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INSTALLATION INSTRUCTIONS
FOR S&W RACE CARS
VEGA & MONZA
FRAME RAILS & FRAME CONNECTORS
PART NUMBERS 10-013 & 10-613

Please read all instructions carefully before beginning installation.

CAUTION!!! - The most important requirement for a successful installation of this, or any, frame package is that you take your time and use good common sense. Check & recheck all measurements before cutting or welding. If at any time before or during the installation - **STOP** - and call our tech line at 610-948-7303 and we will gladly explain in more detail any step in the installation.

Installing S&W RACE CARS frame rails and connectors into a clean car is a relatively easy job, although there are certain precautions that should be taken for your safety and to insure that the finished product is aligned properly. It is recommended that you wear eye protection during the removal of the stock floor, suspension and other components, and during welding and fabrication. Proper supports and jack stands must be used, not only for construction purposes (such as keeping the chassis level), but also for safety reasons. This work should be performed in a dry, well lit shop with a level or near-level floor.

While installing your frame rails and connectors, remember that the quality of your workmanship will directly affect the ultimate strength of the entire race car structure. It is important that all areas to be welded are clean, free of oil, slag, paint, undercoating and, of course rust.

**Quality work requires the proper tools.
Here is a list of some of the tools you will need.**

- A. Common hand tools - for removing the stock suspension components and car interior.
- B. Jack stands - for supporting the car and new frame rails.
- C. Floor jack - for raising the car, removing the rear housing.
- D. Measuring tools - 12' tape measuring, level, inclinometer, plumb bob, string, large square felt tip pen or soap stone.
- E. Cleaning tools - gasket scraper and wire brush to remove undercoating.
- F. Cutting tools - oxyacetylene torches, hand-held reciprocating saw or rotary grinder with a cutting disc.
- G. Welding equipment - a MIG welder is recommended. TIG welding is acceptable, but is unnecessary for this type of work. **Warning: As of Jan. 1 1995 stick welding has been prohibited by the NHRA!! S&W Race Cars strongly suggests that these components not be stick welded!!**

- 1) With all the stock components still in the car, measure and record the wheelbase and mark the axle centerline on the car body, directly above the wheel opening.
- 2) Raise the car to a comfortable working height and level it from front to back and side to side. This can be done front to back by placing the level on the rocker panel. Leveling the car side to side by placing the level on the front crossmember and on a horizontal floor panel at the rear of the car.
- 3) In order to insure that your frame rails are centered in the car properly, you must first find the chassis centerline (C/L). The chassis C/L is the midpoint line that runs the length of the car. To find the C/L, drop a plumb line from the same two points on the opposite side of the car to the shop floor. Do this at the front and rear of the car. We suggest using the front control arm mounting points and the seam between the rear of the rocker panel and the quarter panel. Now measure half the distance between each set of plumb line marks on the floor. Each of these half distances can be connected and a straight line can be drawn on the floor running from front to back, which represents the center line of the car. It is good idea to drop a plumb line to the C/L on the ground and transfer it onto the car by punching marks on a few crossmembers. Now if you have to move the car or when you do future work, the C/L can be quickly reestablished. The C/L can also be used for suspension alignment work.



Photo #1

- 4) Remove all stock components such as front and rear seats, carpeting and insulation, interior trim panels, rear wheels and tires, rear axle assembly, rear springs and shocks, brake lines, fuel lines (remove electric fuel pump if rear mounted) and any rear mounted electrical components or wires.
- 5) The location of the frame rails will be with the frame rails 26" apart from out side to out side and centered in the car using the chassis C/L. Make a mark on the floor pan at these points as shown *photo #1*.
- 6) Cut a 2" x 6" section at the bottom of the floor and heat and dent the floor at the top of the floor as shown in *photo #2*..



Photo #2

7) Install the frame rails from under the car, as shown in *photo #3* and make sure they fit flush to upper portion of the floor board, see *photo #5 & #6*.



Photo #5

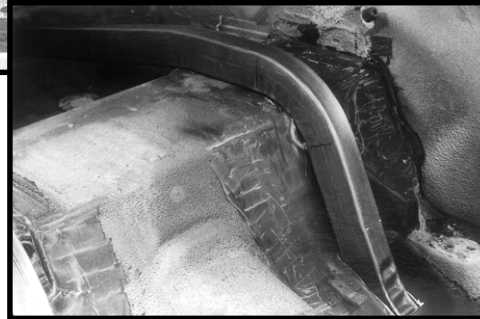


Photo #6

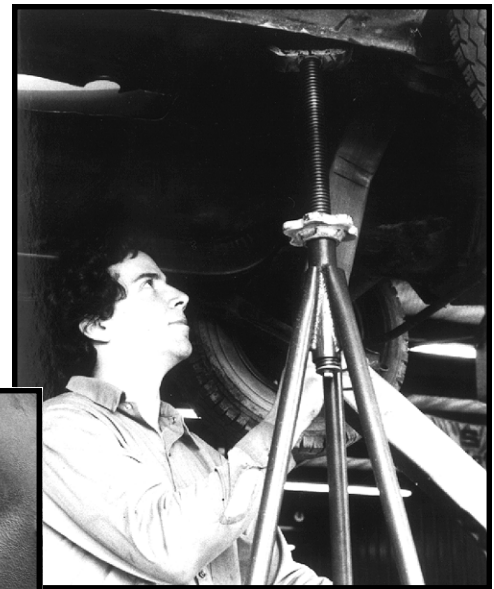


Photo #3

8) Tack weld the frame rails to the floor as shown in *photo #4 & #7*.

9) Place the frame connectors up to the floor then mark the floor as shown in *photo #8 and #9*. The edge of the frame connector is 8" from the edge of the rocker panel.



Photo #4

Photo #7



Photo #8

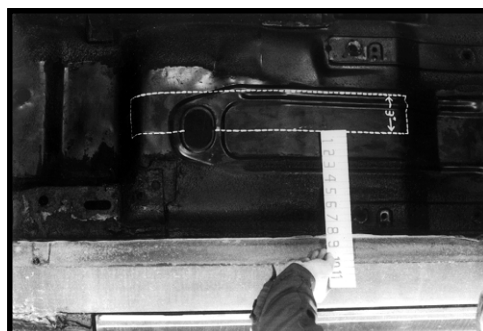
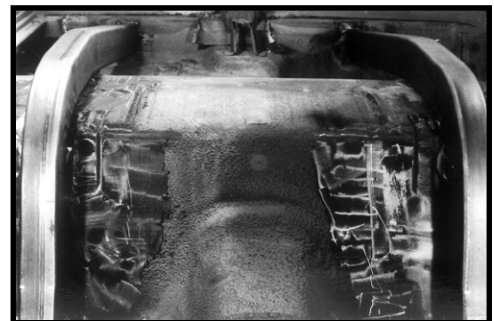
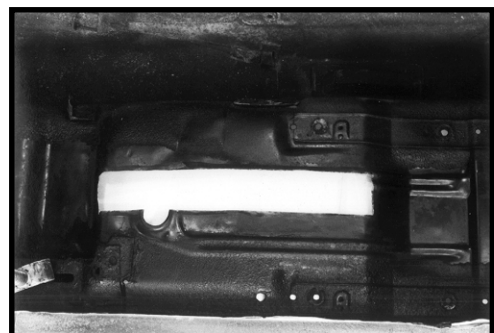


Photo #9



10) Cut out the marked section of the floor as shown in *photo 10*.

Photo #10



1 1) Place the frame connector up to the floor and mark the front frame reinforcements as shown in *photo #11 and #13*, the dotted lines are sections to be cut and the solid white areas are to be heated and tapped flat as shown in *photo #12 & #14*.



Photo #11

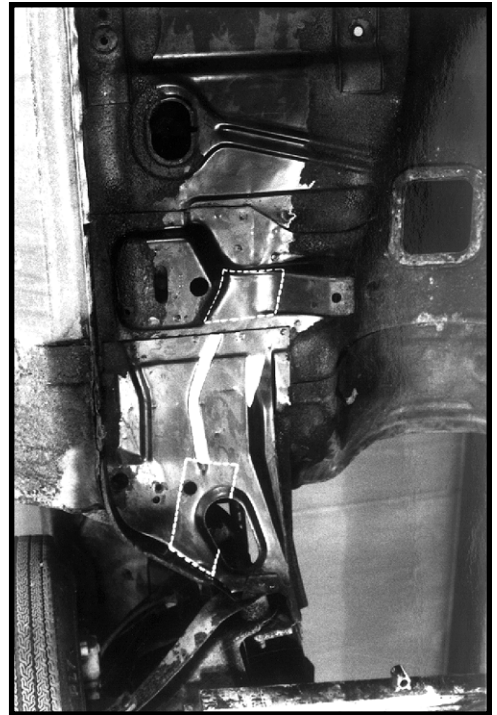


Photo #13



Photo #12

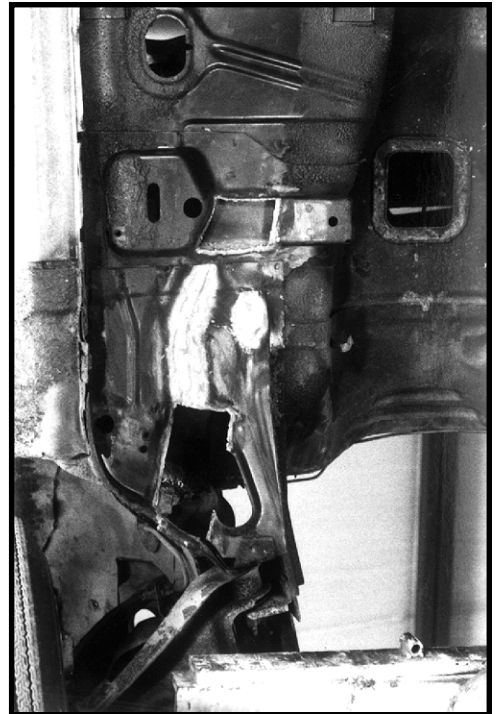


Photo #14

12) Place the frame connectors up to the floor rechecking the fit, see *photo #15 and #16*, also checking to make sure the frame connector and the frame rail fit square, as shown in *photo #17*.

Photo #15

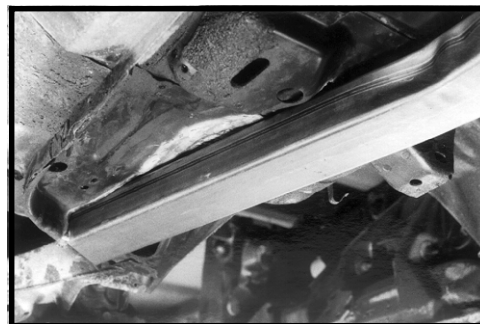


Photo #16

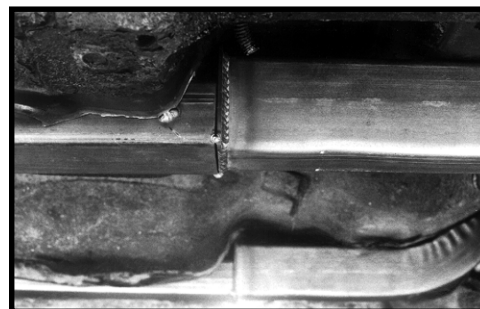


Photo #17



Photo #18

13) Tack weld the frame connector in place see *photos #18,#19 and #20*.

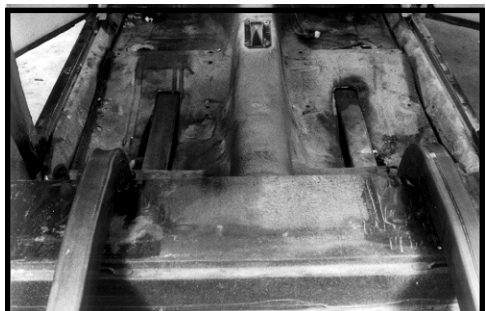


Photo #19



Photo #20

Final welding of the frame rails and frame connectors will take place after the ladder bar crossmember part # 40-210 and upper shock crossmember part # 40-220 are installed.

***The installation of these frame rails & connectors does not result in a complete chassis!!
S&W Race Cars recommends the installation of at least an 8 point roll bar &
crossmembers before operation of this vehicle***

If you have any questions after reading these instructions or during assembly, or if you wish to purchase additional components for your car, please contact the S&W sales & technical service department at 610-948-7303