

Detroit Speed QUADRALink Rear Suspension

1970-1981 Camaro/Firebird

P/N: 041711DS, 041711-SADS, 041711-DDS, 041711-RDS, 041712DS, 041712-SADS, 041712-DDS,
041712-RDS, 041714DS, 041714-SDS, 041714-DDS, 041714-RDS, 041715DS, 041715-SDS,
041715-DDS & 041715-RDS

INTRODUCTION

Congratulations on your purchase of a QUADRALink rear suspension from Detroit Speed. This is a great way to upgrade from an original leaf spring rear suspension. DSE's exclusive 4-link geometry design is uncompromised and designed to achieve the best possible handling during all conditions. The DSE Swivel-Link™ technology (U.S. Patent No: 7,398,984) in combination with tuned high-durometer rubber bushings allows the suspension to fully articulate with smooth silent motion. The binding, noise, and poor wear associated with Heim joints are no longer an issue. The jam nuts on a typical adjustable bushed link tend to loosen due to suspension bind when going over uneven surfaces (like pulling into a driveway). The Swivel-Links on the QUADRALink suspension permit the links to pivot, thus eliminating bind and unwanted torsional loading of the jam nuts. The long suspension links provide excellent pinion and u-joint angle control. This system utilizes a long, horizontal track bar that provides precise and effective rear axle lateral location during hard cornering. The track bar is adjustable for roll center control at various ride heights.

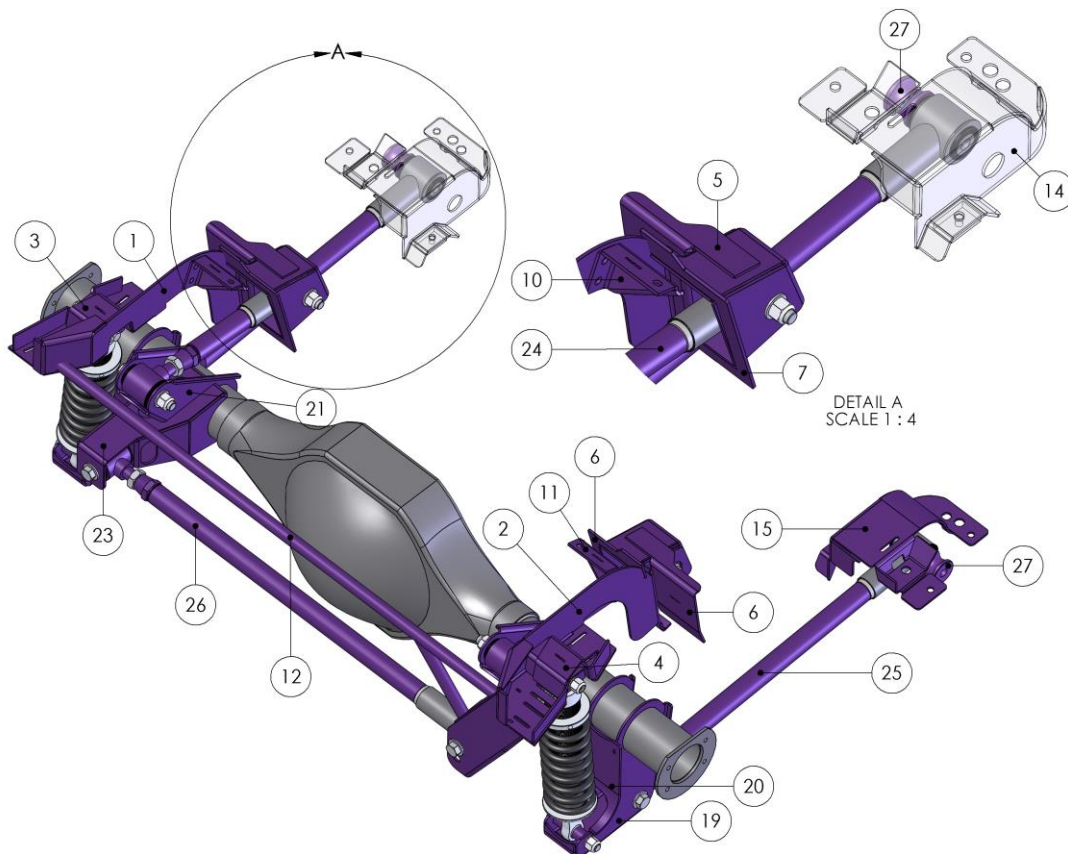


Figure 1

Item	Component	Quantity
1	Framerail Doubler - Left	1
2	Framerail Doubler - Right	1
3	Framerail Close-out - Left	1
4	Framerail Close-out - Right	1
5	Interior Floor Pan Doubler - Left	1
6	Interior Floor Pan Doubler - Right	1
7	Exterior Floor Pan Doubler - Left	1
8	Exterior Floor Pan Doubler - Right	1
9	Outboard Framerail Doubler Close-out	1
10	Triangulation Bracket - Left	1
11	Triangulation Bracket - Right	1
12	Transverse Tube Assembly	1
13	Transverse Tube Bracket	2
14	Spring Pocket Bracket Assembly - Left	1
15	Spring Pocket Bracket Assembly - Right	1
16	Framerail Fill Panel - Left	1
17	Framerail Fill Panel - Right	1
18	Track Bar Body Mount Close-out	1
19	Lower Link/Coil-over Mount Axle Bracket	2
20	Lower Link/Coil-over Mount Axle Bracket Reinforcement	2
21	Upper Link Axle Mount Bracket	2
22	Upper Link Axle Mount Bracket Reinforcement	1
23	Track Bar Axle Mount Bracket	1
24	Upper Link-Adjustable with Swivel-Link	2
25	Lower Link-Adjustable with Swivel-Link	2
26	Track Bar-Adjustable with Swivel-Link	1
27	Lower Link Front Spacer	2
28	9/16"-18 x 3.75" Grade 8 Hex Head Bolt & Nylock Nut Assembly with 2 SAE Washers	8
29	9/16"-18 x 5.0" Grade 8 Hex Head Bolt & Nylock Nut Assembly with 2 SAE Washers	2
30	1/2"-20 x 3.5" Grade 8 Hex Head Bolt & Nylock Nut Assembly with 2 AN Washers	2
31	Upper Shock Mount Spacer	2
32	J-Clip	4
33	Spacer, 2.42" Long - For Fabrication Use Only	2
34	Interior Leaf Spring Pocket Template	1
35	Exterior Leaf Spring Pocket Template	1
36	Framerail Close-out Template	1
37	Framerail Cut-out Template, LH	1
38	Framerail Cut-out Template, RH	1
39	Upper Link Pocket Cut-out Template	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 shown here:

<https://www.detroitsspeed.com/1970-81-camaro-install-videos>.

It is listed as the 1970-1981 Mini-Tub Installation.

INSTALLATION INSTRUCTIONS

I. PREPARE THE VEHICLE

1. Raise the vehicle a few feet off the ground so the interior, trunk and underside may be accessed. Ensure that the vehicle is level and well supported.
2. Disconnect the negative battery cable.
3. Remove the rear suspension and axle. **NOTE:** The OEM factory leaf spring perches must be saved as they will be modified and installed during final assembly. See Figure 2.



Figure 2 – OEM Leaf Spring Perches

4. Remove the fuel tank and lines.
5. Remove the seats, carpet and padding, rear interior quarter trim panels, and package tray. Any other interior panels, headliner, door panels, etc., should be removed or masked well to protect them from grinding and welding sparks.

II. MODIFY LEAF SPRING POCKET MOUNT AND FRAMERAIL

1. Cut out the provided templates labeled: Exterior Leaf Spring Pocket Mount Template A, Exterior Leaf Spring Pocket Mount Template B, Outboard Side Framerrail Template, Inboard Side Framerrail Template, and Interior Leaf Spring Pocket Mount Template.
2. Position the Exterior Leaf Spring Pocket Templates A & B on the underside of the floor pan, as shown in **Figure 3** & **Figure 4**. Mark the cut lines from the template onto the floor pan. Use the bolt holes in the framerrail to help locate the templates.



Figure 3 - Leaf Spring Pocket Template – A



Figure 4 - Leaf Spring Pocket Template – B

3. Position the Inboard and Outboard Framerrail Close-out Templates, as shown in **Figure 5 & 6**, using the bolt holes in the framerrail to locate the templates. The templates have letters that will help locate adjoining templates. Use tape to secure the templates to the framerrail.



Figure 5 - Inboard Framerrail Template



Figure 6 - Outboard Framerrail Template

4. Mark the lines along the template for the cut lines on the framerrail. The cut lines will be used to clearance the frame rail for the QUADRALink.
5. Center punch the new hole for the relocated leaf spring pocket locating tab as shown in the Exterior Leaf Spring Pocket Template A.
6. Cut the previously marked lines using a cutoff wheel (Figure 7). **NOTE:** The floor pan area above the framerrail will need to be modified to allow the frame rail closeout to properly sit up into the framerrail. The bottom profile of the closeout panel will sit flush with the bottom profile of the framerrail (Figure 8).



Figure 7 - Cut Framerrail



Figure 8 - Modify Floor Pan

7. Position the Interior Spring Pocket Mount Template. The rearward most edge of the template will line up with the hole cut from the previous step. Mark the curved line of the template on the floor. Using tape, extend the inward line of the template to form a triangular shape on the floor. Figure 9 on the next page shows the installed template and tape line.

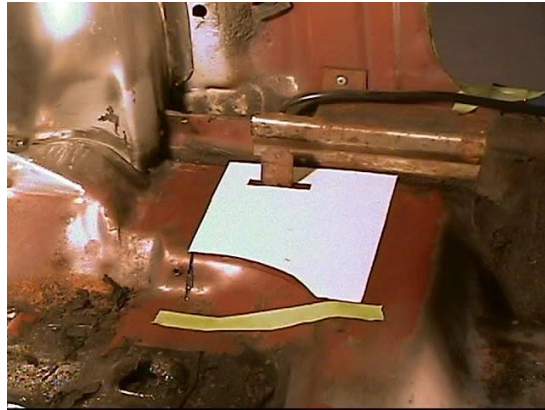


Figure 9 - Interior Spring Pocket Mount Template

8. Cut the previously marked lines using a cutoff wheel.
9. Drill the new hole for the leaf spring pocket locating tab. Insert the provided J-clips into the new leaf spring pad mount.
10. Temporarily install the new leaf spring pocket mount, as shown in Figure 10 and secure it with the two original leaf spring pocket bolts.

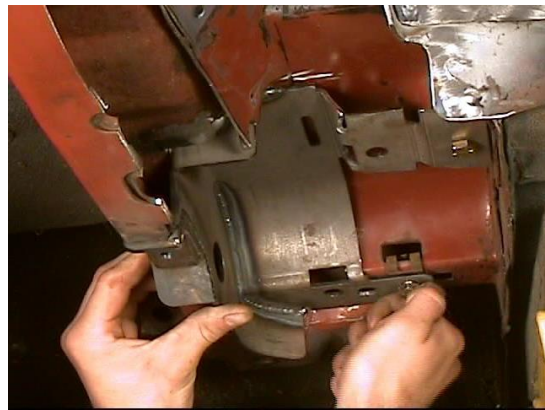


Figure 10 - Leaf Spring Pocket Mount

11. Position the framerail fill panel in place and mark the lines for the excess material to be removed.
12. Remove the framerail fill panel, and trim off the excess material.
13. Reinstall the framerail fill panel, and spot weld it in place. After any final fitment is performed, fully weld the panel in place as shown in Figure 11. You can then modify the floor pan from the inside of the vehicle, so it meets up against the fill panel.



Figure 11 - Framerrail Fill Panel

14. Reinstall and weld the new leaf spring pocket mount in place.

III. CUT THE FRAMERAIL

1. To begin, measure forward from the front edge of the rear leaf spring frame rail bushing sleeve on the inside of the framerail. Staying parallel with the vehicle, measure forward to the outside edge of the frame rail. Scribe a line at 23-5/8" on the bottom outside edge of the frame rail. This needs to be done on both the driver and passenger side. See Figure 12. **NOTE:** Do not measure from the bolt hole crush tube in the rear leaf spring bushing. When measuring forward from the inside edge, the straightedge will cross from the inside of the framerail to the outside of the frame rail. See Figure 13.



Figure 12 - Measuring points



Figure 13 - Locating the Scribe Line

2. Using a straight edge to align scribe marks on each framerail, scribe a line across the width of each framerail.
3. Use the Frame rail Cut-out Templates and scribe the cut-out lines onto the frame rails. **NOTE:** There is a left-hand and right-hand specific template. The early 2nd Gen F-Body templates should be for 1970-74 applications, and the late 2nd Gen F-Body templates should be for the 1975-81 applications.
4. Cut out the framerail per the line scribed in Step 3, refer to Figure 14 on the next page.

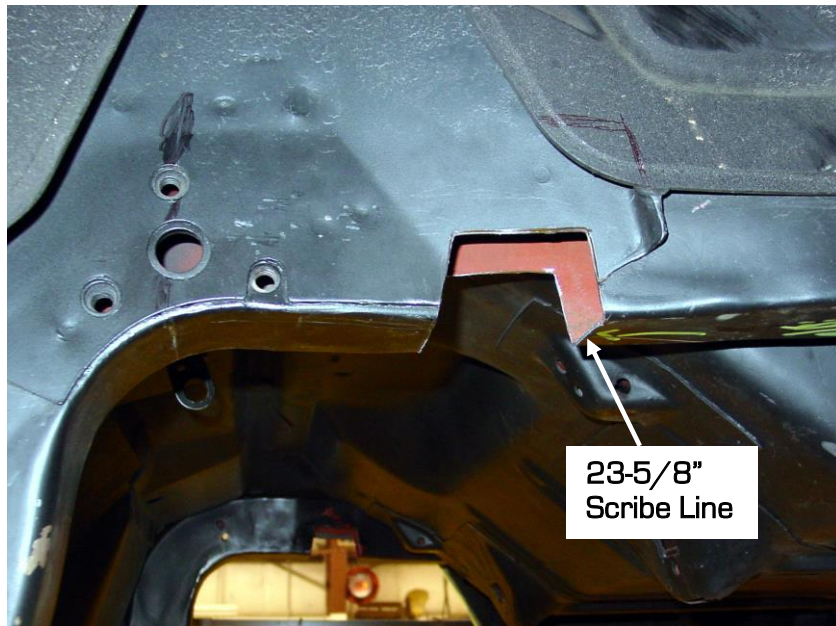


Figure 14 - Framerrail Cut-out

IV. CUT THE FLOOR PAN

1. Locate the Upper Link Pocket Cut-out Template.

- i. Using a straight edge positioned forward along the bottom of the frame rail, scribe a line onto the seat back area of the floor pan that indicates the bottom of the frame rail. See Figure 15 & 16.

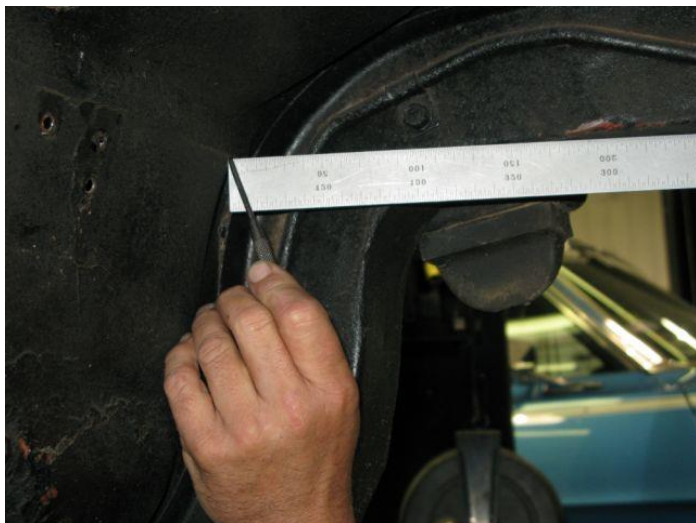


Figure 15 - Locating the Template



Figure 16 - Scribe Line for Template

- ii. At the point of the scribe line, measure the width of the frame rails and scribe a line at the center. **NOTE:** The frame rails may be tapered. Therefore, measure the frame rail width at the closest point toward the floor pan.
- iii. From the center scribe, measure $13 \frac{7}{16}$ " (for frame rail width of $34 \frac{1}{4}$ ") or $13 \frac{3}{16}$ " (for frame rail width of $33 \frac{3}{4}$ ") outboard and make a vertical scribe line. **NOTE:** The scribed line should be made using a straightedge and at 90° .
- iv. Position the template such that Line A lies on the line scribed in Step i and Line B lays on the line scribed in Step iii. See Figure 17 & 18 on the next page. **NOTE:** The same template will be used for both the left-hand and right-hand sides.



Figure 17 – Template Position

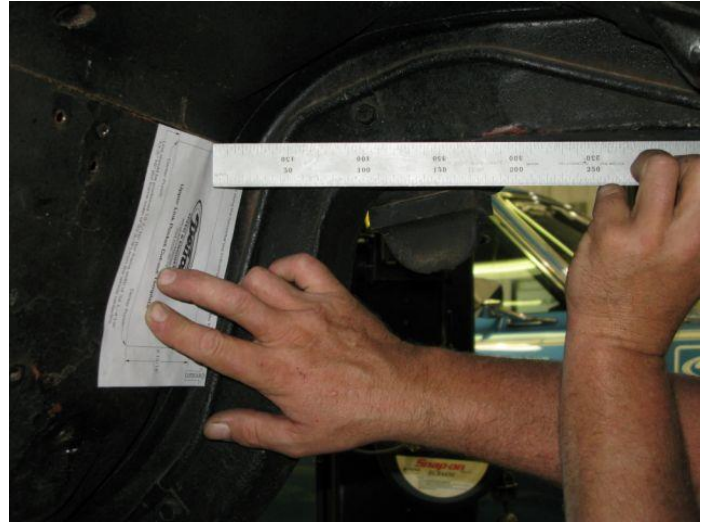


Figure 18 – Template Overview

2. Center punch the floor pan at the points designated on the template.
3. Scribe a vertical line between each center punch.
4. Scribe horizontal lines a distance of $2 \frac{13}{16}$ " outboard from each center punch.
5. Connect the end points from Step 4 by scribing a vertical line.
6. Cut the floor pan along the scribed rectangle.
7. Repeat Step 1-6 for both sides of the vehicle.

V. REMOVE THE FACTORY EXHAUST HANGER BRACKETS

1. Drill out the factory spot welds holding the bracket to the trunk pan.
2. Remove the factory exhaust hanger brackets from each side of the trunk pan.

VI. REMOVE THE FACTORY GUSSETS

1. On later year vehicles, a gusset was implemented to triangulate the framerail to the floor pan. This bracket will be replaced in Step XVIII. (Left-hand: PN 99040105, Right-hand: PN 99040106)
2. Drill out the four existing spot welds.
3. Remove the factory frame rail gussets from each side of the floor pan.

VII. FIT THE FRAMERAIL CLOSE-OUTS

1. Fit the Frame Rail Close-outs (Left-hand: PN 99040111, Right-hand: PN 99040112) to the frame rail.
NOTE: The Frame rail Close-outs are oversized to allow for fitment to your individual framerail. See Figure 19 on the next page.

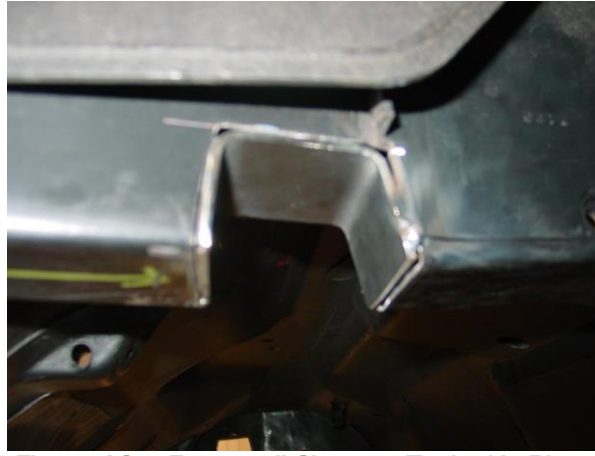


Figure 19 - Framerrail Closeout Tacked in Place

2. Tack weld the Framerrail Close-outs to the framerrail

VIII. FIT THE FRAMERAIL DOUBLER ASSEMBLIES

1. Position the Frame Rail Doubler assembly into place and clamp it so that the upper link pocket is vertically level, refer to Figure 20. **NOTE:** Due to the frame rails' manufacturing inconsistencies, the part will sit on the frame rail differently based on where you clamp it.



Figure 20 - Level the Upper Link Pocket

2. When installing the right-hand side Frame Rail Doubler, clamp it into place so that the track bar body mount is square to the body, refer to Figure 21.



Figure 21 - Level the Track Bar Body Mount

3. Trim the original shock mount reinforcement bracket on the outboard side of the frame rail to clear the Frame Rail Doubler. **NOTE:** On 1970-74 vehicles, the left-hand side must be trimmed; however, on 1975-81 vehicles, the right-hand side must be trimmed.
4. The tabs on the outboard side of the Frame Rail Doubler are left un-welded. This is to allow fitment to various years and build tolerances. Therefore, you should bend the tabs to best follow your frame rail.
5. The bottom surface flange of the Frame Rail Doubler is oversized. Trim to fit by scribing a line on the top surface of the flange indicating the amount to trim, refer to Figure 22.



Figure 22 - Trim the Oversized Material

6. On the later year vehicles, it may be necessary to bend the forward-most bottom surface of the frame rail doubler to better follow the sweep of the frame rail. The doubler has a slot along the bend radius to allow it to be bent.

IX. FIT THE EXTERIOR FLOOR PAN DOUBLER

1. The Exterior Floor Pan Doubler (Left-hand: PN 99040107, Right-hand: PN 99040108) is designed as a reinforcement for the upper link pocket. The reinforcement must be trimmed to fit your vehicle. Although it already contains one bend, other bends may be necessary to fit the profile of the floor pan.
2. Trim the reinforcement so that a weld gap is left around the upper link pocket, and it conforms to the floor pan and frame rail, refer to Figure 23.



Figure 23 - Fit the Exterior Floor Pan Doubler

3. At this point, the upper link pocket should extend rearward, past the floor pan. Trim the upper link pocket to sit flush with the Exterior Floor Pan Doubler.

X. DRILL PLUG WELD HOLES INTO THE TRUNK PAN

1. With the Framerrail Doublers still clamped to the framerails, mark the location of the Frame Rail Doublers' rearmost edge onto the underside of the trunk pan. Refer to Figure 24.

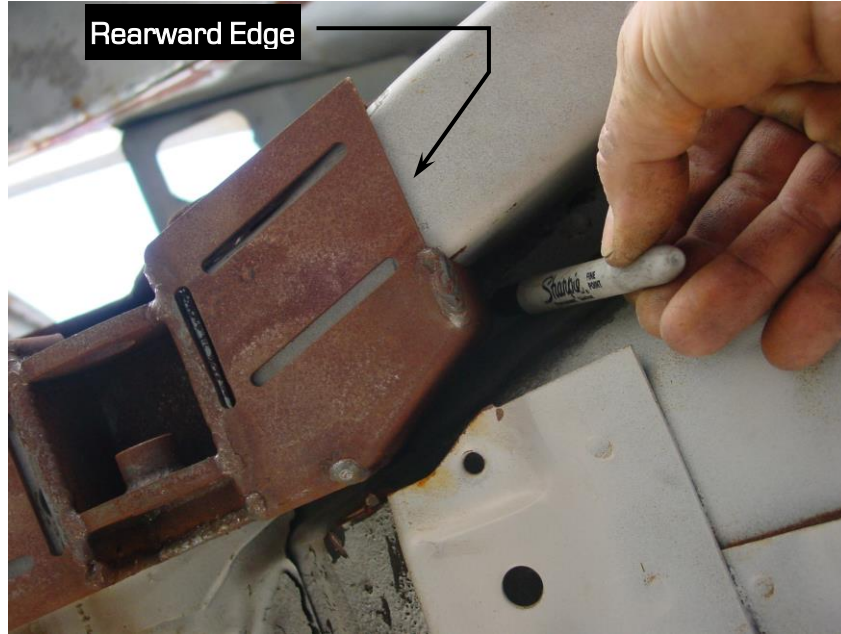


Figure 24 - Locating the Rearmost Edge

2. Remove the Frame Rail Doublers and Exterior Floor Pan Doubler from the vehicle.
3. Mark another line 3-5/8" forward of the line drawn in Step 1.
4. From underneath the vehicle, drill one 9/32" plug weld hole into the trunk pan approximately 7/16" inboard of the frame rail.
5. Drill two additional 9/32" plug weld holes maintaining the same distance from the frame rail but at 3/4" increments rearward. **NOTE:** These 3 plug weld holes will be used to plug weld the trunk floor to the frame rail doubler.

XI. DRILL PLUG WELD HOLES INTO THE FRAMERAIL DOUBLERS

1. Drill about twelve 9/32" plug weld holes along the Framerrail Doublers along the section adjacent to the frame rail. **NOTE:** Due to manufacturing inconsistencies, most frame rails will be slightly wavy. Therefore, make sure the plug weld holes are not located where it would cause the Frame Rail Doubler to become twisted.

XII. FINISH WELDING THE FRAMERAIL CLOSE-OUT INTO THE FRAMERAIL

1. Final weld the frame rail doubler in place that was tack welded into position in Step VII.

XIII. INSTALL THE FRAMERAIL DOUBLERS

1. Securely clamp the doublers into place and use an angle indicator to, once again, verify that the doubler is square to the vehicle.

2. Tack weld the doublers to the frame rail.
3. Confirm that the doublers are still square to the vehicle.
4. Plug weld the doublers to the frame rail. **NOTE:** The Track Bar Body Mount has a cut-out to allow the Frame Rail Doubler to be welded to the frame rail underneath the mount.
5. Stitch weld the outer profile to the frame rail.
6. A filler piece (PN 99040121) is provided to close-out the gap between the outboard side of the Frame Rail Doubler and the frame rail. Trim the piece to adequately fill the gap. **NOTE:** The provided piece breaks in half to provide oversized close-outs for both sides of the vehicle. Refer to Figure 25.



Figure 25 - Outboard Frame Rail Doubler Close-out

7. Finish welding the close-out into place.
8. Close-out the Track Bar Body Mount with the provided piece, PN 99040120. Refer to Figure 26 for the placement of the closeout.

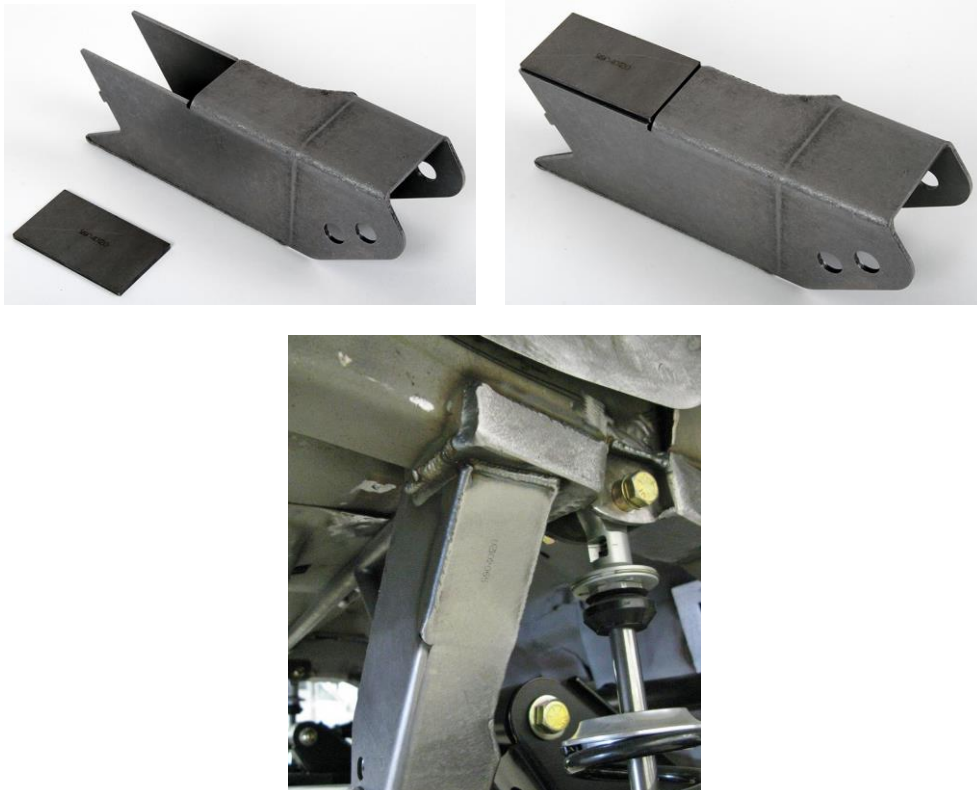


Figure 26 - Track Bar Body Mount Closeout

XIV. INSTALL THE EXTERIOR FLOOR PAN DOUBLERS

1. Temporarily position the Exterior Floor Pan Doublers into place on the floor pan in the seat back area around the upper link pocket.
2. Mark the profile of the Exterior Floor Pan Doublers onto the floor pan.
3. Drill plug weld holes into the floor pan where the doubler contacts the floor pan.
4. Plug weld the doubler to the floor pan from the inside of the vehicle and stitch weld in the appropriate areas, refer to Figure 27.



Figure 27 - Final Installation

XV. INSTALL THE INTERIOR FLOOR PAN DOUBLERS

1. Position the Interior Floor Pan Doublers (Left-hand: PN 99040109, Right-hand: PN 99040110) to sit on top of the upper link pocket in the interior of the vehicle.
2. Note the location of the frame rail flange and the bracket's interaction with the upper link pocket. Add plug weld holes to the Interior Floor Pan Doubler so that it may be plug welded to the frame rail flange and upper link pocket, refer to 28.



Figure 28 - Interior Floor Pan Doubler

XVI. FIT AND INSTALL THE TRANSVERSE TUBE

1. Position the Transverse Tube in the vehicle so that it is horizontal and runs cross-car. Also, position it approximately 3/8" away from the trunk pan. It is cut to fit directly onto the track bar body mount without modification.
2. Trim the tube to properly fit against the left-hand side Frame Rail Doubler. **NOTE:** The tube should sit above the bend.
3. Weld the tube into place at both the Track Bar Body Mount and the left-hand side Frame Rail Doubler, refer to Figure 29.



Figure 29 - Transverse Tube

XVII. INSTALL THE TRANSVERSE TUBE BRACKET

1. On the Transverse Tube Bracket (PN 99040123), drill three plug weld holes into the flange with the part number.
2. Position each bracket onto the trunk pan reinforcement with the plug weld holes against the trunk pan.
3. Weld the brackets to the trunk pan and Transverse Tube, refer to Figure 30.



Figure 30 - Transverse Tube Bracket Installation

XVIII. INSTALL THE TRIANGULATION BRACKET

1. Position the Triangulation Bracket (Left-hand: 99040105, Right-hand: 99040106) to connect the Frame Rail Doubler to the floor pan. The smallest width flange should be positioned to the front of the vehicle. Also, the bracket should be placed at the forward-most point.
2. Plug weld the bracket to the floor pan and Framerrail Doubler, refer to Figure 31.



Figure 31 - Triangulation Bracket

XIX. INSTALL THE AXLE BRACKETS

1. It is recommended that the axle brackets are installed when the axle tube flanges are not on the axle. If a new axle is being installed or the existing axle is being narrowed, install the axle brackets first, and then install the flanges. If the flanges are not removed, cut the axle brackets apart and weld them back together around the axle tube.
2. It is important that the correct width for the bushings is maintained on the axle brackets when they are welded; therefore, install the spacers provided with the kit into the axle brackets during welding. Position the axle brackets on the axle tubes as shown in Figure 41. If the axle brackets were cut during installation, the lower link/coilover bracket reinforcements should be welded on after the lower link/coilover brackets are welded to the axle. However, the reinforcements should be kept on as much as possible during welding to maintain correct alignment. If the axle brackets were not cut for installation, it may be easier to weld the lower link/coilover bracket reinforcements in place before welding the axle brackets onto the axle. The track bar axle bracket attaches to the left upper link axle bracket and will be installed later. **NOTE:** DSE offers a pinion centering tool (P/N: 070202DS) that will be helpful in placing your axle brackets in the correct location on your axle tube.
3. Tack weld the brackets in place and verify that they are all positioned correctly. Weld the brackets securely in place.
4. Position the track bar axle bracket onto the rear of the left-hand side upper link bracket as shown in Figure 39. Tack weld the track bar axle bracket in place, verify its position, and then weld it to the other bracket.
5. Align the top surface of the upper link reinforcement to the top surface of the track bar axle mount. Weld the upper link reinforcement bracket in place.

6. Position the anti-roll bar frame bushing bracket on the rear axle. Both the driver and passenger brackets locate on the upper link brackets on the rear axle. The driver side bracket is notched to clear the track bar bracket. Figures 32 & 33, show the brackets positioned on the rear axles. Weld the brackets into place. **NOTE:** The brackets must be positioned against the inside flange of the upper link bracket.

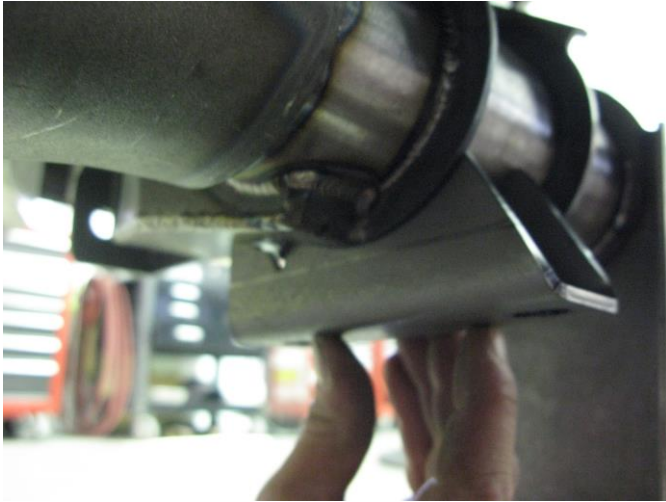


Figure 32 - Driver Side Anti-Roll Bar Bracket

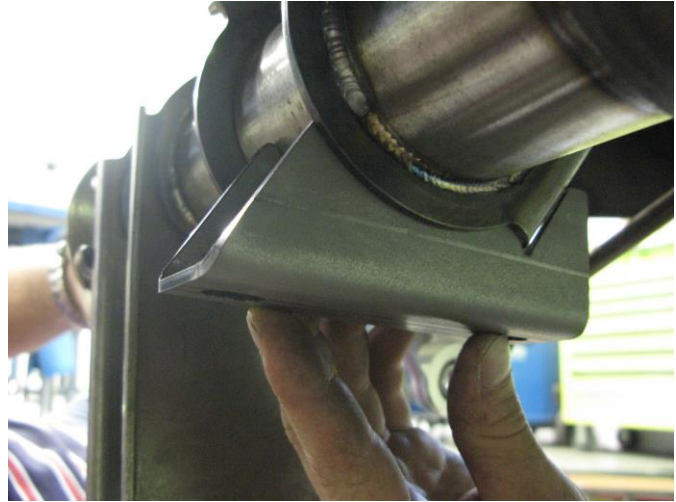


Figure 33 - Passenger Side Anti-Roll Bar Bracket

7. Once all of the axle brackets are fully welded in place, remove the spacers, and check the axle for straightness.

XX. MODIFY THE LOWER SEAT FRAME

1. The lower seat frame requires modification where the pockets extend through the floor into the interior.
2. With the seat frame positioned in the car, mark the area to be removed.
3. Modify the area as shown in Figure 34. Reinstall the seat cover.



Figure 34 - Modified Seat Frame

XXI. VERIFY THE INSTALLATION

1. At this point the fabrication work is complete. If necessary, send the axle to a qualified shop to have the ends welded on.
2. Check the axle tubes for straightness and have them straightened (if needed).
3. Mocking up the car before painting all the components is recommended. Mock up includes installing all of the suspension components (the link bolts don't need to be tightened yet). Drill out the holes in the OEM factory leaf spring perches shown in Figure 2 for the 9/16" hardware. The factory leaf spring perch will be bolted to the leaf spring pocket mount shown in Figure 10 at the top of page 5. **NOTE:** Install the lower link front spacer so it is outboard of the Swivel-Link. That way you will have maximum tire clearance and it will also align with the lower link axle bracket.
4. Install the wheels and 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 (108.0" for a 1970-81 Camaro/ Firebird). The pinion angle should be measured and adjusted to your preference. Two degrees down is recommended. Raise and lower the vehicle to verify that there is no interference.
5. Once everything is set during the mock-up step, remove all suspension components. We recommend that all bare metal be primed and painted.

XXII. FINAL ASSEMBLY AND ADJUSTMENTS

1. Install the rear axle and suspension assembly using the 9/16" hardware. DSE recommends that the upper and lower Swivel-Links are positioned so that the swivel end of the link is towards the front of the vehicle as shown in Figure 34.

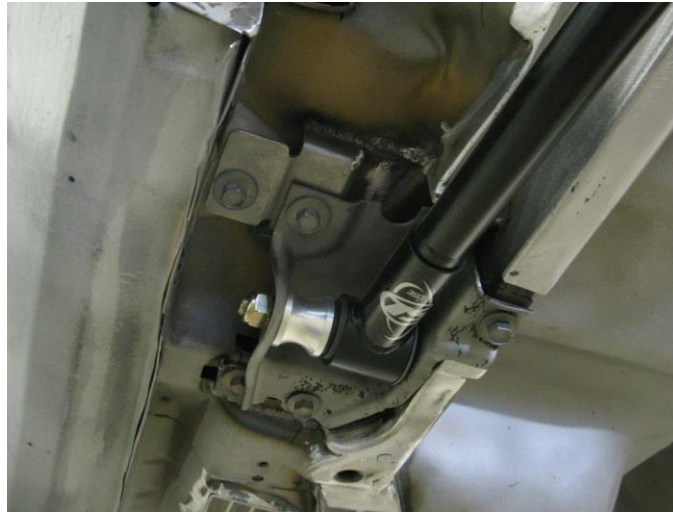


Figure 34 – Install Swivel-Link

2. It will be easier to torque the front lower link bolts to the factory spring perch before you bolt it to the vehicle. Torque these pivot bolts to 120 ft-lbs. and install the assembly into the vehicle. **NOTE:** When attaching the upper links to the axle brackets, install the 9/16"-18 hex head bolts from the outside so the 9/16"-18 Nylock nut is on the inside of the axle bracket. The remaining end link bolts will be tightened later with the vehicle sitting at ride height.
3. Install the shocks using the upper shock mount spacers and the 1/2" hardware using anti-seize on the threads as shown in Figure 35 on the next page. **NOTE:** Install the 1/2"-20 hex head bolts through the upper shock mounts from the inside so that the 1/2"-20 Nylock nut is on the outside of the mount.

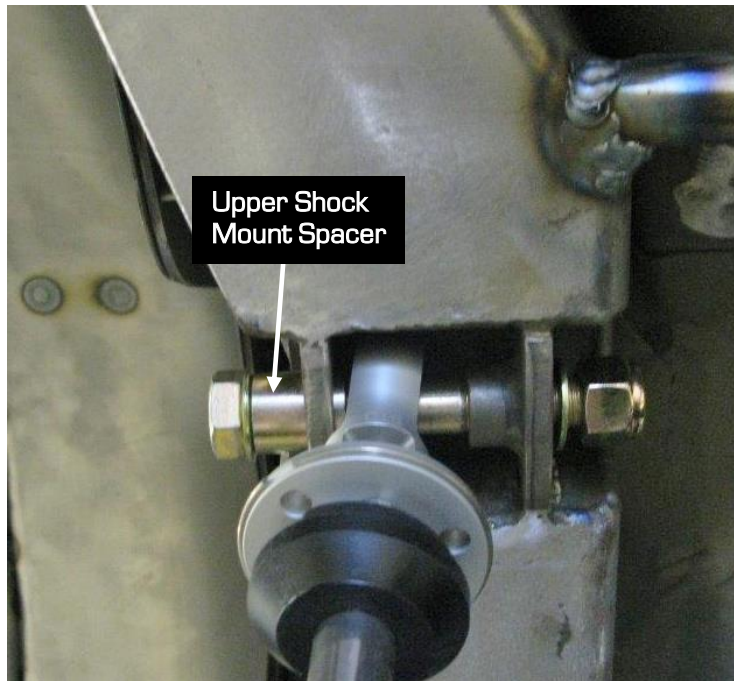


Figure 35 – Upper Shock Mount Spacer

4. Reinstall the fuel tank, fuel lines, and interior components that were removed. The rear seat back may be installed, but do not install the rear seat cushion in the vehicle at this time. Place the rear seat cushion in the vehicle so it will be at the correct weight during adjustments. The rear seat cushion will not be installed until after the upper link bolts are tightened.
5. Install the wheels on the vehicle and lower it onto the ground.
6. Verify that the track bar is installed in the hole that places it closest to horizontal.
7. 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 24).** 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 100 ft-lbs.
8. Settle the suspension by bouncing the vehicle several times.
9. With the vehicle at ride height, torque the rear suspension link pivot bolts to 120 ft-lbs.
10. Torque the lower coilover mounting bolts to 70 ft-lbs. and the upper coilover mounting bolts to 60 ft-lbs. with the vehicle sitting at ride height.
11. Confirm the axle position again. Double check that all of the bolts and jam nuts are tightened to their respective torque specifications.

XXIII. SETTING THE VEHICLE RIDE HEIGHT

1. With the vehicle assembled with all components installed, adjust the vehicle ride height. Before adjusting the ride height, DSE recommends cleaning the threads of the shock. Once the threads are clean, DSE recommends applying dry bicycle chain lube to the threads of the shock body before adjusting the spanner nut and compressing the coilover spring. Allow the chain lube to dry before adjusting the spanner nut. If you have the non-adjustable shocks, the spanner nut has a soft tip set screw that will need to be tightened before the vehicle is driven.

2. Detroit Speed does include a Spanner Tool (P/N: 031060DS) to adjust ride height however if you have the adjustable coilover shocks, DSE does offer an Adjustment Tool available as P/N: 031061DS if needed. A photo can be seen in Figure 36.



Figure 36 - Detroit Speed Spanner & Adjustment tools

XXIV. If the Single Adjustable, Double Adjustable coilovers or the Double Adjustable Remote Canister Coilovers were purchased as an upgrade, refer to the following information for adjustment procedures.

PLEASE NOTE: ALL ADJUSTABLE TYPE SHOCKS GET MOUNTED BODY SIDE UP SHAFT SIDE DOWN

Detroit Speed Single Adjustable Shock Applications

To change from the recommended “Detroit Tuned” valving, adjustments can be made independently to the rebound setting. The rebound is controlled by the knob at the upper shock mount (Shock is mounted body side down). The knob rotates clockwise (+) to increase the damping and counterclockwise (-) to decrease the damping. Refer to Figure 37a.



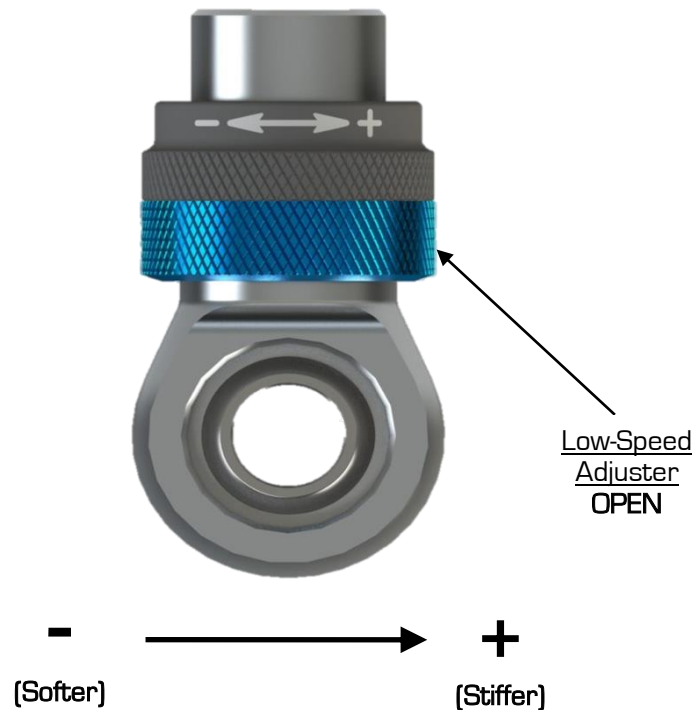
Figure 37a - Detroit Speed Single Adjustable Shock

To return to the Detroit Speed recommended settings, turn the knob clockwise (+) to full damping. Once at full damping, turn counterclockwise (-) to reach the recommended settings. Refer to Figure 37b for the rebound settings.

Rebound (Shaft Knob) 20 Open (counterclockwise,) (-)

Figure 37b - Detroit Speed Recommended Settings

Adjuster Operation



- **Adjuster (60 Clicks)**

The low-speed adjuster is a “clicker” style adjuster meaning that its adjustment is measured by detents located inside the blue adjuster knob. There are 16 clicks per 1 revolution of the knob. It uses a right-hand thread in its operation which means as you increase low-speed, the adjuster will move up on the eyelet. The recommended change for an adjustment is 8 clicks at a time. The low-speed adjuster’s reference position is **full stiff** (closed, or all the way up) and referred to -0 (-0 = full stiff, -60 = full soft).

- **Tuning Notes**

- **Racetrack**

- For more grip, soften the damping.
- For increased platform control, stiffen the damping.

- **Street**

- For a more comfortable ride, soften the damping

***DO NOT FORCE KNOB WHEN IT STOPS TURNING, YOU MAY DAMAGE THE ADJUSTER AND INTERNAL HARDWARE**

Detroit Speed Double Adjustable Shock Applications

To change from the recommended “Detroit Tuned” valving, adjustments can be made independently to both the high and low speed settings. The rebound is controlled by the sweepers at the upper shock mount. The sweepers rotate clockwise (+) to increase the damping and counterclockwise (-) to decrease the damping. The sweepers can be seen in Figure 38a on the next page.



Figure 38a – Detroit Speed Double Adjustable Shock

When adjusting the low speed rebound start at full [-] position, when adjusting the high speed rebound start at full [+] position. To return to the DSE recommended settings turn the sweeper clockwise [+] to full damping for the low speed setting, and counterclockwise [-] to full damping for the high speed setting. Once at full damping, turn counterclockwise [-] for the low speed setting, and clockwise [+] for the high speed setting to reach the recommended settings. Refer to Figure 38b for recommended settings.

Low Speed Rebound [Sweeper].....	20 sweeps [counterclockwise] [-]
High Speed Rebound [Sweeper].....	2 sweeps [clockwise] [+]

Figure 38b – Detroit Speed Recommended Settings

Detroit Speed Double Adjustable Shocks w/Remote Canisters

To change from the recommended “Detroit Tuned” valving, adjustments can be made independently to both the high and low speed settings. The rebound is controlled by the sweepers at the upper shock mount. The sweepers rotate clockwise [+] to increase the damping and counterclockwise [-] to decrease the damping. Refer to Figure 39a.

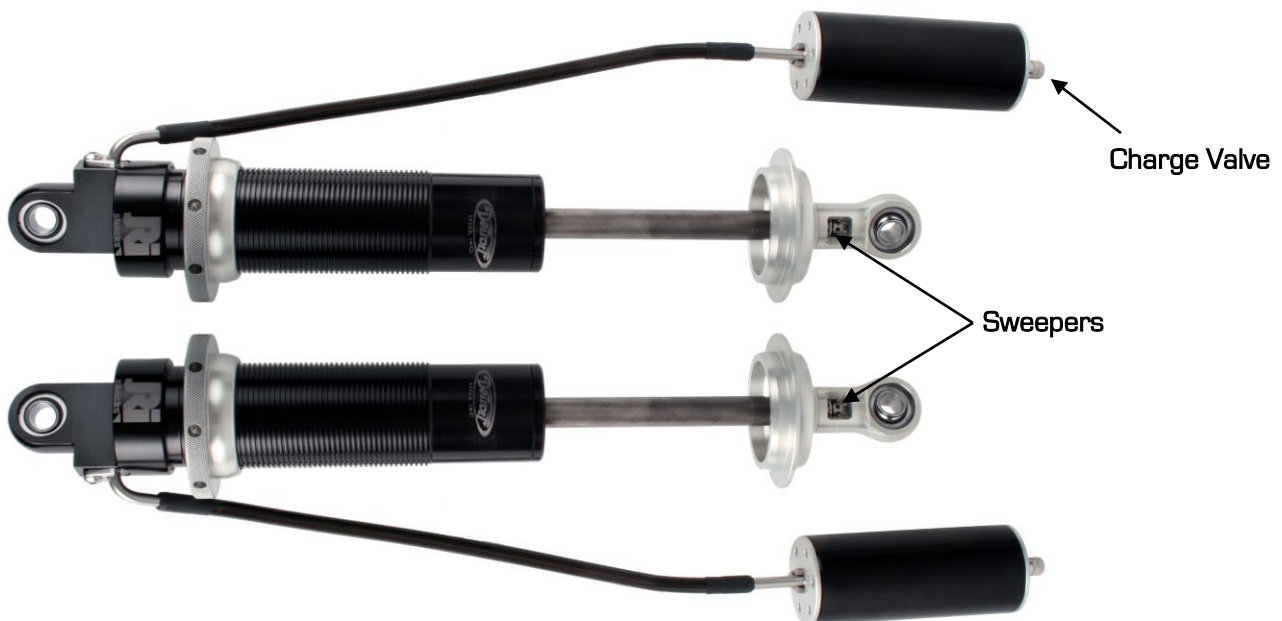


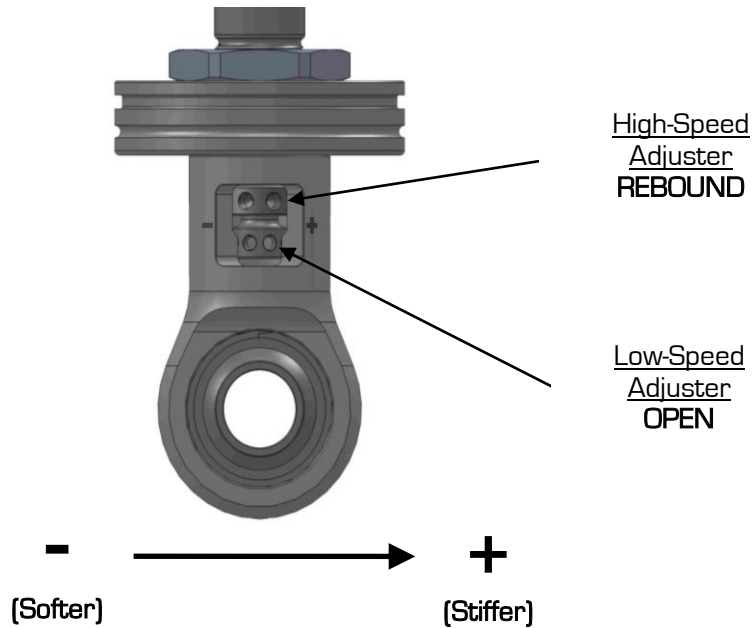
Figure 39a – Detroit Speed Double Adjustable Shock w/Remote Canister

When adjusting the low speed rebound start at full (+) position, when adjusting the high speed rebound start at full (-) position. To return to the DSE recommended settings turn the sweeper clockwise (+) to full damping for the low speed setting, and counterclockwise (-) to full damping for the high speed setting. Once at full damping, turn counterclockwise (-) for the low speed setting, and clockwise (+) for the high speed setting to reach the recommended settings. Refer to Figure 39b for recommended settings.

Low Speed Rebound (Sweeper)..... 20 sweeps (counterclockwise) (-)
 High Speed Rebound (Sweeper)..... 2 sweeps [clockwise] (+)

Figure 39b – Detroit Speed Recommended Settings

Adjuster Operation



• **High-Speed Adjuster (12 Sweeps)**

The high-speed adjuster is a “sweep” style adjuster meaning that its adjustment is measured by the location of the adjuster in the eyelet window. It uses a left-hand thread in its operation which means; as you increase high-speed, the adjuster will move down in the window*. The high-speed adjuster’s reference position is **full soft** and referred to as +0 (+0 = full soft, +12 = full stiff).

• **Low-Speed Adjuster (30 Clicks)**

The low-speed adjuster is a “clicker” style adjuster meaning that its adjustment is measured by detent grooves located inside the high-speed shaft. It uses a right-hand thread in its operation which means; as you increase low-speed, the adjuster will move up in the window. The low-speed adjuster’s reference position is **full stiff** and referred to -0 (-0 = full stiff, -30 = full soft).

**The low-speed adjustment does not change when adjusting the high-speed.*

To aid in the installation of the reservoirs, we also offer a set of Billet Aluminum Remote Canister Mounts. The canister mounts are available exclusively through Detroit Speed, P/N: 032102DS. They are shown in Figure 40 on the next page.



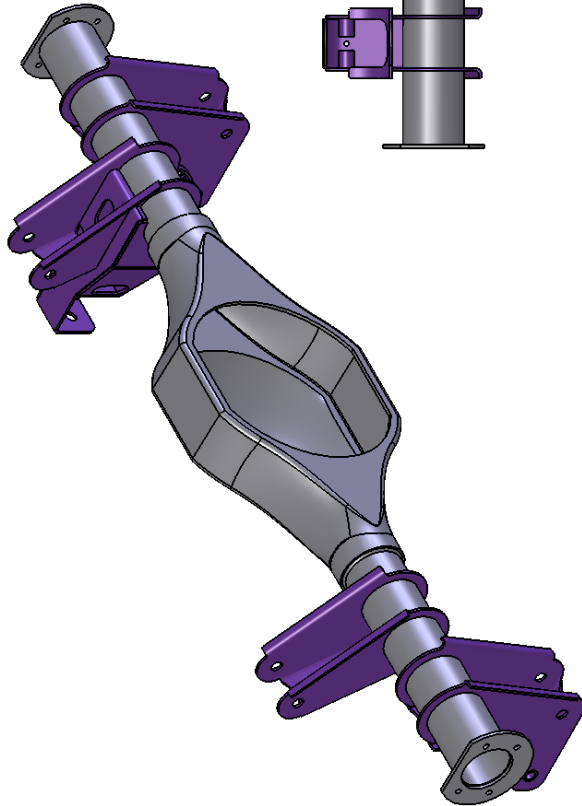
Figure 40- Billet Aluminum Remote Canister Mounts

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

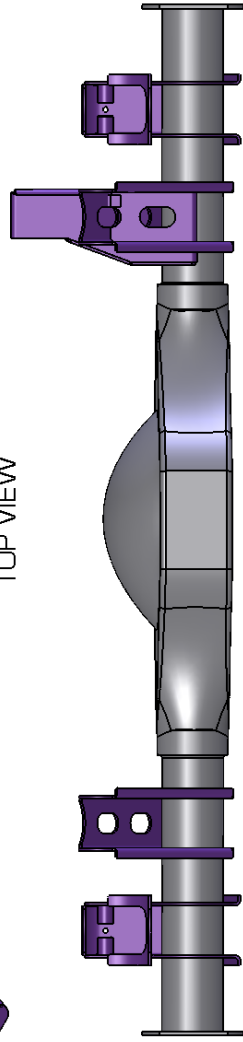
Legal Disclaimer: *Detroit Speed is not liable for personal, property, legal, or financial damages from the use or misuse of any product we sell. The purchaser is solely responsible for the safety and performance of these products. No warranty is expressed or implied.*



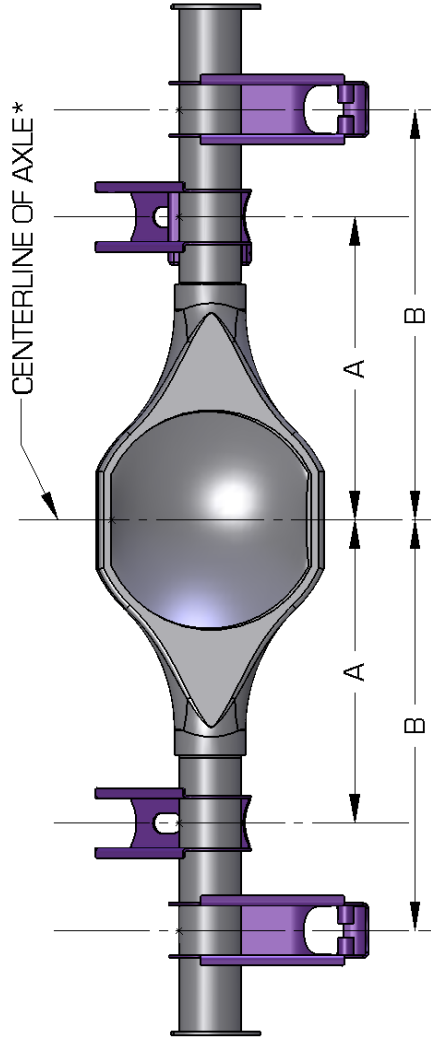
**QUADRA LINK REAR SUSPENSION
1970-81 CAMARO/FIREBIRD
AXLE BRACKET LOCATIONS**



TOP VIEW

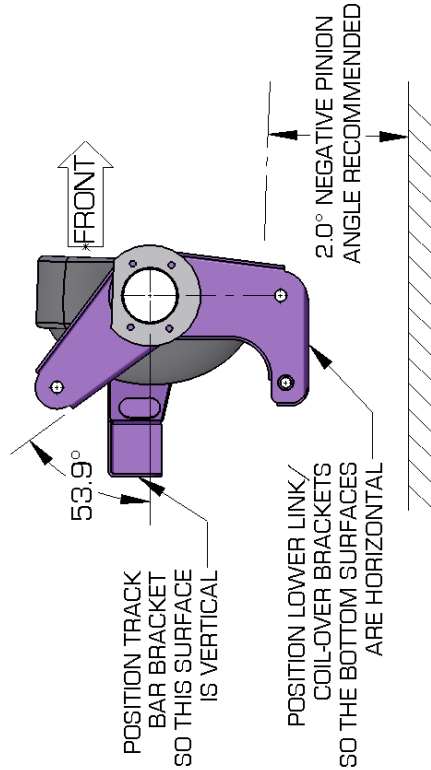


FRONT VIEW



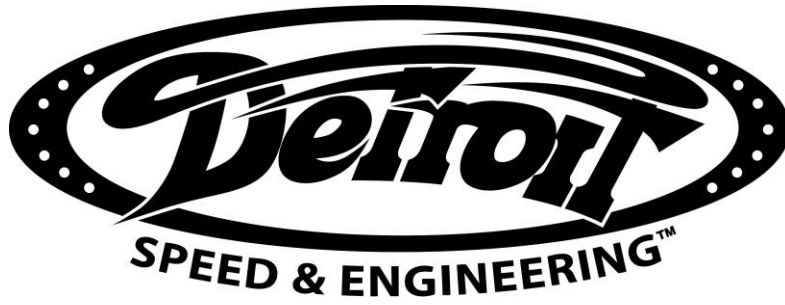
Frame rail Width (Inner)	A	B
34 1/4"	14 13/16"	20 1/16"
33 3/4"	14 9/16"	20 1/16"

RIGHT VIEW



*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 RIGHT-HAND SIDE OF THE VEHICLE.

Figure 41 - Axle Bracket Locations



Detroit Speed
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).

