



Detroit Speed
Subframe Connectors
1968-1974 Nova
P/N: 010102DS

The Detroit Speed Subframe Connectors are designed to give maximum longitudinal and torsional stiffness by integrating the connector into front and rear frame rails and floor pan. This installation is virtually unnoticed when finished. Please follow the guidelines below.



Scan the QR code to guide you through the step-by-step installation video of the 1968-74 Nova Full Suspension installation.

The Subframe Connector installation is shown at the 46:08 minute mark of the 1968-74 Nova full suspension installation video.

Item	Component	Quantity
1	LH & RH Subframe Connector	2
2	Inner Connector Bracket (P/N: 99010000)	2
3	Outer Connector Bracket (P/N: 99010001)	2
4	Connector End Cap (P/N: 99010050)	2
5	Floor Pan Template (not shown)	1
6	Instructions	1

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

Installation:

1. The first step is to inspect and/or install new body mount bushings and then correctly align the subframe to the body. This can be done by carefully checking measurements for wheelbase and diagonal corner measurements. Follow steps 2 through 5 for this process.
2. It is important to properly support the vehicle under the rear axle and the front subframe to avoid tension in the body when installing the connectors.
3. Locate the lower control arm forward mounting locations and drop a plumb line to the ground and mark locations (Figure 1).
4. On the rear of the vehicle, locate the round flanged hole that is next to the rear leaf spring front mounts and mark a center line on the frame (Figure 2).



Figure 1 – Locate Front Mounting Hole

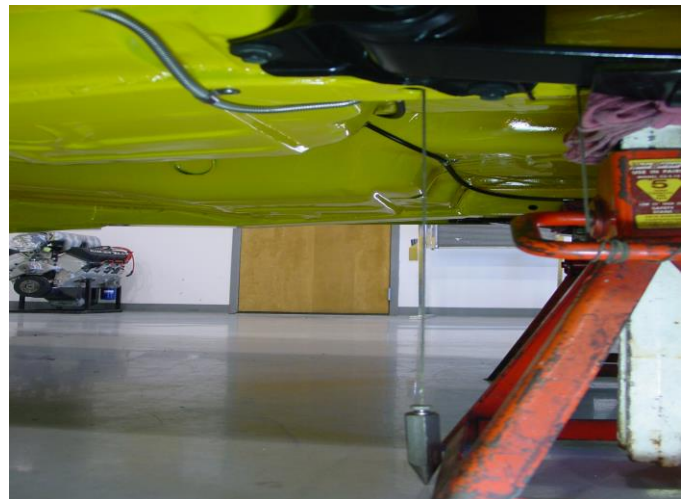


Figure 2 – Locate Rear Leaf Spring Mounts

5. Drop plumb lines to the ground and mark. You can now check square by measuring diagonally. Loosen the core support and body mount bolts and position the frame as needed. Sheet metal measurements should also be checked by inspecting body fits and alignment.
6. Remove fuel lines and brake lines to provide adequate clearance for placing the templates and cutting the floor pan.
7. The subframe connectors are not symmetrical; they are labeled driver side and passenger side for your convenience.

8. Templates are provided for the installer to mark the floor pan. (Figure 3) The templates should be cut from the provided sheet. The floor pan template should be placed on the underside of vehicle (using tape or small magnets) and mark the edges for your cuts. There are dimensions on the template to assist locating cut lines (do not use drain holes for locating template). The pinch weld flanges on the rocker are used as a reference. The template can be used on either side by flipping the template from side to side.

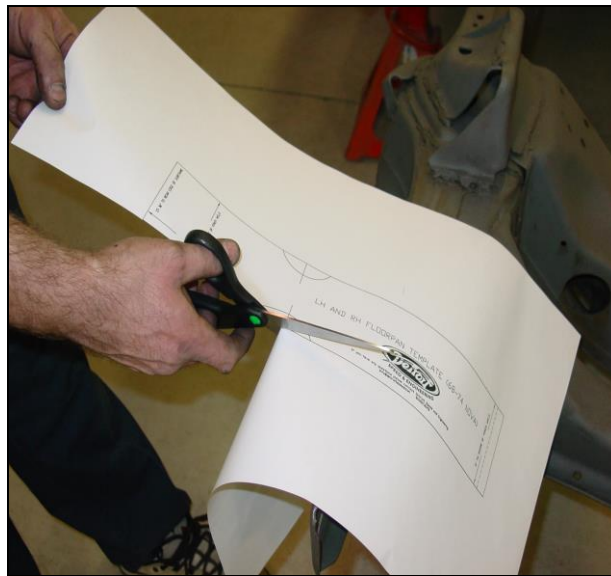


Figure 3 - Cut Out Template

9. From the back edge of the front subframe, measure back $15\text{-}1/8"$ and mark the bottom of the floor pan (Figure 4).



Figure 4 - Measure $15\text{-}1/8"$ From Subframe

10. Measure $5\text{-}1/8"$ inboard of the pinch weld near the front subframe and mark the location (Figure 5). Measure $5"$ inboard of the pinch weld at the back of the floor pan and mark the location (Figure 6).



Figure 5 - Measure $5\text{-}1/8"$ Inboard of Pinch Weld



Figure 6 - Measure $5"$ Inboard of Pinch Weld

11. Use the three marked locations to place the template to the bottom of the floor pan using masking tape. Trace the template to the bottom floor pan (Figure 7) and then remove the template. Once the cut lines are carefully marked, the sheet metal can be removed.



Figure 7 - Trace the Template

12. Start by cutting on the inside of your marks with a cutoff wheel (Figure 8). **NOTE:** You can always trim more away as you begin fitting the subframe connector in the vehicle. Further trimming of the floor pan toward the front of the vehicle may be required to properly fit the top of the subframe connector flush to the top of the frame. Grind the floor pan edges smooth (Figure 9).



Figure 8 - Cut Floor Pan



Figure 9 - Grind Smooth

13. Starting with the rear (slotted end) of the correct subframe connector (driver or passenger side), insert the open slotted end into the rear floor pan (Figure 10). The lower portion of the connector will butt against the front of the rear rail.



Figure 10 - Install Subframe Connector

14. Position the front of the connector as close as possible to the front subframe. Position the top of the connector with the top of the subframe and make sure the connector fits correctly to the floor pan (Figure 11).



Figure 11 - Locate Front of Connector

15. From the top of the subframe, measure back 1/2" and mark the subframe connector. Cut the connector to length. **NOTE:** The front of the connector may be longer than needed.
16. Tack weld the end cap (P/N: 99010050) to the open end of the front of the connector (Figure 12).



Figure 12 - Tack Weld End Cap in Place

17. Again, place the connector into position keeping the top of the connector even with the top of the subframe. Clamp the subframe brackets onto the front of the subframe connector (Figure 13). The brackets are laser cut to match the contour of the stock subframe. You may need to adjust the end of the stock subframe rail slightly due to subframe variation.
18. The inner (P/N: 99010000) and the outer connector brackets (P/N: 9900001) should butt against the inside and outside subframe rail for a good weld connection. **NOTE:** If you have an aftermarket frame other than the Detroit Speed Hydroformed Frame, you may have to modify the bracket end to match the contour of your frame.

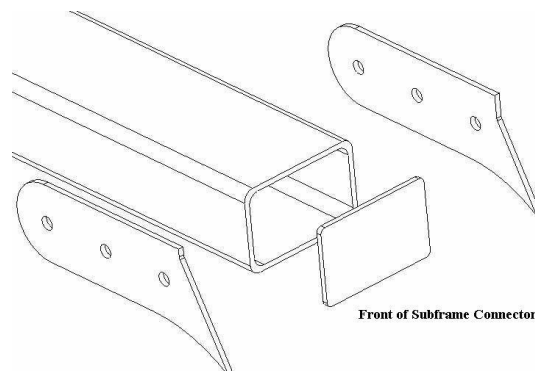


Figure 13 - Connector Brackets

19. The inside and outside brackets can be tack welded to the connector (Figure 14). (DO NOT WELD SOLID TO THE FRAME AT THIS TIME.)



Figure 14 – Tack Weld Brackets to Connector

20. Remove the connector from the vehicle. The holes in the brackets are designed to be puddle welded and edge welded. Fully TIG or MIG weld the end cap and 2 front subframe connector brackets to the subframe connector before welding it to the vehicle (Figure 15).



Figure 15 – Finish Weld Brackets to Connector

21. Once all the brackets are finish welded to the connector, place the connector back into position in the vehicle (Figure 16).



Figure 16 – Place Connector Back into Vehicle

22. With the connector in position, begin by only tack welding the connector to the rear rail and the front frame (Figure 17).



Figure 17 - Tack Weld Connector to Vehicle

23. Next, weld the floor pan to the connector. This should be done in short segments to avoid excessive heat build-up in the thin floor pan (Figure 18).



Figure 18 - Weld Floor Pan to Connector

24. Lastly, weld the front and rear of the connector solid to the vehicle (Figure 19).



Figure 19 - Fully Weld Connector to Vehicle

25.Repeat the same process for the other side of the vehicle. After all the welding is completed, grind your welds smooth for a clean finish (Figure 20).

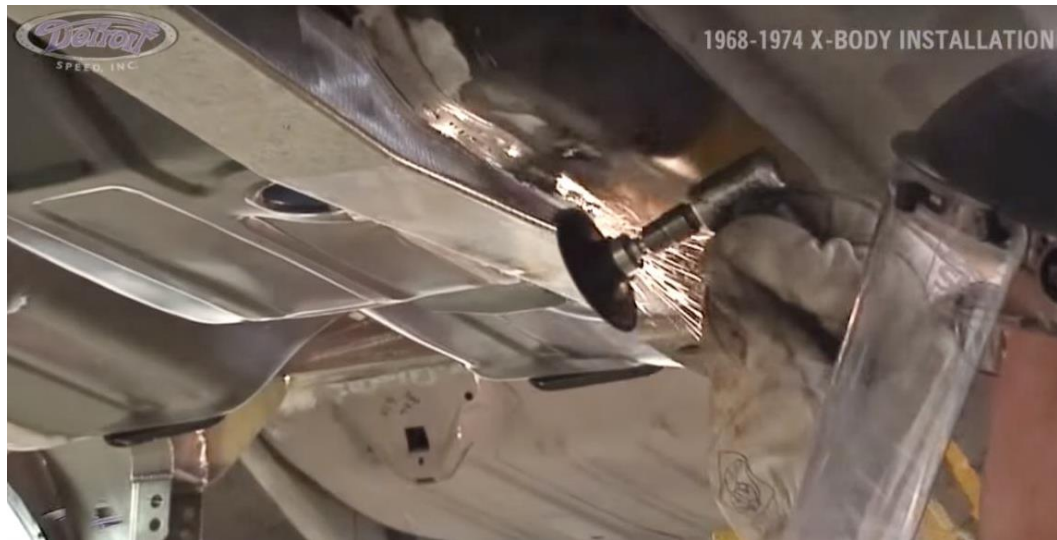


Figure 20 – Grind Welds Smooth

26.Protect and paint accordingly and you have finished the installation of your subframe connectors.

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 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.*