose to aid in aligning Roll Bar feet later. Use of threadlock recommended. Lower car.



- 18) Install Watson 4-point Roll Bar into place using provided M10 bolts. With all 8 forward Roll Bar bolts **only started** (not tightened) tighten all factory gusset bolts. Use of threadlocker is advised on both gusset bolts and Roll Bar bolts. Leaving the Roll Bar's bolts loose may aid in the installation of the rear diagonal bars, which are installed later. ****See step #25** regarding torque specs.

TRIM PANELS

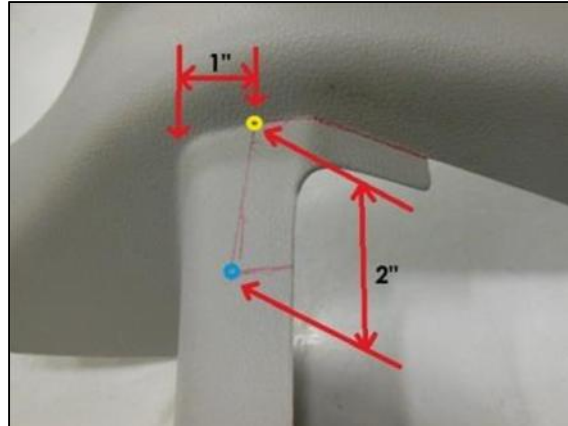
PLEASE READ BEFORE PROCEEDING.

The intent behind the design of the Watson Racing Roll Bar was that it could be quickly bolted in place for a track day, and quickly removed to resume back-seat use. **IF** you choose to leave the bar bolted or welded in place, you may want to trim the panels tight to the bar as outlined below. **IF** you wish to be able to quickly install and remove the bar for a track day, you can either: **A)** not re-install the trim panels at all and leave them unmodified, or **B)** trim them with slightly larger openings to allow easier access to the mounting bolts.

The following instructions are intended as a guide for modifying the interior side trim panels to fit around the Watson Roll Bar. Feel free to further modify your panels as you see fit.

- 19) Remove foam blocks from backs of interior side trim panels.

20) Use picture below as a reference. From the forward "face" of the trim panel at the crease, measure back 1" and place a mark on the panel (yellow dot). From that mark rearward, trace along the crease. Place a small carpenter's square at the same yellow dot, and draw a line inward (toward center of car) that is 2" long (ending @ blue dot). It will be perpendicular to the crease, and NOT parallel to the front of the panel. Draw a short line rearward. Cut along these lines.



21) Once cut, measure upward approximately 1.5" and rearward from yellow dot approximately 4". Using a round guide, draw a crescent-shaped cut line within these dimensions (pictured below). Repeat all cuts on both trim panels.



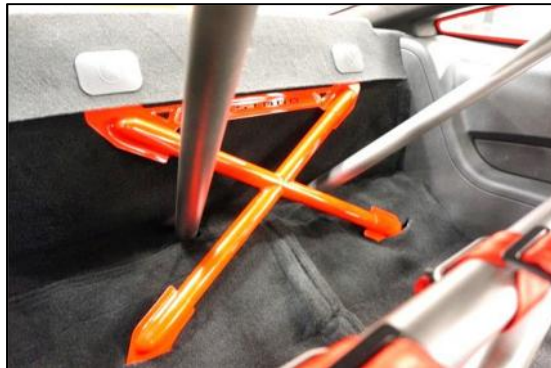
22) Clean up all cut lines and place trim panels into car. Feed one panel at a time under the Roll Bar main hoop in the center, then work them forward between the Roll Bar and B-pillar. You will have to bend the lower portion of the trim panel to squeeze it between Bar and B-pillar. Use masking tape if desired to protect Roll Bar and trim panels from scratches. Panel should fit as it did originally; if not, check for clearance issues and trim further if needed. ****Note:** if you trimmed the panel tight to the bar (as shown below), do not fully install the panel yet. You will need access to the 8 bolts to tighten them in later steps. You are placing the trim panels in place now as they are much more difficult to install after the rear diagonal bars are in place.



- 23) Fit Roll Bar's two diagonal tubes to the main hoop. Install two provided bolts into each diagonal tube's machined joint and snug into place. Start all 4 bolts in each rear foot next. After **all** bolts are started, tighten **all** Roll Bar bolts (main hoop & rear diagonal bars), including the two M6 nut plate retainer bolts. Threadlocker recommended.
- 24) **TORQUE SPECS:** Torque specs for the factory corner gussets are not available in the factory service manuals. Based on the numbers stamped onto the bolt heads, you should be safe to torque the OEM bolts to 60 Newton Meters (NM). Similarly, the M10 bolts we provide you for the Roll Bar can be torqued to 85NM.
- 25) Complete installation of plastic side trim panels. Trunk carpet can be left un-modified and folded back into trunk, it can be sandwiched between Roll Bar feet and floor, or it can be trimmed and placed around tubes, as shown:



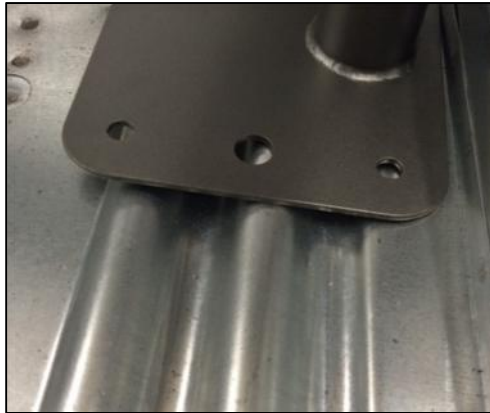
- 26) Seat lower cushion may be reinstalled if desired, but the Watson 4-Point Carpet Kit is highly recommended. Install shoulder harnesses through Roll Bar's belt retainer loops, and fasten/secure/buckle as per harness manufacturer's instructions.
- 27) **Ford Racing/Laguna Seca X-Brace:** The Watson 4- and 6-point Roll Bars can be used with the Ford Racing X-Brace and Seat Delete panels. No modification is necessary to either the roll bar or the x-brace, but some trimming must be done to the seat delete panels. Two holes must be drilled through the center seat delete panel (behind the x-brace), and two small notches must be made in the main seat delete panel, next to the roll bar's main hoop. Alternatively, the Watson 4-Point Carpet Kit can be modified to work with the X-Brace as well, if you choose to preserve the Ford Racing/Laguna seat delete panels. Below, the Laguna Seca seat delete is on the left, and the Watson Racing Carpet Kit is on the right.



28) **6-POINT ONLY:** DOOR BARS- the mounting feet of the doors bars can be installed on top of the carpet, or below the carpet- now is the time to decide. If you plan on removing the door bars frequently, it is recommended that the door bars are installed on top of the carpet. Mounting below the carpet requires you to cut/trim the carpet around the bar. Please consider your desired method when reading the instructions below, as not all will apply to both methods of installation.

29) With door sill plastics and kick panel plastics removed, place door bars in the car and bolt to the main hoop at the machined joints using provided socket-head allen bolts. Due to powder coating, the fitment in the machined joint may be very snug. Snug the bolts at this time, ensure you have full fitment/alignment of machined joints- important for proper location of door bar mounting feet. If installing below carpet, be sure to have carpet peeled back.

30) Floor modifications: to ensure a solid, strong fit, we recommend flattening the floor "darts" below the foot. The floor is stamped with a few ridges ("darts") that are easy to flatten using a hammer and dolly. The work is minimal and will not compromise strength.



31) Floor mounts: Mark all 6 holes through each mounting foot (12 total). You will need to mark the carpet (if installing above carpet), as well as the sheet metal below the carpet, for drilling. The forward 2 and rear-most 2 holes are drilled with 7/16" drill bit. The center 2 holes are drilled with a 9/32" drill bit. You may drill through carpet, or use a small razor blade and cut an "X" in the carpet where the bolts will penetrate.

32) **NOTE: BEFORE DRILLING-** familiarize yourself with objects UNDER the car!!! On the driver's side, the plastic shield covering the fuel lines and brake lines must be temporarily removed for installation. **DO NOT DRILL THROUGH FUEL LINES or BRAKE LINES.** As a precaution, disconnect the lines from some of their mounting points under the car and pull them away from under the body slightly. Use a piece of sheet metal or some other protective layer between the holes you need to drill, and the fuel/brake lines.

33) Drill holes. Paint raw sheet metal inside the holes to prevent rust.

34) Similar to the rear Diagonal Tube mounting feet, two nut-plates are provided. On either side, hold the large nut plates under the vehicle (weld nuts facing downward) and align with drilled holes. From inside the vehicle, insert two provided M6 bolts through the center two holes into the nut plates. Leave M6 bolts loose to aid in aligning Door Bar feet. Use of threadlock recommended.

- 35) Reinstall the door bars with feet resting on the carpet (or under, if desired). Fit the machined joints first, and start the socket-head allen bolts (leave loose). Install the M10 bolts (4 per bar) through the Door Bar feet, into the under-car mounting plates. Once all 8 are started, proceed to tighten all bolts including the M6 nut plate retaining bolts. Tighten machine joint bolts as well.
- 36) Reinstall kick panels and door sills.
- 37) Since the nut plates will remain installed under the car, (both forward door bar nut plates, and rear diagonal bar nut plates), you can easily uninstall the door bars (or the entire roll cage) from inside the car. Use the provided rubber caps to cover the door bar 'stubs' when the door bars are removed. It is recommended that the M10 door bar bolts be re-installed into the floor mounts if the door bars are removed- this helps retain the holes in the carpet as well as plugging the holes left by the bolt holes, should you encounter any rain.
- 38) Enjoy your new Watson Racing 4- or 6-point Roll Bar!!!



Thank you for choosing Watson Racing products! If you have any technical questions or comments, please call us at: 855-WATRACE (928-7223).