



**SPEED, INC.**

**Detroit Speed,  
Inc.**

**Mini Tubs**

**1967-1969**

**Camaro/Firebird**

**P/N: 040401**

The Detroit Speed Mini-Tubs are inner wheel housings designed to accommodate a wider wheel and tire package. They are engineered for a precise fit and retain a stock appearance. The DSE Mini-Tubs are wider than stock, stamped from 18 gauge steel and are Made in the USA. The DSE Mini-Tubs include driver and passenger side framerail and trunk floor steel closeouts. It also includes steel rear seat bracket closeouts, templates and instructions so you have all components necessary to install this kit.



| Item | Component  | Quantity |
|------|--|----------|
| 1    | DSE Mini Tubs - 1967-69 F-Body                                   | 2        |
| 2    | Floor/Framerail Cut Template (not shown)                         | 1        |
| 3    | Driver & Passenger Side Closeout Template (not shown)            | 2        |
| 4    | 1967-69 F-Body Driver Side & 1967 F-Body Passenger Side Closeout | 2        |
| 5    | 1968-69 F-Body Passenger Side Closeout                           | 1        |
| 6    | Rear Seat Bracket Closeout                                       | 2        |

|   |   |   |
|---|---|---|
| 7 | Driver & Passenger Side Frameraill Closeout | 2 |
| 8 | Instructions                                | 1 |

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

**NOTE:** We recommend welding one DSE Mini-Tub in at a time because it is easier to fit and install the DSE upper shock crossmember for the DSE Leaf Spring Kit or the DSE QUADRALink Kit 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 car square and level.
2. Remove the rear axle, drive shaft, shocks, leaf springs, and fuel tank from the vehicle. Remove the interior items from the backseat area of the vehicle.
3. Strip and remove all undercoating, paint, and seam sealer from the inner and outer wheel houses. This will help identify seams and spot welds.
4. Add a brace to the trunk decklid hinge to hold it in the stock location before some of the bracing is removed. (Figure 1). That way when the Mini-tub installation is complete the trunk decklid will go right back in the same location. Remove the trunk decklid and decklid torsion springs from the vehicle.

**NOTE:** Use caution when removing the decklid torsion springs as they are under tension.



**Figure 1 - Install Decklid Hinge Brace**

5. If the DSE Leaf Spring Mini-Tub Kit is being installed, mark or scribe a line between the original upper shock point centerlines. This will be used as a reference line when installing the DSE Upper Shock Crossmember in the Leaf Spring Mini-Tub Kit. If installing the QUADRALink Kit, follow the instructions included with the QUADRALink Kit to locate and install the DSE Upper Shock Crossmember.
6. Cut out the trunk floor cut template from the template provided [99040471] to locate your trunk floor cut line for the DSE Mini-Tubs (Figure 2). Once the template is cut out, bend the tab on the template before it is located on the trunk floor (Figure 3).



Figure 2 - Cut Out Trunk Floor Template

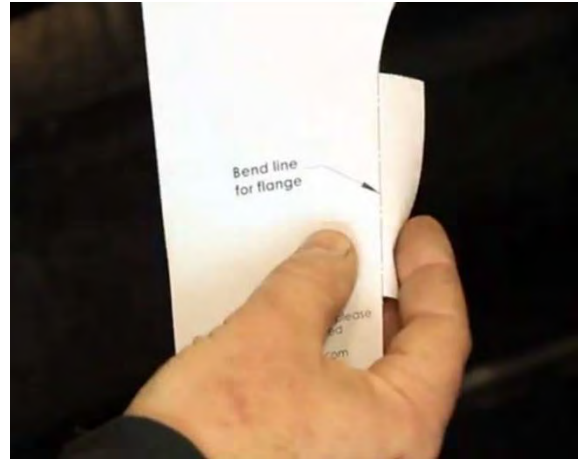


Figure 3 - Bend Line for Weld Flange

7. Place the template on the trunk floor so it fits snug against the radius of the factory inner tub. From the side of the tub to the edge of the template is 2-3/4" (Figure 4). Scribe a line on the inside edge and the back edge of the template.

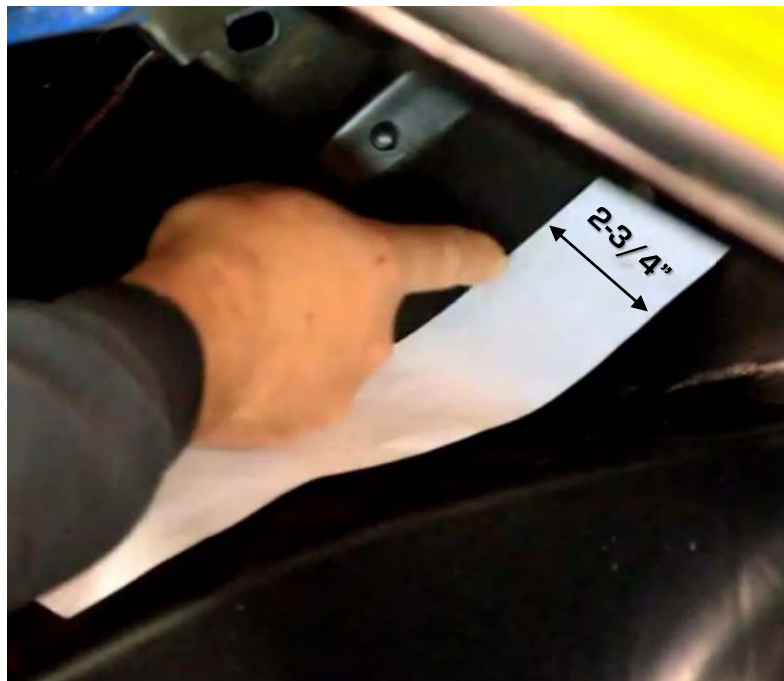


Figure 4 - Scribe the Edges

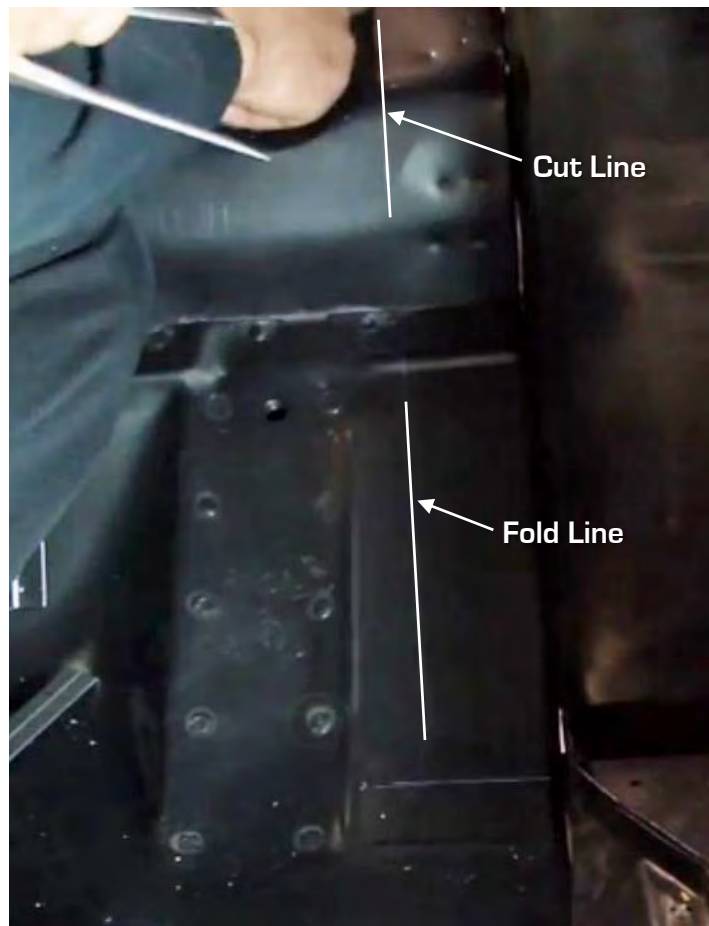
8. Slide the cut template towards the center of the vehicle so the tub side edge of the template matches up to the line you scribed in the previous step. Make sure the back edge of the template is in line to the back edge scribe line you just created.
9. With the template in its new location, scribe the tub side edge from the top of the template, around the radius so you meet up with the back edge scribe line. Unfold the tab that was folded down in step 6 and scribe around it. This tab is going to allow you to have some sheet metal to attach the DSE mini-tub later on in the installation. Flip the template over and use the other side to layout your scribe lines on the other side of the vehicle.

10. Using a set of dividers, set them to 2-3/4" [Figure 5 on the next page]. Transfer a 2-3/4" scribe line from the inside edge of the factory inner tub inward to the floor pan.



**Figure 5 – Set Dividers and Transfer a 2-3/4" Scribe Line**

11. The bottom side of the line will be the fold line and the top of the line will be your cut line (Figure 6). Do not cut at this time as we will remove this section later during the installation.



**Figure 6 – Cut & Fold Line**



12. Layout the fold line along the bottom of the floor pan at the front edge of the factory wheel tub. This will leave you with some sheet metal to attach the DSE Mini-Tub. Lay a straight edge from the edge of the rocker and transfer a line onto the floor pan (Figure 7 on the next page).



**Figure 7 – Bottom Fold Line**

13. Set your dividers to 2" and transfer another line along the inside edge of the factory inner tub. That will give you a 3/4" tab to bend down to weld your DSE Mini-Tub. Repeat this step for the bottom by scribing a line 3/4" above the fold line from the previous step. Where your fold lines and your cut lines intersect, scribe a diagonal line between the 2 corners (Figure 8). Do not cut at this time as we will remove this section later during the installation. When the lines are cut, the inside lines will be fold lines to bend down so you have sheet metal to weld to your DSE Mini-Tub.



**Figure 8 – Scribe Cut Lines**

14. Drill out the spot welds for the package tray reinforcement (Figure 9). This will help when installing the DSE Mini-Tub as well as the DSE Upper Shock Crossmember when either installing the DSE Leaf Spring Kit or the DSE QUADRALink Kit.



**Figure 9 – Drill Out Spot Welds**

15. For removal of the spot welds, we recommend using a 3/8" spot weld drill bit (Figure 10).



**Figure 10 - 3/8" Spot Weld Drill Bit**

16. Place a straight edge along the bottom edge of the package tray and scribe a cut line to remove part of the factory inner tub brace (Figure 11). Do not cut at this time as we will remove this section later during the installation. This will give you the room you will need to install the wider DSE Mini-Tub.



**Figure 11 - Scribe Cut Line**

17. Locate the spot welds where the outer wheel tub is lapped over to the stock inner wheel tub. We recommend using a 1/8" drill as a pilot drill when locating the spot welds. When drilling out the spot welds, some of them do not need to be drilled straight through as that will remove some of the sheet metal that you will want to weld the DSE Mini-Tub later during the installation. Drill one layer of sheet metal at a time where the outer wheel tub is lapped over the factory inner wheel tub (Figure 12).





**Figure 12 - Drill Wheel Tub Spot Welds**

18. Use a seam splitter to break the seam apart holding the factory inner and outer wheel tub together. Using a pair of vise grips or a flange tool, fold the outer wheel tub flange out of the way (Figure 13).



**Figure 13 - Break the Seam Between the Outer and Inner Wheel Tub**

19. Now that the outer wheel tub is off of the inner wheel tub, break the seam apart where the factory inner wheel tub is welded to the rocker using a seam splitter (Figure 14 on the next page).





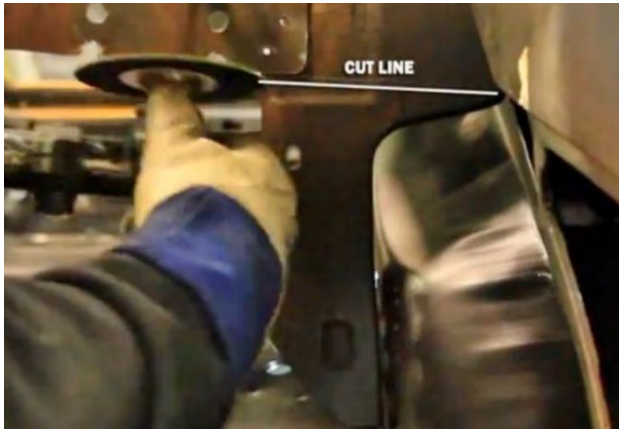
**Figure 14 – Separate the Inner Wheel Tub from the Rocker**

20. Locate the spot welds at the top of the factory inner tub and the package tray reinforcement. Drill out the spot welds and separate the inner wheel tub and the reinforcement.
21. Drill out the spot welds between the inner wheel tub and the trunk lid hinge reinforcement. Also drill out the spot welds between the inner wheel tub and the trunk floor in order to retain part of the trunk floor to attach the DSE Mini-Tub later during the installation.
22. Once the trunk floor spot welds are drilled out, we can loosen the factory inner tub away from the trunk floor using a seam splitter. Using a pair of vise grips, fold back the outer wheel tub flange away from the factory inner wheel tub (Figure 15).



**Figure 15 – Separate the Inner Wheel Tub from the Trunk Floor**

23. Now that the spot welds have been drilled from the inside of the factory inner tub, knock the package tray reinforcement bracket loose with a seam splitter. Using a cut off wheel, cut the section of the package tray reinforcement on the cut line created in step 16 (Figure 16 on the next page). **NOTE:** Make sure that your cut line is above the inner to outer weld flange as this will make the DSE Mini-Tub easier to install.



**Figure 16 – Remove Section of Package Tray Reinforcement**

24. Drill the spot welds from the decklid hinge reinforcement. Start with a 1/8" pilot drill and then use the 3/8" spot weld drill bit. Use a seam splitter to break the decklid hinge reinforcement from the factory inner wheel tub and the deck lid hinge bracket (Figure 17).



**Figure 17 – Remove Decklid Reinforcement Bracket**

25. Using a cut off wheel, cut out and remove the factory inner wheel tub using the cut lines in the trunk floor that were created in steps 8 & 9 (Figure 18). Make sure to leave the rear flange that was scribed from the trunk floor cut template.



**Figure 18 – Cutting the Trunk Floor**

26. The cut line at the front of the tub is going to be different from the rear cut line since we have to leave the 3/4" flange line in the trunk floor to attach the DSE Mini-Tub (Figure 19 on the next page).





**Figure 19 – Cutting the Inside Floor Pan**

27. With most of the floor pan cut, continue to remove the factory inner wheel tub from the vehicle by following the factory bend line in the seam (Figure 20). The factory inner tub flange does not need to be removed as it can be used when installing the DSE Mini-Tub.



**Figure 20 – Cut the Factory Bend Line**

28. Finish cutting the trunk floor and the factory inner wheel tub from the underside where your cut from the inside has come through the framerail reinforcement. Connect the 2 cuts using a cut off wheel to remove the framerail reinforcement and the factory inner wheel tub

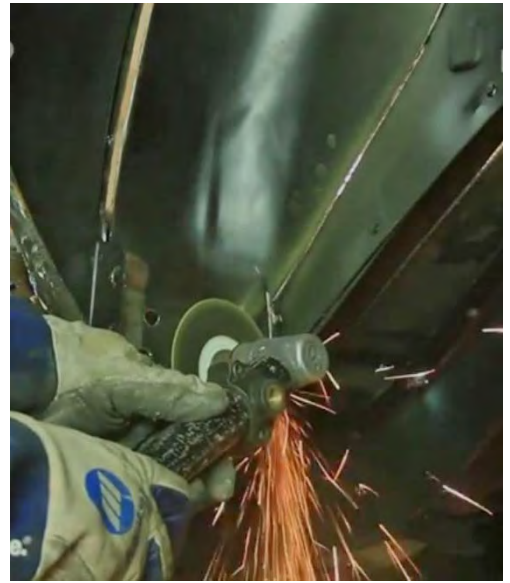


Figure 21 - Cutting the Inner Wheel Tub from the Trunk Floor



Figure 22 - Cutting the Frameraill Reinforcement

29. Using the same provided template that has the floor pan cut template (99040471) you will also find the bottom framerail cut template. Scribe a line on the bottom side of the framerail 14-1/4" forward of the front edge of the rear leaf spring bushing (Figure 23).



Figure 23 - Locate Bottom Frameraill Cut Template

30. Cut out this template and translate the cut line to the bottom side of the framerail by lining up the edge of the template with the line you scribed on the bottom side of the framerail





**Figure 24 - Scribe Cut Line onto the Bottom Frameraill**

31. Once you have scribed the bottom side of the framerail using the template, scribe a vertical line starting from the back edge of the framerail up to the trunk floor where your cut line stops using a straight edge. Continue your cut line from the front edge by scribing a vertical line upwards using a straight edge. Scribe a line on the framerail to continue the cut made on the trunk floor and intersect with the vertical line you have just created. Remove this section of the framerail as well as the section of the trunk floor above the framerail (Figure 25).



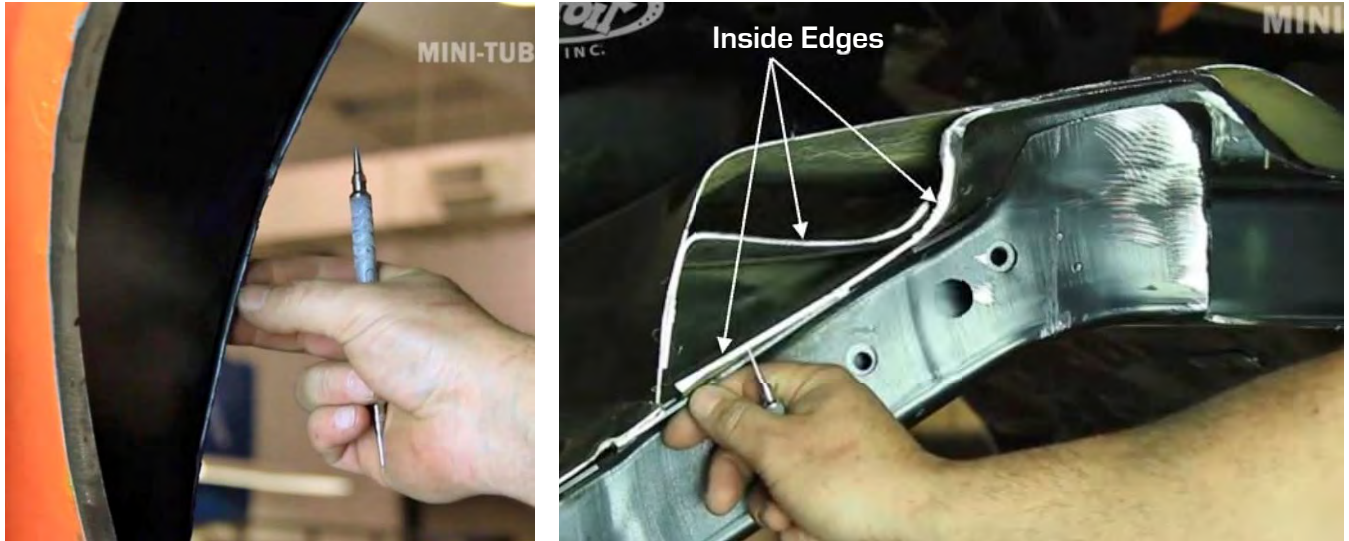
**Figure 25 - Connect Cut Line to Frameraill**

32. Once the framerail section and the trunk floor section has been removed, do a visual inspection from your cut line that was made previously. Anything that is protruding past this will need to be removed. Look down the side to make sure all surfaces are parallel with the cut line (Figure 26).



**Figure 26 - Inspect that All Surfaces are Parallel**

33. Where the inner wheel tub was trimmed, there is a flange that has been left, trim this area back so there is a good, clean edge to install the DSE Mini-Tub flush to the factory outer wheel tub. With the trunk pan flush with the framerail, grind the inside edges of the trunk floor pan back past the framerail an additional 1/8" so you have room to install the provided closeout (Figure 27).



**Figure 27 - Trim the Outer Wheel Tub and Trunk Floor Pan**

34. Trim the flange flush with the end of the rocker at the front of the wheel tub. Then bend the fold lines 90° with vise grips that we have drawn out in steps 10-12 to attach the DSE Mini-Tub (Figure 28).



**Figure 28 - Trim Rocker and Bend Fold Lines**

35. Hammer and dolly the rear flange 90° by following the scribed line (Figure 29).



**Figure 29 - Fold Rear Flange**



36. Grind the factory flange smooth for a good, clean surface to install the DSE Mini-Tub. Mock up the DSE Mini-Tub so that you can make sure there is nothing else that needs to be trimmed or fit before you install the closeout panels in the frame and the trunk floor pan.



Figure 30 - Mock-up DSE Mini-Tub

37. Locate the framerail closeout provided in the kit. The back side of the closeout will need to be modified to fit the contour of the framerail. Most vehicles will need to be trimmed to fit due to many variances in the framerail in the 1967-69 F-Body application. Once the closeout is trimmed and beveled it is ready to be welded into the framerail. Tack weld the closeout in place. Finish weld and grind smooth (Figure 31).



Figure 31 - Install Framerrail Closeout

38. In order to install the provided trunk floor closeouts, the plug weld holes will need to be located on the driver and passenger side closeouts using the provided templates (99040472). For the 1967 F-Body application you will use one closeout template as the same shaped template can be used on both sides of the vehicle. There are 2 copies of the template provided (99040472) so you have one for the driver side and one for the passenger side. For the 1968-69 F-Body application, there is a separate driver and passenger side template to be used on each side of the vehicle. **NOTE:** This step is not shown in the DSE Mini-Tub installation video.

39. Cut out the driver and passenger side closeout templates and position them in place of the closeout at the trunk floor of the vehicle. The inside edges of the trunk floor pan can be located by tracing them by hand onto the template. Place the template over the steel closeout, using a snap punch, make a mark about every 1" to 1-1/2" along the marked lines. (Figure 32).

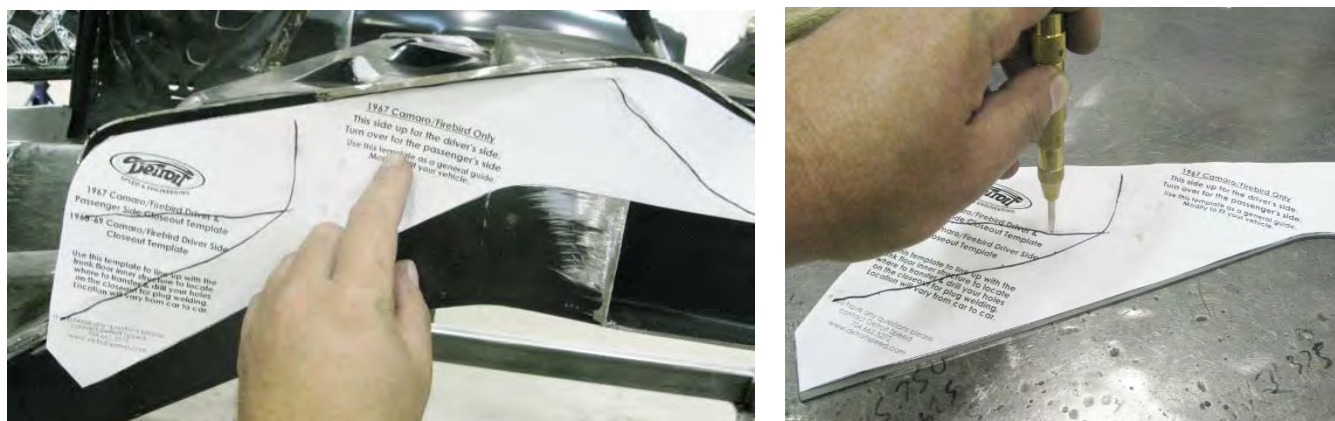


Figure 32 - Trace Trunk Floor Edges (1969 Camaro Driver Side Shown)

40. For the passenger side closeout on a 1968-69 F-Body, extend the trunk floor edge onto the steel template (Figure 33).

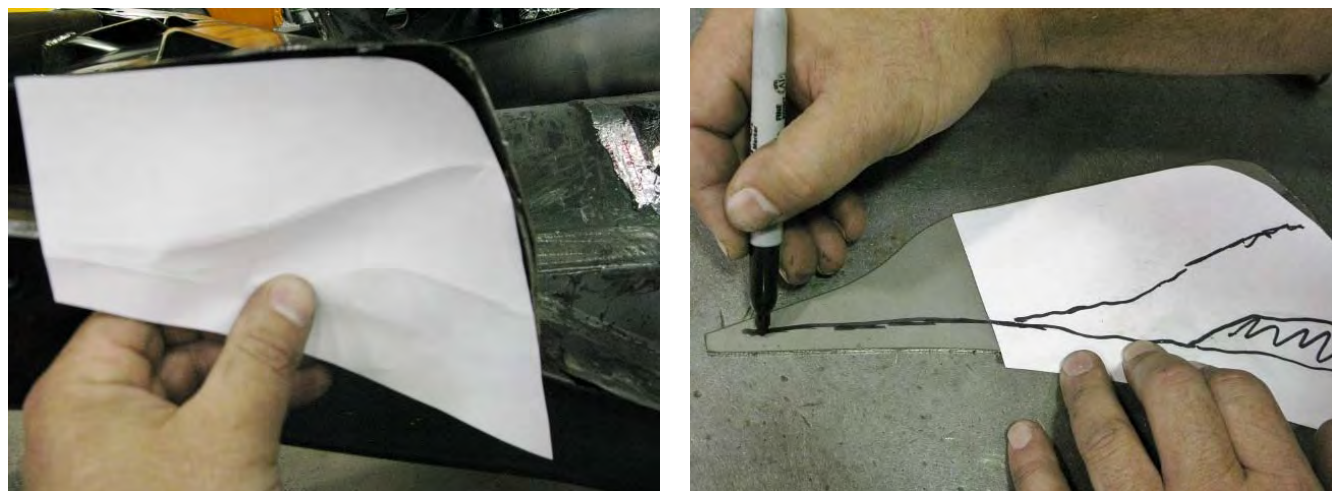


Figure 33 - Trunk Floor Edges (1969 Camaro Passenger Side)

41. With the template on the steel closeout, make a mark about every 1" to 1-1/2" along your marked lines using a snap punch. Circle your punch marks with a Sharpie so they are easier to see. Drill or punch 5/16" plug weld holes onto the driver and passenger side closeouts (Figure 34).

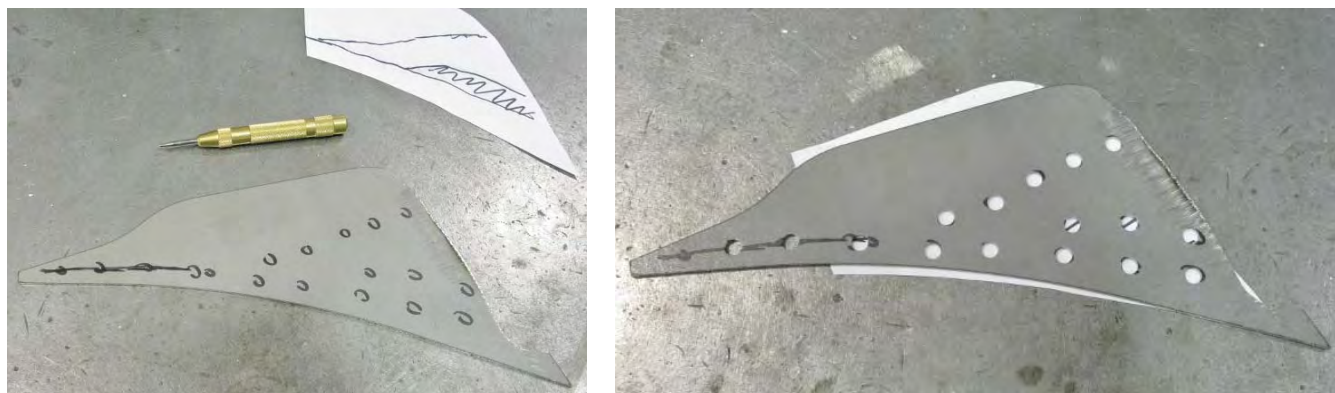


Figure 34 - Drill or Punch Plug Weld Holes



42. Position the steel closeouts to make sure it will fit correctly, trim the closeouts as needed so it is ready to weld in place. You can see that the 5/16" plug weld holes should line up with the inside edges/flange of the trunk floor pan (Figure 35).

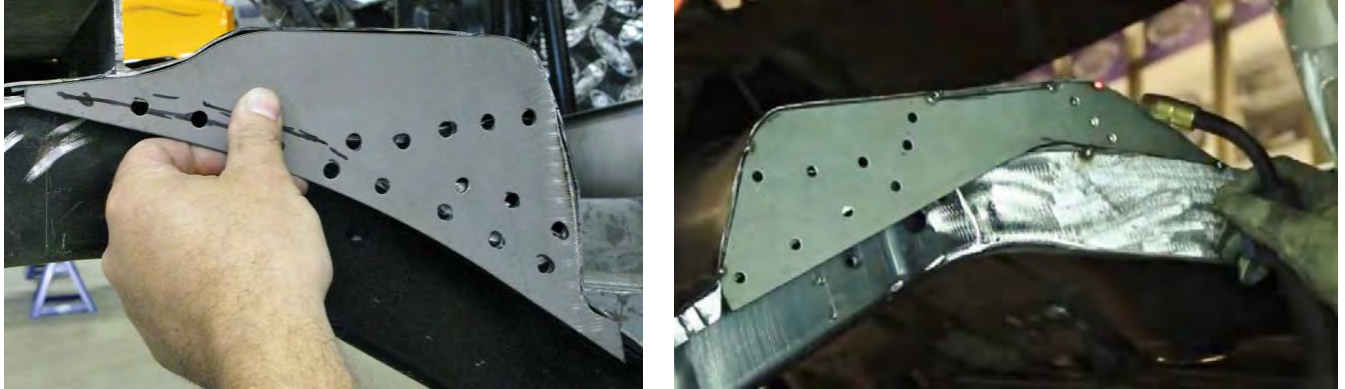


Figure 35 – Verify Plug Weld Hole Location

43. Tack weld the closeouts in place and then plug weld all the 5/16" holes. Finish weld and grind smooth for a clean finish (Figure 36).

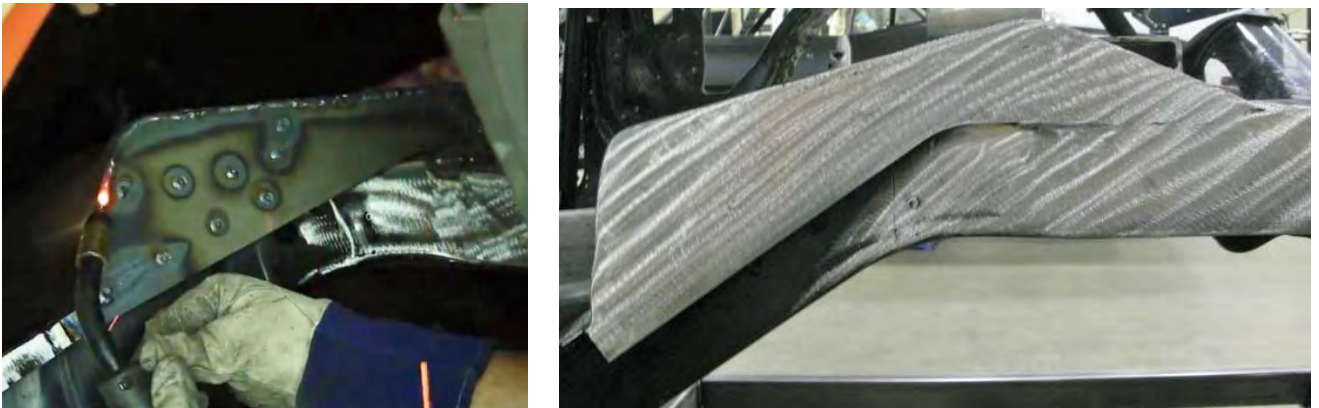


Figure 36 – Trunk Floor Closeout

**NOTE:** (1967 Camaro & Firebird Installers): The driver side DSE Mini-Tub will require a small closeout between the base of the DSE Mini-Tub and the top of the trunk pan rearward of axle centerline. This closeout is necessary for the driver side only on 1967 model cars. This is due to upper shock mounting differences between 1967 and 1968-1969 model cars.

44. Once the framerail and trunk floor are boxed in with the closeouts, position and clamp the DSE Mini-Tub in place. **NOTE:** Due to vehicle variation you may need to modify the shape of the front and back corner of the DSE Mini-Tub so it fits tight against the contour of the trunk floor pan and the framerail.

45. From the inside of the vehicle, draw a line around the top of the framerail and the floor pan so you can locate the plug welds on the DSE Mini-Tub (Figure 37 on the next page). Remove the DSE Mini-Tub so you can see your reference line for the framerail and trunk floor height.



**Figure 37 - Locate Trunk Floor Height**

46. With the DSE Mini-Tub removed, locate plug weld holds about 1/4" to 3/8" below your trunk floor height reference line. Mark plug weld locations about 2" apart around the bottom and the top flange of the DSE Mini-Tub (Figure 38).



**Figure 38 - Locate Plug Weld Holes**

47. Re-install the DSE Mini-Tub in the vehicle and clamp in position to weld in place. Plug weld the underside of the DSE Mini-Tub and around the top flange inside the trunk (Figure 39).



**Figure 39 - Weld DSE Mini-Tub**



48. Once the DSE Mini-Tub is welded in place at the front side of the wheel tub, fold over the outer wheel tub flange and continue welding it to the DSE Mini-Tub. Same procedure at the back of the wheel tub, fold over the rear outer wheel tub flange and finish plug welding it to the DSE Mini-Tub (Figure 40).



Figure 40 - Weld Outer Wheel Tub Flanges

49. Once you have welded up all the plug weld holes, grind all welds to a smooth finish (Figure 41). Repeat steps 10-45 for the DSE Mini-Tub on the opposite side of the vehicle. **NOTE:** We recommend that you only weld one DSE Mini-Tub in place if you will be installing the DSE Leaf Spring Kit or QUADRALink Upper Shock Crossmember. Fit the opposite side DSE Mini-Tub so it is ready to be welded in once you have installed the DSE Upper Shock Crossmember.

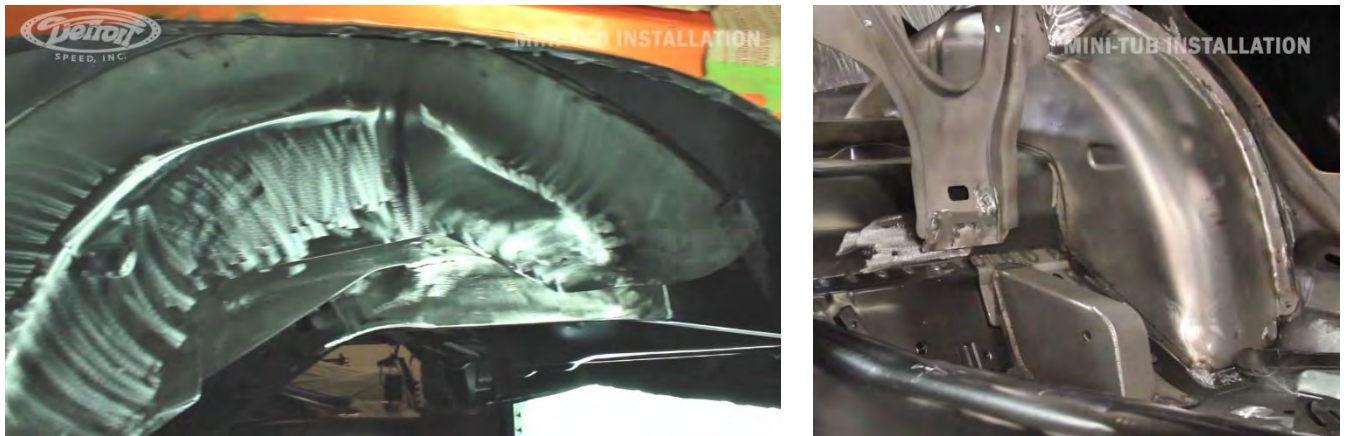


Figure 41 - Finished DSE Mini-Tub Installation

50. Once you have welded in the DSE Mini-Tub kit in both sides of the vehicle as well as the DSE Upper Shock Crossmember, the trunk hinge and package tray reinforcements can be welded back in place.

51. With the trunk hinge reinforcement in place on the DSE Mini-Tub you can see that the flanges are not in contact so they will need to be modified so we have a flush fit (Figure 42 on the next page).



**Figure 42 – Trunk Hinge Reinforcements**

52. With the flanges now fitting the top of the DSE Mini-Tub, trim the top of the flange so it is also flush to the trunk hinge bracket (Figure 43).



**Figure 43 – Trim the Trunk Hinge Reinforcement**

53. With the trunk hinge reinforcement modified, weld it in place and repeat steps 47 & 48 on the opposite side of the vehicle. With both reinforcements welded in, remove the braces that were installed from step 4 and grind the welds for a smooth, clean finish (Figure 44). With the decklid hinge reinforcements welded, re-install the decklid tension springs.





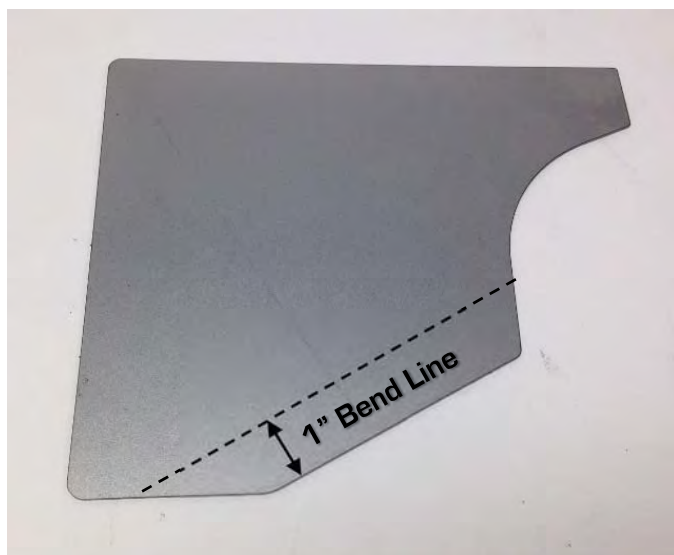
**Figure 44 - Weld in Trunk Hinge Reinforcements.**

54. To re-install the package tray reinforcements, locate the spot welds that were previously drilled and weld them in place (Figure 45). Repeat this step for the opposite side of the vehicle.



**Figure 45 - Weld in Package Tray Reinforcements**

55. Locate the rear seat bracket closeout that is provided in the kit between the package tray and the DSE Mini-Tub. At the bottom of the closeout, go up about 1" from the bottom and bend a flange out to fit the profile of the DSE Mini-Tub. Drill or punch 5/16" plug weld holes around the perimeter of the closeout (Figure 46).



**Figure 46 - Rear Seat Bracket Closeout**

56. Check for fitment before you weld the closeout in place. The closeouts are cut to fit so they may be oversized around the edges so they may need to be trimmed to fit the vehicle. Once the fitment is

correct, weld in place. Repeat this process for the other side of the vehicle. Once both closeouts are welded, grind for a smooth finish (Figure 47 on the next page).



**Figure 47 - Weld in Rear Seat Bracket Closeout**

57. The installation of the DSE Mini-Tubs are complete. We recommend that all seams receive seam sealer to prevent the possibility of water intrusion and all bare metal be primed and painted. (Figure 48). Enjoy your new DSE Mini-Tubs!



**Figure 48 - DSE Mini-Tubs Completed**