



Detroit Speed, Inc.

Mini Tubs

1968-74 Chevy Nova, Oldsmobile Omega, Pontiac Ventura

P/N: 040402

The Detroit Speed Mini-Tubs are inner wheel housings designed to accommodate a wider wheel and tire package, including tires as wide as 315mm. They are engineered for a precise fit and retain a stock appearance. The Detroit Speed Mini Tubs are wider than stock, stamped from 18 gauge steel, made in the USA. The Detroit Speed Mini-Tubs include closeout and flange templates as well as instructions so you have all components necessary to install this kit.



Item	Component	Quantity
1	Detroit Speed Mini Tubs - 1968-74 X-Body	2
2	Template (not shown)	5
3	Instructions	1

NOTE: All work should be performed by a qualified welder and technician.

NOTE: There is an installation video available through the Detroit Speed website in the tech/install video shown here:

<https://www.detroitsspeed.com/1968-74-nova-installation-videos>.

It's listed as the 1968-74 X-Body Installation Video.

NOTE: We recommend welding one mini-tub in at a time because it is easier to fit and install the upper shock crossmember without one of the mini tubs in place. Cut and fit both sides however only weld one side in place until the upper shock crossmember has been fitted.

1. Properly support the vehicle on jack stands with the vehicle square and level.
2. Remove the rear axle, drive shaft, shocks, leaf springs, and fuel tank.
3. Strip/remove all undercoating, paint and seam sealer from the inner and outer wheel houses. This will help identify seams and spot welds.
4. Remove the decklid and decklid torsion springs from the vehicle as shown in Figure 1. Use caution when removing the leaf springs as they are under tension.



Figure 1 – Removing the Torsion Springs

5. Before modifying any sheet metal, mark or scribe a line between the original upper shock point centerlines. This will be used as a reference when installing the Detroit Speed Upper Shock Crossmember. The upper shock mounts are not visible from the trunk pan on an X-Body (Nova, Ventura, Omega) so it's necessary to drill a reference hole through the center of the shock mount and into the trunk pan. **NOTE:** This is only necessary if you are using the stock or Detroit Speed leaf spring suspension. If you are using the Detroit Speed QUADRAlink you do not need to drill a reference hole as the upper shock crossmember will be in a different location. Draw a straight line between the two holes marking the original upper rear shock mounts.
6. The Detroit Speed Mini Tubs will be 2" wider than stock. Take your measurements and mark along the outside edge of the stock tub. Set your dividers to 2" as this is the difference in distance from the new Detroit Speed mini tub as compared to the stock inner tub. Scribe a line around the stock inner wheel tub as shown in Figure 2 on the next page.

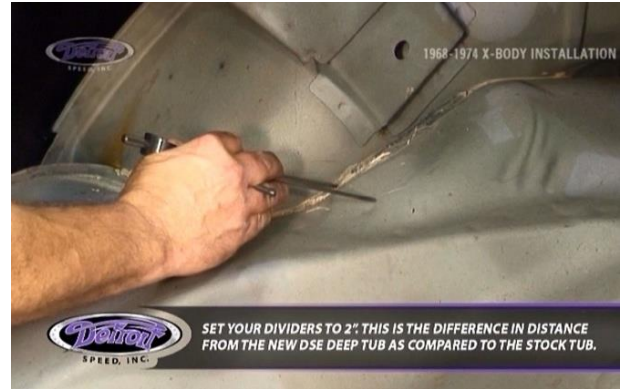


Figure 2 – Scribe Cut Line

7. Once you have scribed along the stock inner tub, use a marker to mark the cut lines on the trunk floor and back seat brace as shown in Figure 3.

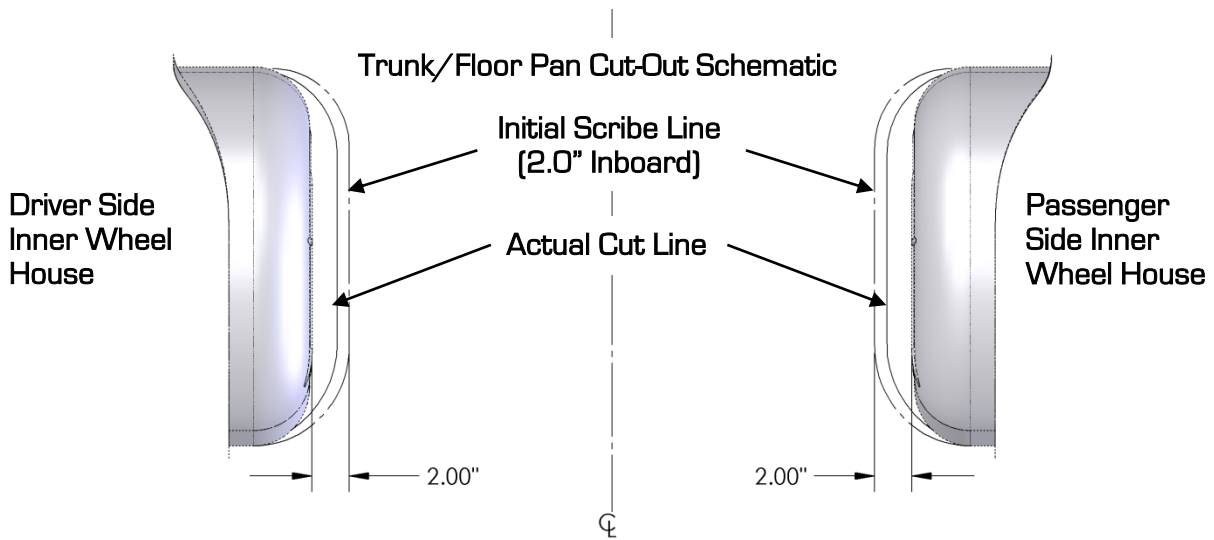


Figure 3 – Mark the Cut Lines

8. Mark the floor pan next to the tub at 2" for your flange bend line. An additional line should be marked with your dividers set at 1-1/4" as shown in Figure 4. This additional line will be used on the interior floor pan; this will be the actual cut line. The 2" marked line will be used as a folding line for the new flange. See the cut-out schematic in Figure 5 on the next page for further details.



Figure 4 – Mark the Flange Bend Line



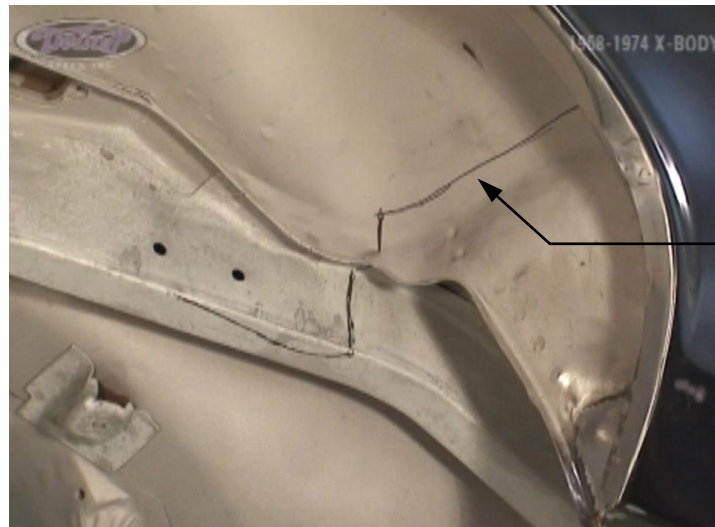
**Figure 5 - Actual Cut Line is 3/4" Outboard from Initial Scribe Line
(The Initial Scribe Line will be used as a folding line for the new flange)**

9. Use your dividers to scribe and mark a 2" line underneath your vehicle as shown in Figure 6. You will be removing a small section of the framerail towards the rear of the wheel tub. This will be replaced with 1/8" thick steel which will be created using the provided templates later during the install.



Figure 6 – Mark the Framerail

10. The Detroit Speed Mini-Tubs do not have provisions for the back lower portion of the inner wheel tub so you must leave that section attached to your vehicle. Mark a line about an inch above the framerail and draw a line to the outside edge of the stock tub above where the floor of the trunk would be as shown in Figure 7 on the next page.



Leave this section of the stock inner tub

Figure 7 – Stock Tub Cut Line

11. Finish marking your cut lines on the outside section of the framerail and stock tubs as shown in Figure 8.



Figure 8 – Mark Cut Lines

12. Continue marking your 2" cut line down the outside edge of the framerail with your dividers. After making your 2" mark, scribe another line at 1-1/4" as we did on the inside of the vehicle for the flange cut line as shown in Figure 9.



Figure 9 – Mark Flange Line

13. With all of your lines marked and using the cut lines as a guide, start to cut out the stock tub with a cut off wheel, die grinder or plasma cutter. This line will be inboard of the frame rail as the frame rail runs outward, rear of the axle centerline. See Figure 10, start at the rear section of the stock tub that you will be leaving in place shown in Figure 7.



Figure 10 – Start Cutting the Stock Tub

14. Mark around the visible weld area of the trunk mounts from underneath the stock tub. Cut and remove them along with the rear section of the stock tub as shown in Figure 11.



Figure 11 – Mark the Trunk Mounts

15. After cutting around the bottom side of the trunk mount, next cut the decklid hinge mount to remove it from the vehicle as shown in Figure 12. Continue to cut out the stock tub on all of your pre-marked lines in the trunk as well as inside the vehicle as shown in Figure 13 on the next page.



Figure 12 – Cut and Remove the Hinge Mount



Figure 13 – Cut Pre-Marked Lines

16. Leave the 2" cut lines that you have marked for the flanges and just cut the lines you marked off at 1-1/4" as shown in Figure 14. You will also need to mark around the visible welds of the seat back brace underneath the vehicle and remove that section as shown in Figure 15.



Figure 14 – Cut 1-1/4" Marked Lines



Figure 15 – Remove the Seat Brace

17. Remove the stock inner wheel tub as it will not be re-used as shown in Figure 16. Do not damage the outer wheel house. If the outer wheel house is rust free it will not need to be modified.



Figure 16 – Stock Inner Tub Removed

18. With the stock tub removed from the vehicle, finish your cuts along the framerail to make room for the new 2" wider Detroit Speed mini tubs. Due to space constraints around the stock upper shock mounts, use the appropriate tool for the space provided as shown in Figure 17.



Figure 17 – Cutting along the Framerail

19. The outer frame rail wall can now be removed with a plasma cutter or die grinder. The section to be removed will start approximately at the wheel/axle centerline and continue rearward to the inner tub radius as shown in Figure 18.



Figure 18 – Notch the Framerail

20. With the stock inner tub removed, grind the edge however make sure to leave the seam from the stock outer tub. That way you have a thicker edge with more material to weld the new Detroit Speed mini-tub as shown in Figure 19.



Figure 19 – Grind Seam

21. Carefully trim and clean up the rest of your floor cut lines to prepare the mini-tub for test fit. Finish by grinding down the edges to the pre-marked cut lines as shown in Figure 20.



Figure 20 – Finish Cut and Grind Pre-Marked Lines

22. The 3/4" sheet metal flange can now be folded down using the initial scribe line as a reference. A flange tool or Vise Grips™ can be used to start working the metal. A body hammer and dolly can be used to finalize the shape of the flange only on the floor area inside the car and under the back seat as shown in Figure 21.



Figure 21 – Folding & Shaping of the Flange

23. With the new flange created, and the stock inner tub removed and the framerail cut and clearance, it is now time to test fit the mini-tub as shown in Figure 22.



Figure 22 – Test Fit

24. A new outer frame rail section can now be fabricated from 1/8" steel. This will close and strengthen the frame rail. The section should follow the rear inner tub radius. Close out panels should be made from 1/8" steel to close the upper trunk/stock shock area. All pre-made closeout and flange templates for your project are included in the kit. The provided templates are to be used as a general guide. Due to vehicle variation, you can also create new templates to properly fit your vehicle as shown in Figure 23.



Figure 23 – Framerrail Templates

25. Once you have transferred your template to 1/8" steel, as you can see in Figure 24, we attached a tab to the outside surface to make it easier to hold onto. Once it's welded in place you can remove that tab. We also added a small step to the closeout so it fits it doubles over into the framerail.



Figure 24 – Framerrail Closeouts

26. Tack weld both closeouts in place and check for fitment before final welding. Once they are completely welded in place, you can grind your welds smooth so it is ready for the Detroit Speed mini-tub as shown in Figure 25.



Figure 25 – Grind Closeouts

27. With everything prepped and ready, position and line up your mini-tub along the seams and clamp into place. Once it is clamped, come in from the trunk side and mark your lines at the backside of the tub and also on the inside at the back seat area. Also make a reference line around the seam of the mini-tub at the outside framerail so you have a good return point after you punch your spot weld holes in the mini-tub as shown in Figure 26.



Figure 26 – Mark the Mini-Tub

28. Drill or punch 9/32" holes in the mini-tub flange and along the lower edge of the mini-tub as shown in Figure 27. With all of the holes punched in the mini-tub, fit and secure it to the vehicle and prepare to weld it in place.

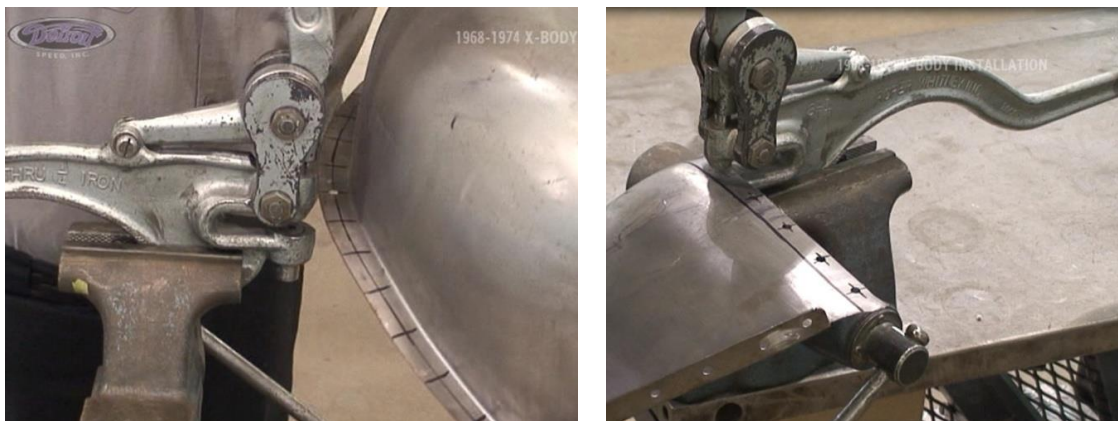


Figure 27 – Punch Spot Weld Holes

29. Pre-drill a few location holes in the mini-tub and the frame rail on your last fitment so you can hold it in place with Cleco fasteners. Then you can clamp the mini-tub tightly in place for welding as shown in Figure 28.

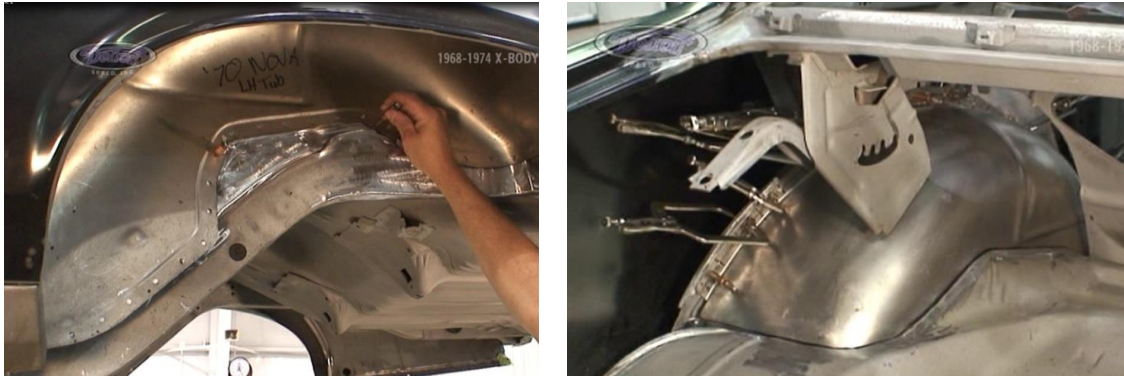


Figure 28 – Secure the Mini-Tub for Welding

30. With the mini-tub lined up and clamped in place, start welding it to the vehicle in different locations as shown in Figure 29.



Figure 29 – Welding the Mini-Tub

31. Grind off the welds at the bottom side of the mini-tub at the front of the wheel well. Mark around the welded area and use a template to create a doubler plate using 1/8" steel. Before welding in place, grind the welds and any high spots in that area so the doubler plate will sit flat as shown in Figure 30.

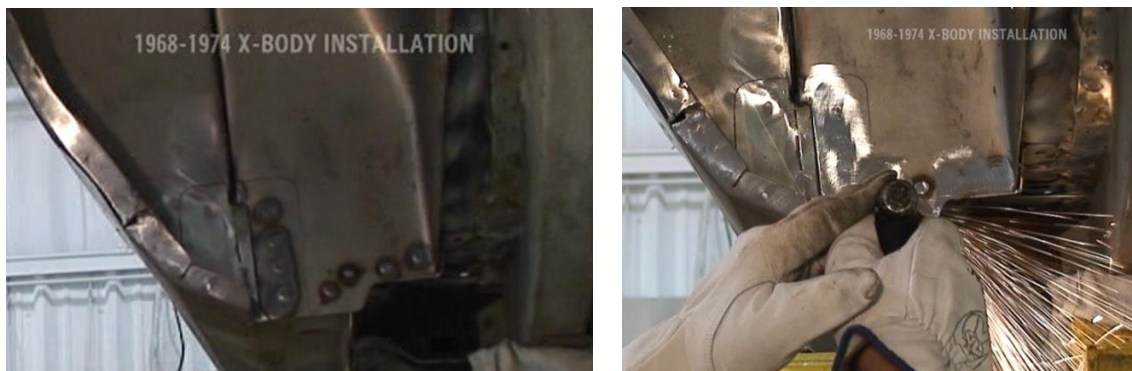


Figure 30 – Prepare for Doubler Plate

32. Once you have the plate fit and ground, plug weld in place. Once it is plug welded, grind the doubler plate smooth. When finished it will be the same as what you had from the factory as shown in Figure 31.

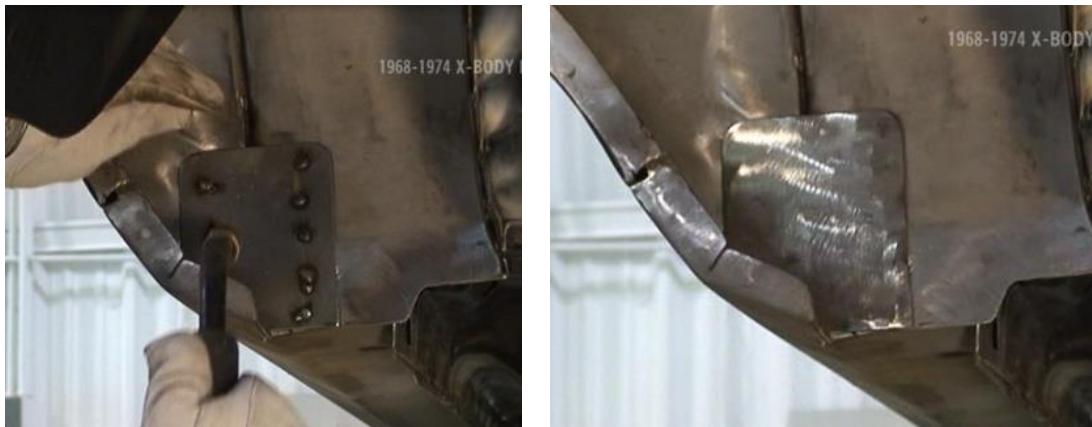


Figure 31 – Welding Doubler Plate

33. Fabricate a new decklid support mount to replace the factory one that was removed earlier to fit the new mini-tub. After fabricating a new decklid mount, clamp it to the vehicle and weld it in place as shown in Figure 32.



Figure 32 – Fabricate and Weld the Decklid Support

34. After welding the deck lid support into place, grind the decklid support mount and the mini-tub welds to a smooth finish as shown in Figure 33.



Figure 33 – Finish Grind Mini-Tub

35. Start the passenger side mini-tub install by cutting the decklid support mount. Follow the same steps you used in removing the driver's side tub to remove the passenger side stock inner tub as shown in Figure 34.

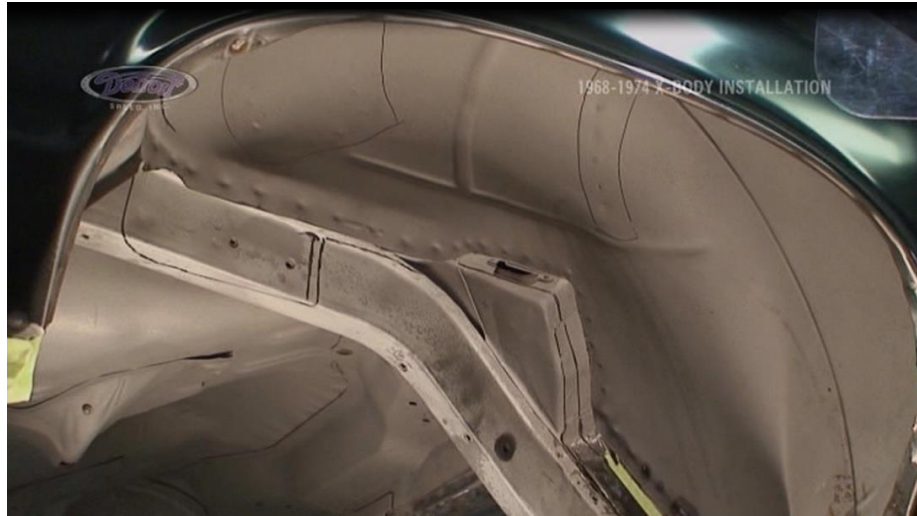


Figure 34 – Passenger Side Stock Tub

36. With most of the stock inner tub removed, finish cutting out the marked area of the vehicle's framerails as shown in Figure 35.



Figure 35 – Passenger Side Framerail

37. Cut and fit the passenger side mini-tub however do not weld it in place until the upper shock crossmember has been fitted. Whether you will be installing the Detroit Speed Leaf Spring Mini-Tub Kit or the Detroit Speed QUADRAlink kit, it will be easier to fit and install the crossmember without one of the mini-tubs in place. Refer to the corresponding instructions to install the upper shock crossmember for your rear suspension.
38. You will need a flat surface to have the passenger mini-tub seal up against. Due to framerail and the inner sheet metal variations on this application you may need to create a template and then a steel part to weld in place as shown in Figure 36 on the next page.



Figure 36 – Passenger Side Closeout

39. You will also need to make a steel closeout for the rear section of the framerail. When both frame rail pieces are tacked in place, finish welding them to the framerail. Then grind your welds to a clean smooth finish as shown in Figure 37.



Figure 37 – Finished Closeouts

40. Now it's time to test fit the passenger side mini-tub. With it in place, mark the top and bottom and around the points on the vehicle so when you remove it, you can mark for your plug weld holes. With your lines marked and your holes punched, fit the mini-tub into place. Secure it with clamps and begin welding the mini-tub to the vehicle as shown in Figure 38.



Figure 38 – Clamp and Weld to the Vehicle

41. When finished welding, grind your plug welds to a smooth clean surface. With both mini-tubs welded to the vehicle, mark lines at every 1-1/2" and stitch weld both mini-tubs to the floor pan as shown in Figure 39.



Figure 39 – Stitch Weld

42. To finish your passenger side mini-tub, create a trunk mount template and fit to your application. Then create your mount out of steel and weld it to the vehicle as shown in Figure 40. Then grind your welds to a smooth flat finish.



Figure 40 – Trunk Mount

43. The seat back brace can be reinstalled to the Mini-Tub and original seat back structure. At the start of this installation we had to cut the rear seat brace loose from the factory tub so now it is time to put that connection back in place. Start by creating a template to fit the vehicle and then fabricate a steel part as shown in Figure 41.



Figure 41 – Seat Back Brace

44. Secure the new seat back brace and weld it to the vehicle. Do this for both sides of the vehicle and grind your welds to a flat smooth finish as shown in Figure 42.

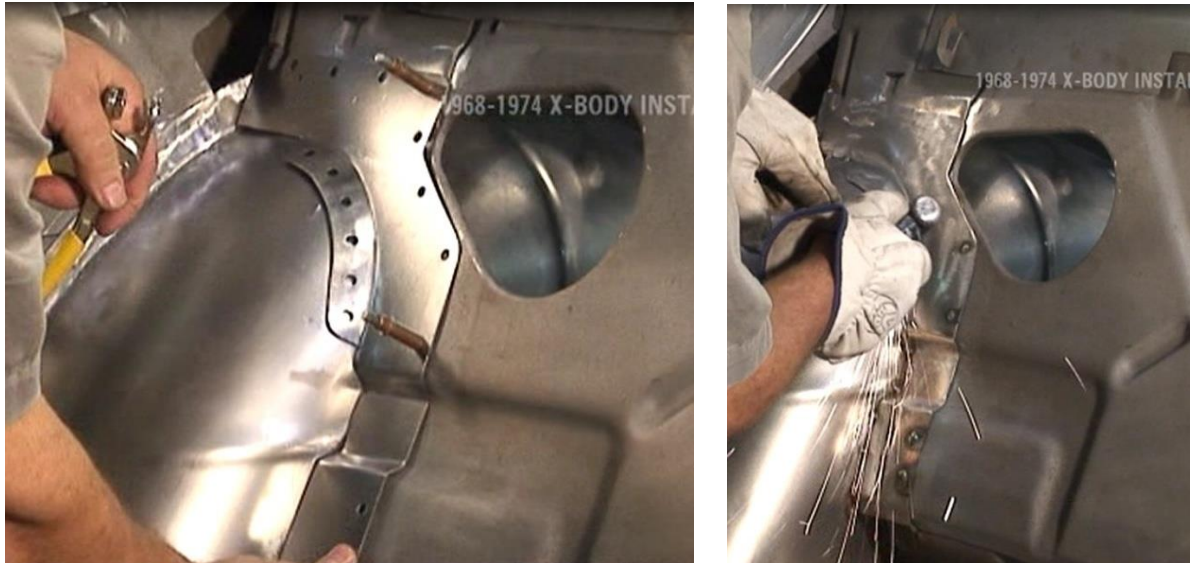


Figure 42 – Weld and Grind Seat Back Brace

45. Remove the rear seat cover and padding. Modify the seat frame to clear the Detroit Speed Mini-Tubs. Install the bare seat frame and mark points of interference between the seat frame and tubs. These points will have to be modified to clear the new tubs.
46. Modify rear interior trim panels as necessary to fit the Detroit Speed Mini-Tubs.
47. The installation of the Mini-Tubs is complete. We recommend that all seams receive seam sealer to prevent the possibility of water intrusion and all bare metal be primed and painted.
48. Re-cover the seat bottom and then reinstall the package tray, rear interior quarter trim panels, carpet padding, carpet, seats, gas tank, rear suspension, and any additional interior panels that were removed for the installation process.
49. Detroit Speed does have a narrowed stainless steel gas tank available for either the Detroit Speed Mini-Tub Leaf Spring Kit or the QUADRAlink.
50. Enjoy your new Mini Tubs!



If you have any questions before or during the installation of this product please contact Detroit Speed at tech@detroitsspeed.com or 704.662.3272

Legal Disclaimer: *Detroit Speed, Inc. is not liable for personal, property, legal, or financial damages from the use or misuse of any product we sell. The purchaser is solely responsible for the safety and performance of these products. No warranty is expressed or implied.*