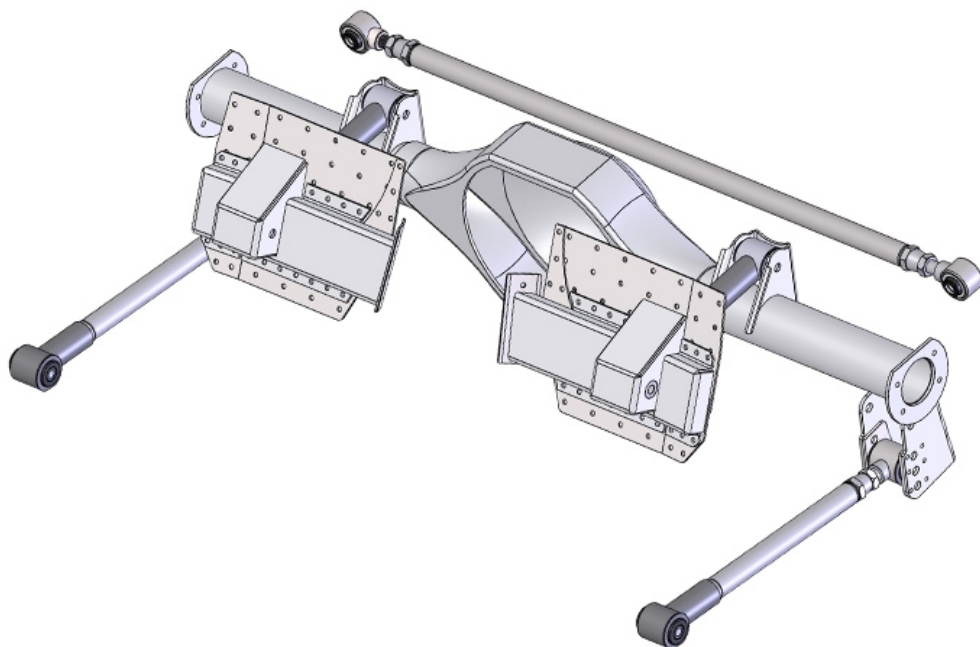


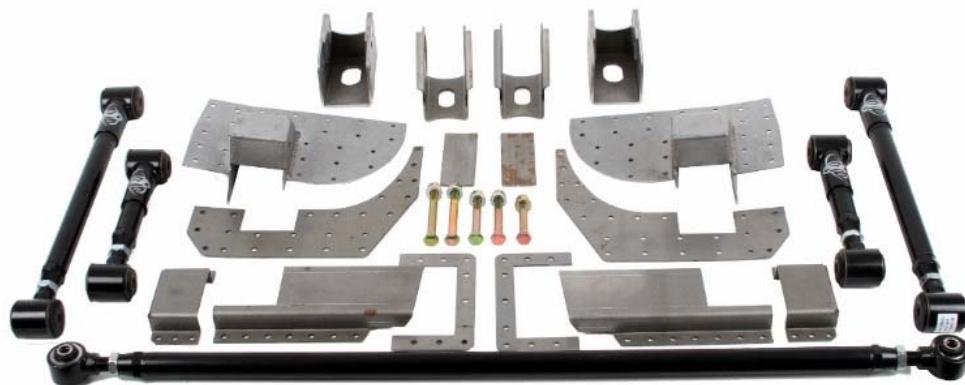


Detroit Speed, Inc.
Rear QUADRAlink Conversion Kit
1982-92 Camaro/Firebird
P/N: 041721

The Detroit Speed Inc. QUADRAlink Conversion Kit, eliminates the factory torque arm configuration. It features no-compromise suspension geometry and all links are independently adjustable. The kit adds upper link mounts to stock unibody structure and lower links are re-located on the axle using adjustable adapter brackets. The new DSE adjustable track bar features cross-axis pivot bushings. Upper and lower links features DSE "Swivel-Link" technology. Upper link axle brackets are included for stock rear housings or brackets for aftermarket housings with 3" axle tubes are also available. The kit will work with stock style coil springs and shocks, however it is optimized for the DSE Rear Coilover Kit or DSE Drop Springs.



NOTE: Ford 9" housing is not provided



| Item | Part Description | Quantity |
|------|--|----------|
| 1 | Upper Link Body Mount, LH and RH | 2 |
| 2 | Upper Link Body Mount Inner Brace, LH and RH | 2 |
| 3 | Upper Link Body Mount Lower Doubler, LH and RH | 2 |
| 4 | Upper Link Body Mount Close-out, LH and RH | 2 |
| 5 | Upper Link Body Mount Tunnel Doubler | 2 |
| 6 | Upper Link Body Mount Outer Brace | 2 |
| 7 | Upper Link Axle Bracket (2-5/8" Tube) | 2 |
| 8 | Lower Link Axle Bracket Assembly | 2 |
| 9 | Upper Link Complete Assembly | 2 |
| 10 | Lower Link Complete Assembly | 2 |
| 11 | Adjustable Track Bar | 1 |
| 12 | Track Bar Hardware | 1 |
| 13 | Rear Swivel-Link Hardware | 1 |
| 14 | QUADRALink Hardware | 1 |
| 15 | Axle Bracket Weld/Fab Spacers | 2 |
| 16 | Floor Cut Template | 1 |
| 17 | Instructions | 1 |

| Hardware Checklist – DSE Rear QUADRALink Conversion Kit | | | |
|---|--------------------------------------|----------|-------|
| Part Number | Description | Quantity | Check |
| 9304208 | Track Bar Hardware Bag | 1 | |
| 980083FS | M12-1.75 x 70mm Hex Head Bolt | 2 | |
| 960055FS | M12-1.75 Nylock Nut | 2 | |
| 970026FS | M12 Flat Washer | 4 | |
| 9304203 | Rear Swivel Link Hardware Bag | 1 | |
| 980049FS | M12-1.75 x 90mm Hex Head Bolt | 4 | |
| 960055FS | M12-1.75 Nylock Nut | 4 | |
| 970026FS | M12 Flat Washer | 8 | |
| 9304213 | QUADRALink Hardware Bag | 1 | |
| 980082FS | M12-1.75 x 100mm Hex Head Bolt | 4 | |
| 960055FS | M12-1.75 Nylock Nut | 4 | |
| 970026FS | M12 Flat Washer | 8 | |

| Fastener Torque Specifications | |
|------------------------------------|-----------------|
| Application | Torque (ft-lbs) |
| Swivel-Link and Track Bar Bolts | 75 |
| Swivel-Link and Track Bar Jam Nuts | 50 |

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

1. To begin installation, chock the front wheels and loosen the rear lug nuts. Raise and support the rear of the vehicle with jack stands under the frame. Make sure that the vehicle is level and well supported. Remove the rear wheels.

2. Disconnect the negative battery cable. Remove the rear suspension and axle. Remove the fuel tank and lines. Remove the seats, carpet and padding, rear interior quarter trim panels. Any other interior panels, headliner, door panels, etc., should be removed or masked well to protect them from grinding and welding sparks.
3. Cut out the provided floor cut template and position as shown below (Figure 1). The top flange of the template should be 8-5/8" from the edge of the trunk surface. The inboard cut line of the hole should be 6-1/2" when measuring straight over to the inner quarter/wheel tub brace. **NOTE:** The floor has already been cut out in Figure 1 to better define the template position. This template can be used for both sides of the vehicle by flipping the template over.



Figure 1 - Driver Side Shown

4. Mark the cut area from the template with a marker or scribe and remove the template. Remove this section of the floor pan with a cut off wheel. Once the hole is cut, the outermost cut line should be trimmed until the surface is flush with the frame rail (Figure 2). **NOTE:** The frame rail is on a slight angle so this side of the opening will not be square with the other 3 sides. Final trimming and alignment may be necessary due to variations in original vehicles.



Figure 2 - Trim to Match Frame Rail

5. Position the driver side upper link body mount in place with the top flange of the plate measuring 8-5/8" from the edge of the trunk floor as the hole template. **NOTE:** This measurement should be taken at **multiple** spots to make sure the plate is level in the structure of the car. It is important to have the upper link body mount square in the vehicle in order to keep the upper links as straight as possible.
6. The plate should also be pushed outboard against the frame rail (this sets the appropriate span). When viewing from the bottom, the flange that hangs through the floor will not contact the entire length of the frame rail due to the angle of the frame rail (Figure 3). Once the plate position is finalized and welded, this flange can be hammered or clamped over to the rail and welded in place.



Figure 3 - Contact Flange

7. With the plate properly located, drill and install a few Cleco fasteners or sheet metal screws to hold it in place (Figure 4). Transfer the open hole locations to the sheet metal. Remove the plate and grind the hole locations to remove any paint for a clean plug weld. Also grind around the perimeter around the plate for welding.

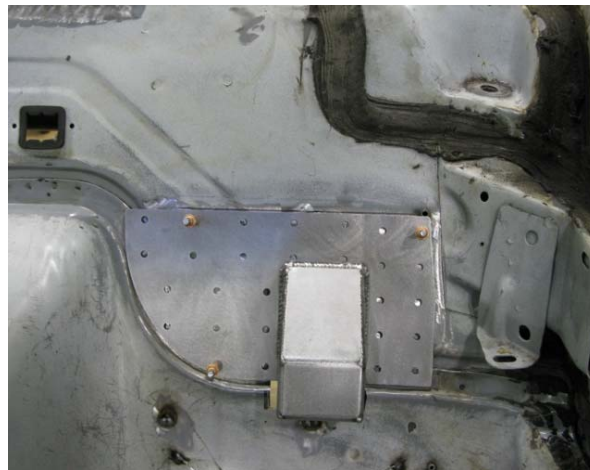


Figure 4 - Upper Link Body Mount Located

8. Install several sheet metal screws into the plate and remove any Cleco fasteners. Plug weld the remaining open holes as well as tack weld several places around the perimeter of the plate to the vehicle (Figure 5 on the next page). Remove all sheet metal screws and plug weld the remaining holes in the plate. **NOTE:** You may need to hammer the plate to fit tightly against the vehicle on some areas due to sheet metal variations in original vehicles (Figure 6 on the next page).



Figure 5 – Plug and Tack Weld in Place

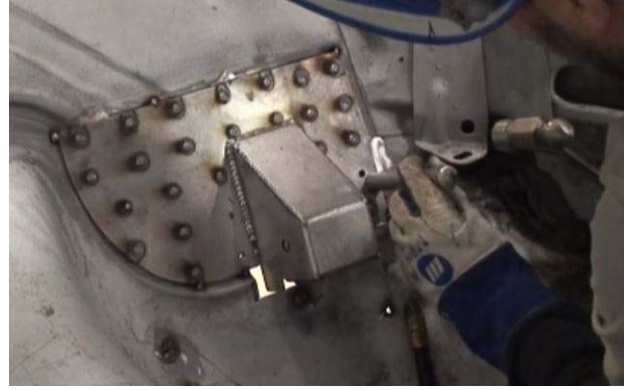


Figure 6 – Hammer Plate

9. Once the plate is plug welded, stitch weld around the perimeter of the plate (Figure 7). Position the lower doubler plate around the bottom side of the upper link body mount. With the plate located around the upper link mount, transfer several plug weld holes to the sheet metal of the vehicle. Remove the lower plate and grind the hole locations clean for plug welding.



Figure 7 – Stitch Weld the Plate

10. Re-position the lower plate back in the correct location and use it as a template to drill and install Cleco fastener or sheet metal screw to hold the plate to the vehicle. Drill a few more holes and install sheet metal screws. Plug weld several open holes to the vehicle and also tack weld the perimeter of the lower doubler plate to the vehicle. (Figure 8).



Figure 8 – Plug Weld Lower Doubler Plate

11. Remove all sheet metal screws and plug weld the remaining holes. Stitch weld around the perimeter of the lower doubler plate to the vehicle (Figure 9).



Figure 9 – Finish Weld Lower Doubler Plate

12. Fit the upper link body mount inner brace and the tunnel doubler plate to the vehicle. The inner brace should be located tightly against the upper link body mount allowing the tunnel doubler plate to slide between the tunnel and the inner brace (Figure 10). Due to vehicle variation you may have to grind the inboard side of the inner brace to fit against the tunnel area.



Figure 10 – Fit the Inner Brace and Tunnel Doubler

13. Grind the area around where the tunnel doubler will contact the tunnel. Spray the inside of the inner brace and the area on the upper link body mount where the inner brace will cover with primer so no rust can form between these 2 surfaces once finish welded.

14. With the inner brace and the tunnel doubler plate in the correct position, trace the perimeter of the tunnel doubler to the tunnel using a marker or a scribe. Remove the inner brace to finish marking the tunnel doubler to the tunnel and also mark the plug weld locations to the tunnel.
15. Line the tunnel doubler up on your mark and tack weld it in place to the tunnel. Reposition the inner brace to make sure the inboard side will line up against the tunnel doubler. Once the location has been correctly verified, remove the inner brace and stitch weld the tunnel doubler to the tunnel (Figure 11).



Figure 11 - Stitch Weld Tunnel Doubler

16. Position the inner brace against the upper link body mount. Using the plug weld holes in the inner brace, drill 2 holes and install sheet metal screws to hold it in place. Tack weld the inner brace to the vehicle. Remove the sheet metal screws and plug weld all holes. Stitch weld around the perimeter of the inner brace to the vehicle (Figure 12).



Figure 12 - Inner Brace

17. Spray the inside of the outer brace along with the area of the upper link body mount that will be covered by the outer brace with primer. Position the outer brace tightly against the upper link mount and line the plug weld tabs so they line up with the inner brace. Tack weld the outer brace to the vehicle (Figure 13 on the next page).

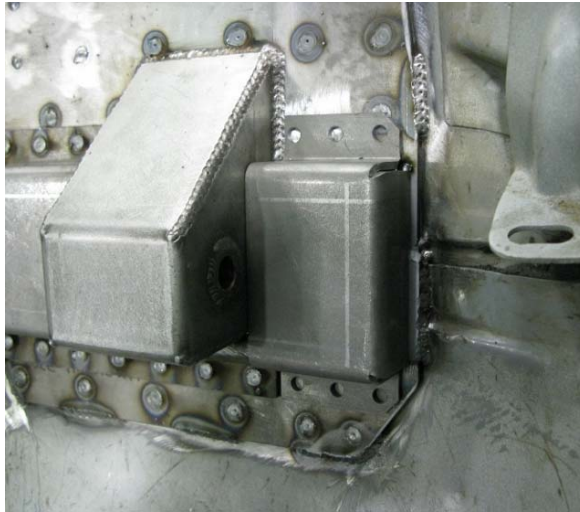


Figure 13 - Outer Brace

18. Plug weld all outer brace holes to the vehicle and stitch weld around the outside perimeter. Grind all welds smooth (Figure 14).



Figure 14 - LH Upper Link Body Mount

19. Move to the backside of the upper link body mount to weld the flange against the frame rail. Use a clamp to close the gap between the frame rail and the flange (Figure 15). Tack weld the flange to the frame rail and remove the clamp.



Figure 15 - Clamp Flange

20. Grind the floor pan around the upper link pocket for the upper link body mount close-out. Place the close-out around the inboard side of the upper link mount and tack weld in place using 2 of the plug weld holes (Figure 16).



Figure 16 - Plug Weld Close-Out

21. Plug weld all holes in the close-out to the vehicle. Stitch weld the flange to the frame rail. Then weld the break at the flange of the upper link body mount to the rest of the bracket (Figure 17). Grind all weld marks for a clean finish.



Figure 17 - Finish Weld Flange & Close-Out

22. Repeat steps 3 through 20 for the passenger side of the vehicle.

23. To install the axle brackets, first set the rear axle on jack stands. Using a smart level on the yoke, have the pinion angle set at -4° (pointing towards the ground). Once the pinion angle is set, using a jack stand, shim the yoke in place so it cannot rotate.

24. Position the upper link axle brackets on the axle tubes. (Figure 22). **NOTE:** Detroit Speed offers a pinion centering tool (P/N 070202) that will be helpful in placing your axle brackets in the correct location on your axle tube. Mark the area where the upper link brackets will be welded and grind off any surface rust for a clean weld.

25. With the rear axle in position and the pinion angle still set to -4° , use a square or smart level and rotate the upper link axle bracket so that the back side is perpendicular to the ground (Figure 18).



Figure 18 - Level the Upper Link Axle Bracket

26. It is important that the correct width for the Swivel-Link bushings is maintained on the axle brackets when they are welded; therefore, the axle bracket fab spacers provided with the kit should be installed in the brackets during welding. Tack weld the brackets in place, and then verify that they are all positioned correctly. Weld the brackets securely in place.

27. Using the factory hardware from the lower trailing arm, install the lower link axle bracket on the backside of the rear trailing arm axle bracket using the factory mounting hole. **NOTE:** Use the axle bracket fab spacers provided with the kit as they should be installed in the brackets during welding (Figure 19). If the factory mounting hole does not line up with the lower link bracket, you may need to clearance the lower link bracket to line up the bolt holes.

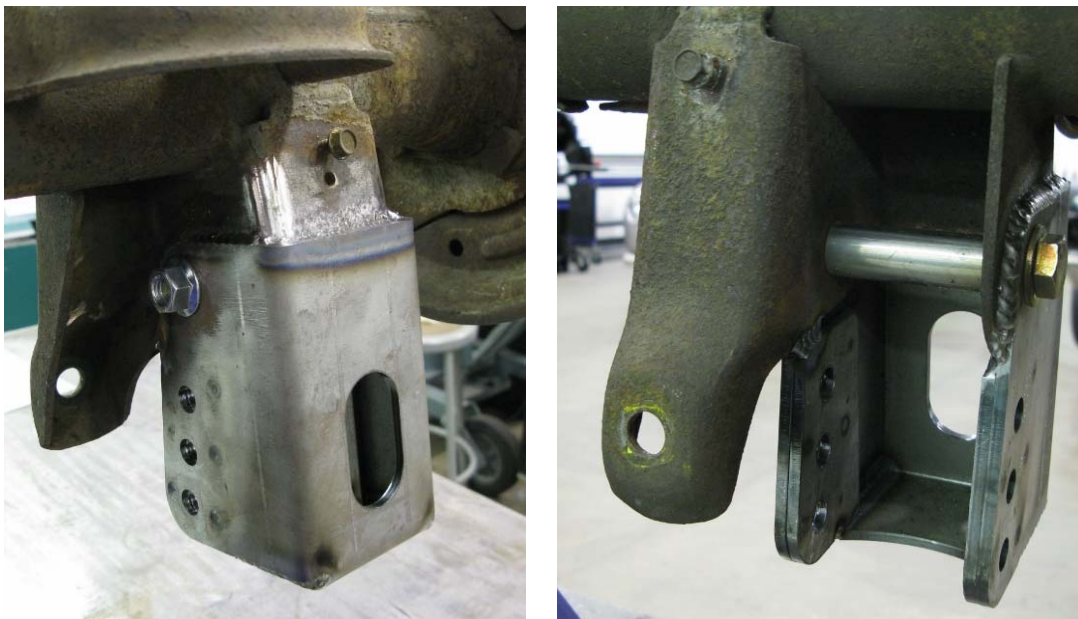


Figure 19 - Lower Link Axle Bracket

28. Using a square or smart level, rotate the lower link bracket so that the 3 mounting hole options are in line and perpendicular to the ground. Tack weld the brackets in place, and then verify that they are all positioned correctly. Weld the brackets securely in place.
29. You may need to grind the weld on the inside of the lower link bracket to make sure that the Swivel-Link bushing can move freely in the bracket (Figure 20). **NOTE:** You can also leave the axle bracket fab spacers along with the stock hardware in the stock trailing arm hole if you choose.

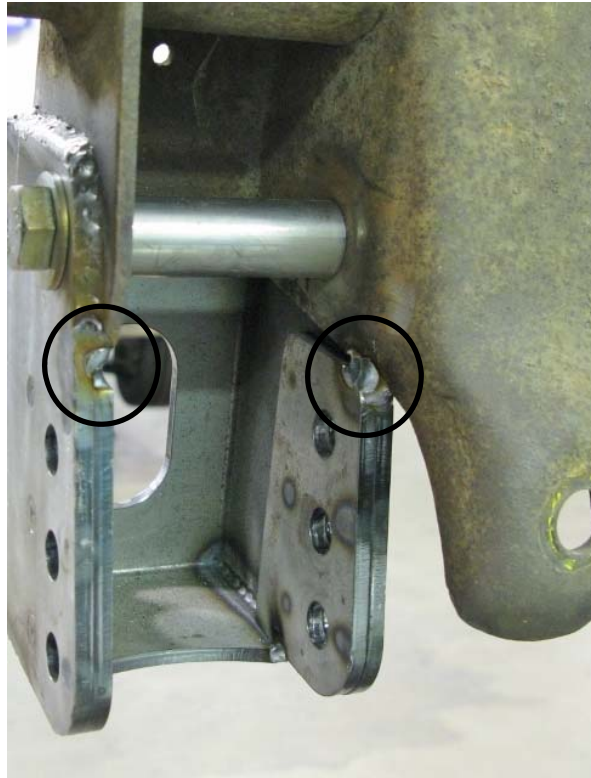


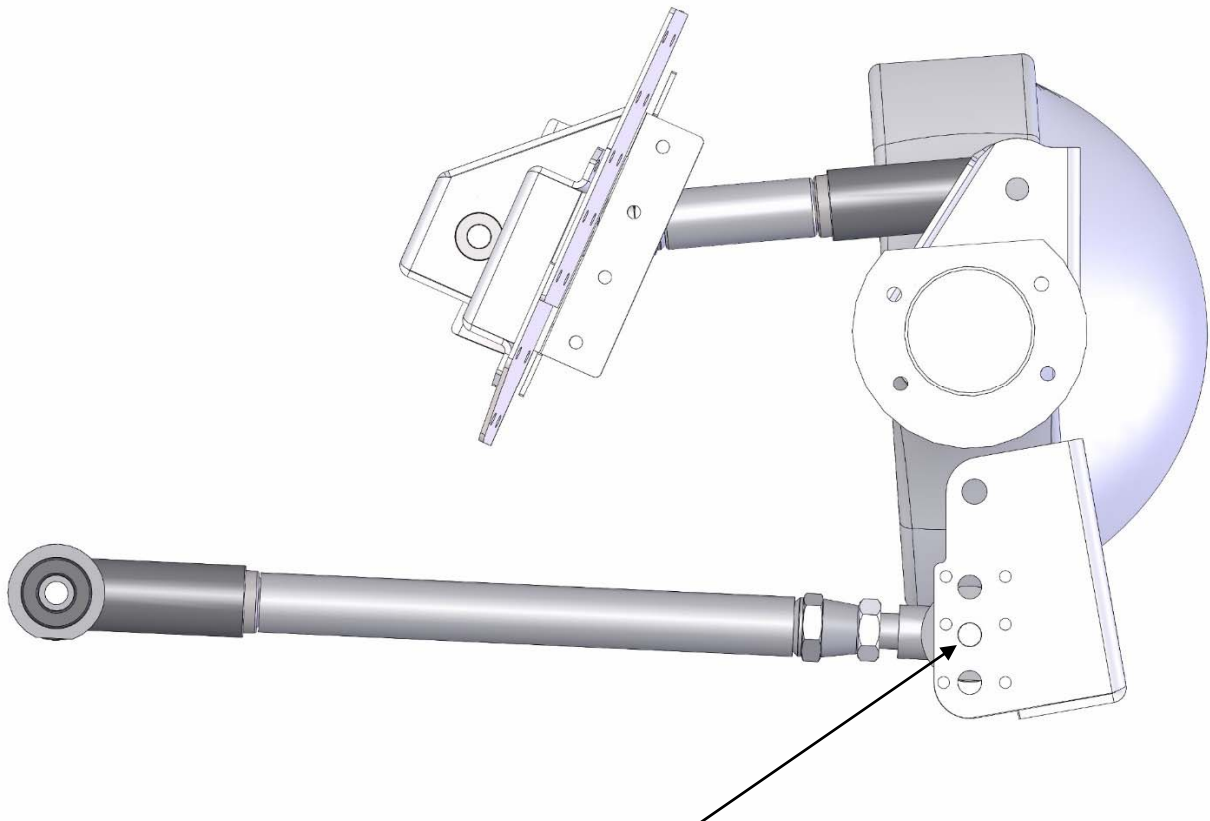
Figure 20 - Grind Weld

30. Once all of the axle brackets are fully welded in place, check the axle for straightness. At this point the fabrication work is complete. Mocking up the vehicle before painting all of the components is recommended. Mock up includes installing all of the suspension components.
31. Install the upper link assembly into the upper link mount body mount using the provided M12-1.75 x 100mm Hex Head Bolts, Nylock Nuts and Washers. **NOTE:** For mock up, the Swivel-Link hardware does not need to be tightened yet. All Swivel-Link bolts can be installed from the outboard side so the Nylock nuts are towards the inside of the vehicle. Install the lower link assembly into the vehicle at the factory trailing arm mount using the provided M12-1.75 x 90mm Hex Head Bolts, Nylock Nuts and Washers.
32. Position the rear axle in place under the car and install the links to the rear axle. The upper link assembly will be attached to the upper link axle bracket using the provided M12-1.75 x 90mm Hex Head Bolts, Nylock Nuts and Washers. The lower link assembly will be attached to the lower link axle bracket using the provided M12-1.75 x 100mm Hex Head Bolts, Nylock Nuts and Washers. See the side view geometry diagram for information on link mounting positions (Figure 21).

33. Install the DSE Adjustable Track Bar Kit according to the instructions provided in the box. **NOTE:** Since this is also for mock-up, the hardware does not need to be tightened yet.
34. Install the rest of the rear suspension. Install the wheels/tires, and rest the vehicle on all four tires. Double check that the rear axle is positioned correctly in the vehicle. It should be centered from side to side, and the wheelbase should be correct on both sides of the vehicle (101.0" for a 1982-92 Camaro/Firebird). The pinion angle should be measured and adjusted to your preference. 4° down is recommended. Raise and lower the vehicle to verify that there is no interference.
35. Remove all suspension components and paint or coat the QUADRAlink components as desired. Now is a good time to install the exhaust system.
36. For final assembly, install the fuel tank and lines. **NOTE:** The fuel lines will need to be bent or modified slightly to clear the upper link.
37. Install the rear axle and rear suspension. Position the axle in the vehicle by adjusting the end links. **NOTE: There can be no more than 2" of exposed threads on the end link (3/4" of thread engagement in the tube). This measurement does include the jam nut (see page 15).** It should be centered from side to side, the wheelbase must be correct on both sides of the vehicle, and the pinion should be adjusted to the desired angle. Once the axle is in the proper position, torque the end link jam nuts to 50 ft-lbs. Do not torque the Swivel-Link hardware at this time.
38. Reinstall the rear wheels and torque to the manufacturer's recommended torque specs. Lower the vehicle so it is resting on all four tires.
39. Settle the suspension by bouncing the vehicle several times. With the vehicle at ride height, torque the Swivel-Link and track bar bolts to 75 ft-lbs. Confirm the rear axle position again. Double check that all of the bolts and jam nuts are tightened to their respective torque specifications.
40. Install the rear interior quarter trim panels along with any other interior panels, headliner, door panels, etc. that were removed. If you plan to re-install the carpet and rear seats, they will need to be modified because of the upper link body mount.
41. You will need a rectangular cutout in the carpet and padding to allow the upper link body mount to pass through and re-install the carpet. **NOTE:** The floor cut template that you used earlier may help in locating the cutout for the carpet and padding. For the rear seat back modification, remove the foam insert from the fabric and mark where the upper link body mount will contact the back of the foam insert. Remove enough foam from the insert so it will sit back in the original position.
42. Re-install the carpet and the rear seats. The installation is now complete.

If you have any questions before or during the installation of this product please contact Detroit Speed Inc. at info@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.*



Nominal Position Shown

Instant Center: 48.5" Forward of Rear Axle Centerline
8.6" Above Ground Level

* *See chart below for adjustment info* *

Lower Link Adjustment Settings

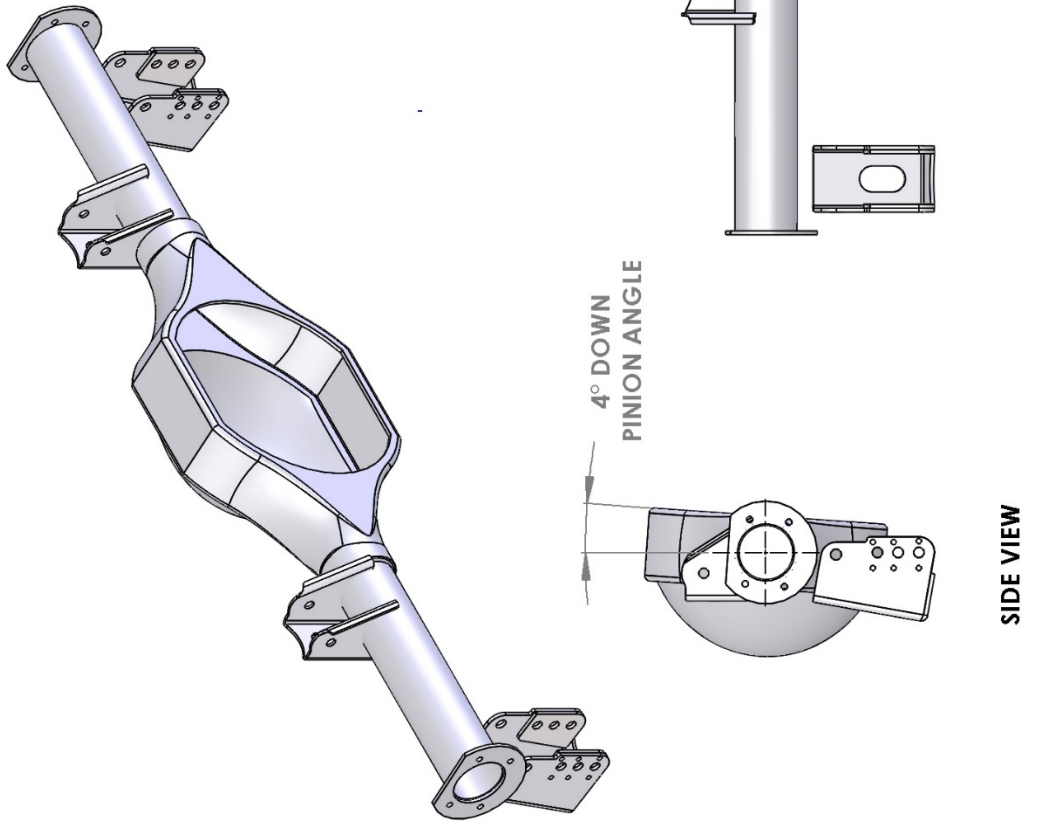
| Axle Bracket Position | Instant Center | Notes |
|------------------------------|-----------------------|---------------------|
| Top Hole | 101.4" / 6.5" | |
| Middle Hole | 48.5" / 8.6" | DSE Nominal Setting |
| Bottom Hole | 55.4" / 10.5" | |

Instant center numbers are expressed as distance forward of rear axle centerline, then height above ground level.

Figure 21 - Link Mounting Positions



**1982 - 1992 CAMARO/FIREBIRD QUADRA-LINK
AXLE BRACKET LOCATIONS**



***NOTE THAT THE CENTERLINE OF THE AXLE IS NOT LOCATED AT THE CENTER OF THE PINION, AND DEPENDING ON AXLE TYPE, MAY NOT BE LOCATED AT THE CENTER OF THE CARRIER HOUSING. THE PINION IS OFFSET TO THE PASSENGER SIDE OF THE VEHICLE. DSE USES 1/2" OFFSET**

Figure 22 - Axle Bracket Location

Once again, we appreciate your business.

If you have any questions during the installation of this product, call (704) 662-3272.



Detroit Speed, Inc.
Swivel-Links

WARNING:

There can be no more than 2" of exposed threads on the end link (3/4" of thread engagement in the tube). This measurement does include the jam nut (see below).

