

MOPAR

INSTRUCTIONS – 1962-65
B-BODY PARALLEL 4-LINK

control freak
suspensions™

www.FreakRide.com



1962-1965 B-BODY (RS-5460)



Revised: 8-1-2022

Installation Instructions

Parallel 4-Link Panhard Bar Rear Suspension System – Part # RS-5460
1962-1965 Mopar B-Body Vehicles

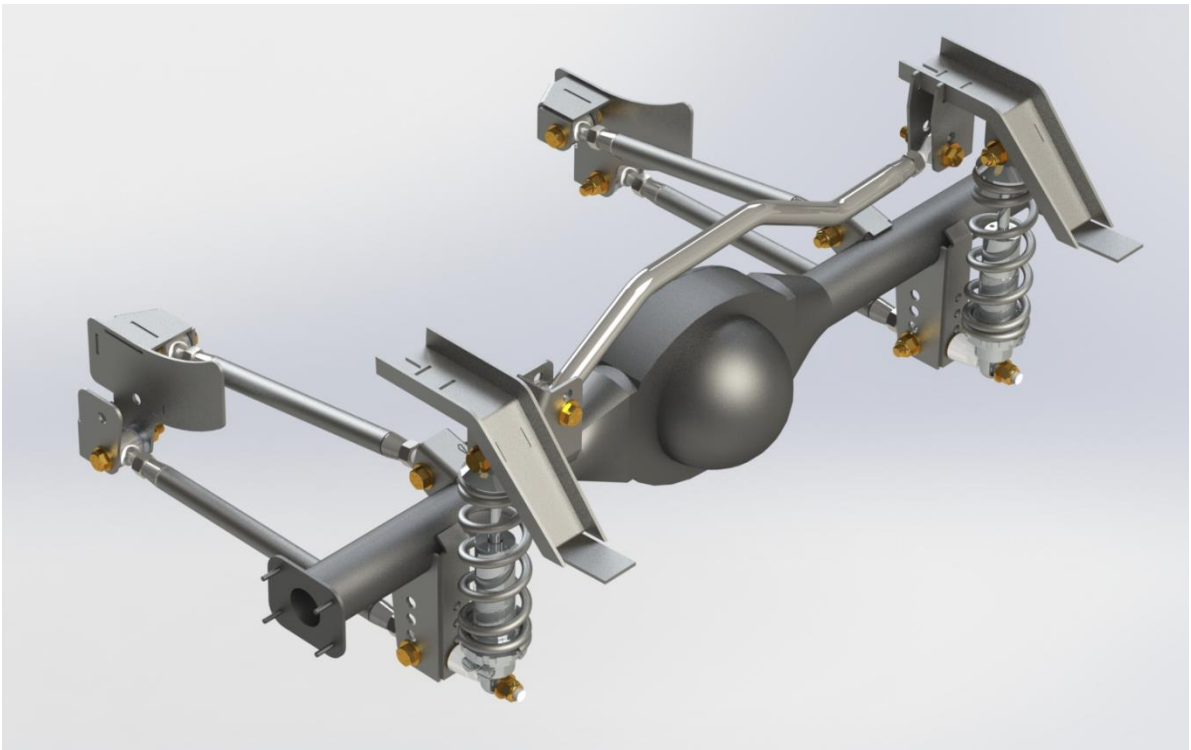
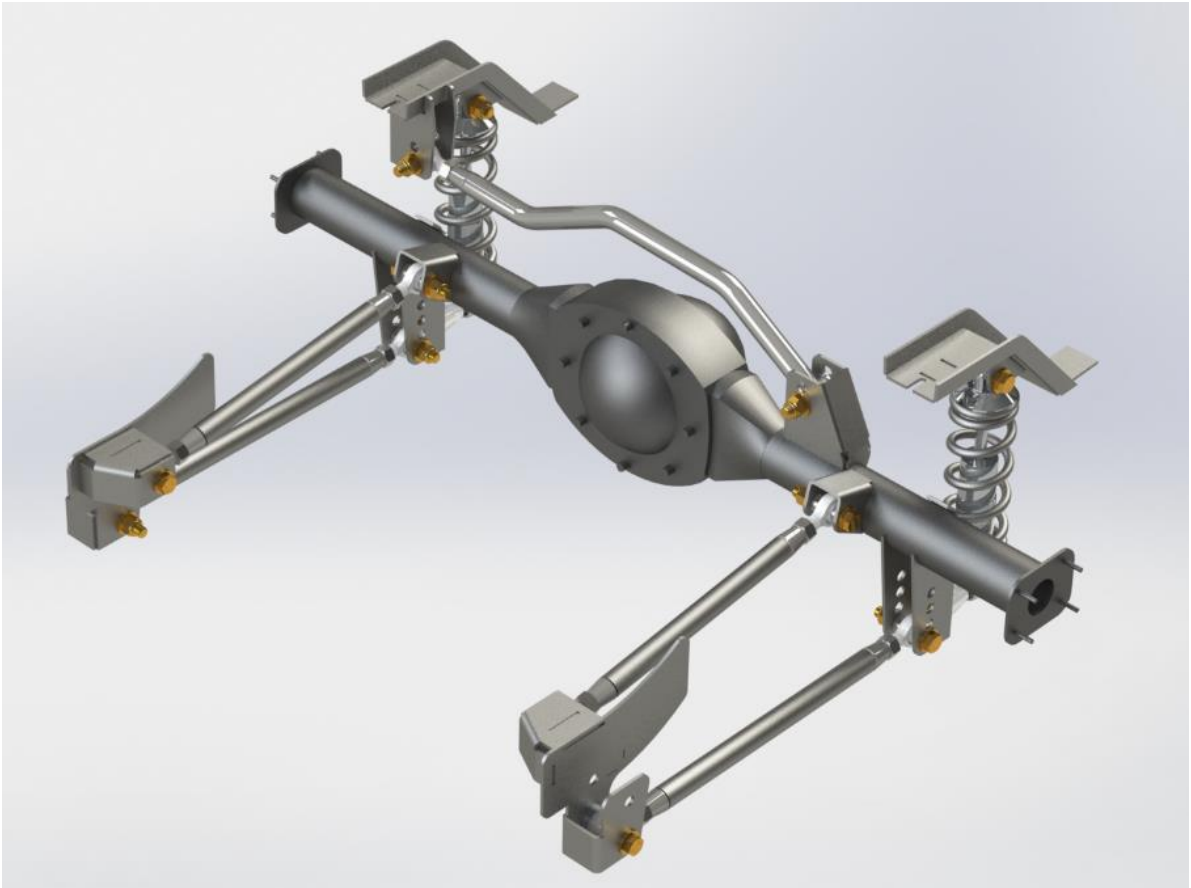
System Contents

- Forward Trailing Arm Brackets (1 Left and 1 Right)
- Lower Rear Trailing Arm Differential Brackets (2)
- Upper Rear Trailing Arm Differential Mount (2)
- Lower Trailing Arm Set w/Adjustable Rod Ends
- Lower Trailing Arm Mounting Hardware Kit
- Upper Trailing Arm Set w/Adjustable Rod Ends
- Upper Trailing Arm Mounting Hardware Kit
- Upper Coil Over Mount Brackets
- Upper Coil Over Mount Brackets Template
- Lower Coil Over Mount Machined Studs With Hardware (2)
- Coil Over Shocks w/ Springs (2 Each)
- Coil Over Mounting Hardware Kit
- Panhard Bar with Brackets & Adjustable Rod Ends (2)
- Four each of 1-1/4" and 1-5/8" diameter spacers

Thank you for purchasing this Parallel 4-Link Rear Suspension System for 1962-65 Mopar B-Body Vehicles. This system is manufactured by Control Freak Suspensions™ in Sanford, Florida. We believe this system is the best available at any price. As with most aftermarket performance suspension products, the end user is solely responsible for determining the suitability of any and all such products, regardless of manufacturer.

Because this system, and others like it, are typically subjected to uses that could exceed its mechanical limits, there is no warranty, expressed or implied. Blue Moon Services LLC d/b/a Control Freak Suspensions™ cannot control how this product is installed or used. By purchasing this product you are assuming all risks associated with its installation and use and agree to having appropriate skills for its installation and use. Blue Moon Services LLC d/b/a Control Freak Suspensions™, our vendors and suppliers will not be held responsible, liable or accountable for any injury, damage, loss, penalties or fines that occur, directly or indirectly, from the installation and use of this product.

Please note that this system includes components that must be welded accurately into place. While installation is relatively easy for those with appropriate skills and experience, novices, or those who question their abilities, should employ a professional for installation. Fit is guaranteed on vehicles that are unmolested...that is cars that have not suffered any chassis or unitized body damage. Such damage can bend or alter the unitized chassis, making installation more difficult and may require chassis adjustment and/or straightening by professionals before installation.



Read all of the instructions before starting installation.

IMPORTANT NOTES:

1. **All brackets in this** kit must be welded into place.
2. Be certain to remove carpeting, insulation or other flammables from the area being welded or subjected to welding heat.
3. Installation of this rear suspension system is straightforward, but ease of installation is based upon your level of experience and ability.
4. By following these instructions, measuring properly, cutting and drilling accurately, we strongly recommend that all welded parts get **tack welded** into place **prior to final welding**. This allows you to fit the entire system **before** final welding is done.
5. Some parts of this system may have been accurately threaded by our CNC machine shop to receive the supplied adjustable rod and/or bushing ends. Be careful not to cross thread the rod ends into these machined parts. Use anti-seize compound on all threaded parts. We are not responsible for any cross threaded parts.
6. All rod ends that are threaded into tubes must use the supplied jam nuts for safety.
7. Use extra caution in jacking and stabilizing the vehicle for this installation. The differential will need to be removed and reinstalled, so **we strongly recommend the use of a professional lift to make the job easier and safer.**
8. An assistant is recommended during parts of this installation.
9. The photos on the cover and page 5 depict a bracket holding the lower coil over in position. We have changed this and now use a machined stud instead of the bracket for ease of installation and adjustment. Drawings for this change are on Page 14.

What Else Do I Need?

Everything you need is included in the purchase price. Installation requires welding. Disconnect your battery BEFORE welding. If you don't, you run the risk of ruining electronic ignition and entertainment components in the car.



IMPORTANT NOTES:

Unpacking the System

Your rear suspension system arrives boxed and unassembled. Since this system requires all brackets to be welded into place we are unable to pre-assemble the product. While some parts may arrive assembled, please note that the assembled parts may not be appropriately installed or tightened for actual use. You are responsible for making certain all fasteners are installed correctly and appropriately tightened. If you ordered brakes with your system, the brake kit is boxed separately and has its own set of instructions provided by brake manufacturer.

Carefully open all boxes and remove all components. Lay out all of the components and familiarize yourself with them using the CAD drawings on page 2 as your guide. This will make installation quicker and easier. Read through the entire instruction book and familiarize yourself with the steps before beginning installation. Once you have read through the instructions and identified all of the parts, prepare your tools for installation. You are now ready to begin installation.

Preparing for Installation

1. Measure the ride height of the vehicle by taking measurements from the rocker panel to the ground. Take a front and rear measurement on each side and note it in a notebook. We recommend using masking tape at all four measuring points and writing the measurement so it can always be seen. This is your baseline stock ride height.
2. Support the differential with jacks. If you are using a lift, support with tall jacks. With the differential safely supported, remove the sway bar and the end brackets holding it in place against the frame.
3. Remove any exhaust components that may interfere with removing the rear differential.
4. Disconnect the driveshaft from the differential.
5. Remove the shocks from both sides of the differential.
6. Making certain the differential is supported by jacks, with a helper remove the front and rear leaf spring bolts, keeping the differential from turning while doing so. You will remove the entire differential assembly.
7. Once the differential has been removed, take this opportunity to clean it up. After the upper and lower trailing arm brackets have been welded into place, and the original spring perches removed (if you choose to do so), you can paint the rear before reinstalling with the new suspension system.

8. You will need to cut off the stock shock mounts on the rear pans, just above the differential. Do this carefully and grind down any sharp edges, as shown in the picture below.



9. Examine the rails on the car. Over the years, the vehicle may have been incorrectly jacked up in some areas which can slightly “mushroom” or otherwise move the rails slightly out of line. This is an opportunity to straighten or adjust the rails prior to putting the rear suspension brackets in place.
10. Prior to installing the brackets, the area around each bracket must be sanded to raw metal and cleaned. We use an air die grinder with a 3” RoLok sanding disc...80 grit works fine. Clean at least 1/2” beyond the bracket, leaving ample clean metal for a good weld.

Installation of the Rear Suspension Brackets



The picture above shows the forward frame bracket on the outside of the rail, firmly against the sheet metal lip. Do this on both sides then measure each brackets distance from a fixed point on each side of the chassis. Make fine adjustments to ensure they are positioned at equal distances and square.

1. Place the forward frame brackets into place. There is a right and left bracket. Correct placement is shown from the outside and inside of the rail in the photos above. Make certain the area around the perimeter is cleaned to bare metal allowing a good welding surface. The forward edge of the brackets should be perpendicular to the chassis.

2. You will now need to prepare the upper coil over mounts on the frame rail in the wheel house arch. This next step does require you to use the provided template and cut out a portion of the rail. The cut out portion will be replaced with a special bracket that will not only reinforce the chassis, making it stronger than it was, but also provides the upper



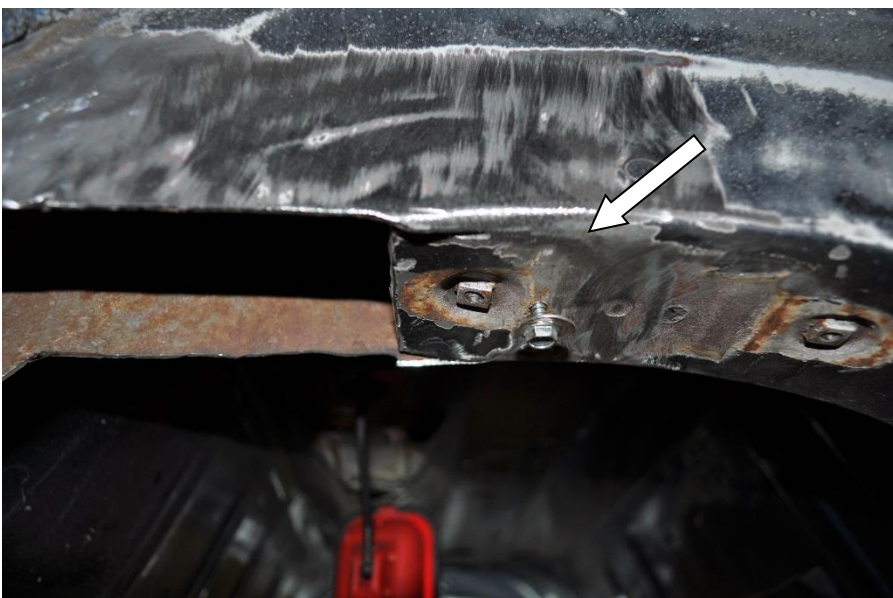
coil over mounting point. Remove the rubber snubbers and save two of the screws. They are used to locate part of the upper coil over mount.

3. Place the template on the rear portion of the wheel arch as shown in the photos. Carefully outline the template with a marker on both sides of the rail and connect your outline on the underside of the rail. Once completed, use masking tape to make your outline stand out and making it easier to cut out the material. The picture to the right shows this.



4. Carefully cut out the material so you end up with a cutout as shown in the picture below. We use a 3" cutoff wheel to make the cuts, but regardless of what tools you use, please use a face shield and gloves to protect yourself from flying debris.

5. Once you have made the cutout on both sides of the car, clean the area around the cutout down to metal. You will be welding to this area so the surface needs to be clean as show in the picture to the left.



6. On the forward part of the cutout you will need to make two slits and bend the metal up as shown in the picture to the left. This is so the new reinforcing plate will overlap smoothly into position.

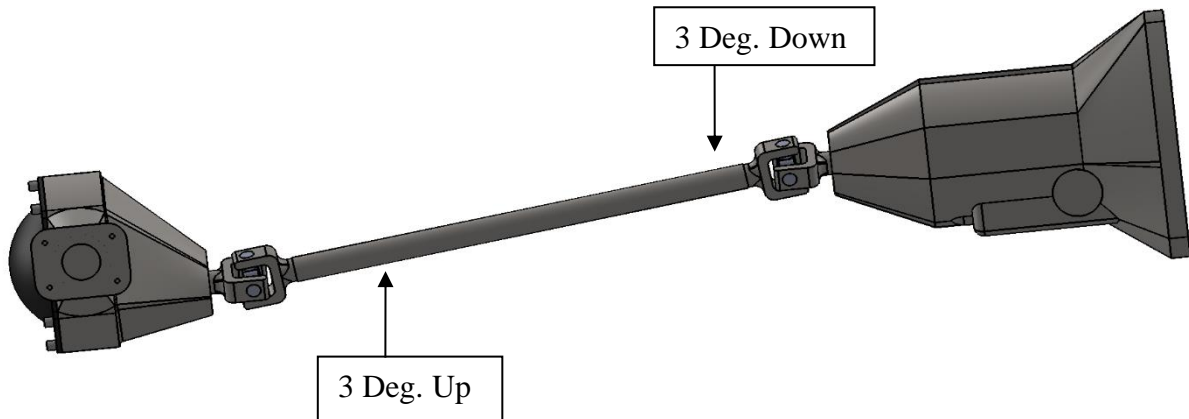
7. There are two (2) upper coil over mounts. These are 2" wide Z-shaped plates with tabs welded to them. One has an additional large bracket that hangs down. The bracket that also contains the large hanging bracket goes on the right (passenger) side of the vehicle as shown in the photo below on the left. The one with just the tabs goes on the left (driver) side of the vehicle as shown in the picture below on the right. Slip the rear part of the plate inside the open chassis rail as shown. Place the rest of the bracket into position so it follows your cut and is flush to the upper part of the cutout. Hold the upper part in position with the small sheet metal screw used to hold the rubber snubber into position as shown below. Tack weld into position.



8. Place the Z-shaped side plates into position on the inside and outside of the chassis rail as shown. Clamp to hold the plates into position and tack weld into once they are properly aligned. Repeat this on the other side of the vehicle as shown below.
9. Attach the upper and lower trailing arms to the forward frame brackets. You will use two of the 1-5/8" machined spacers on either side of the lower trailing arm bushings to fill the gap. Hand tighten the bolts.
10. Attach the rear lower trailing arm brackets to the lower trailing arms. Only hand tighten the bolts. Attach the upper trailing arm to the smaller upper trailing arm brackets. Hand tighten the bolts. This provides ease for the initial tack weld position for the upper and lower trailing arm brackets on the differential.
11. Move the differential into position making certain that it is centered between the rails and at the ride height you have chosen. Now adjust the height of the rear axle to your desired ride height, which is typically 12-13" between the upper and lower shock mounts. Ride height is entirely up to you and the look / stance you want the car to have. BUT...you also must consider undercar clearance and tire size.
12. At this time, you should set a rough pinion angle before locating the upper & lower mounts. If you can get to it, hold an angle finder on the crank pulley and note the angle. If you can't get into the crank pulley area with an angle finder, use the angle of the transmission tailshaft. Now place the angle finder on the front of the rear axle pinion and rotate the axle to duplicate the same angle. Placing the differential on two

(2) jack stands and using a floor jack to adjust the angle is the simplest way to make even fine adjustments. Set the pinion angle from zero degrees to minus one-half degree in accordance to the driveline angle. The picture below is the equivalent of zero degrees:

Recommended: Equal & Opposite. For example, the transmission is three degrees down, so the pinion should be three degrees up. (Visual angle exaggerated for easier understanding.)

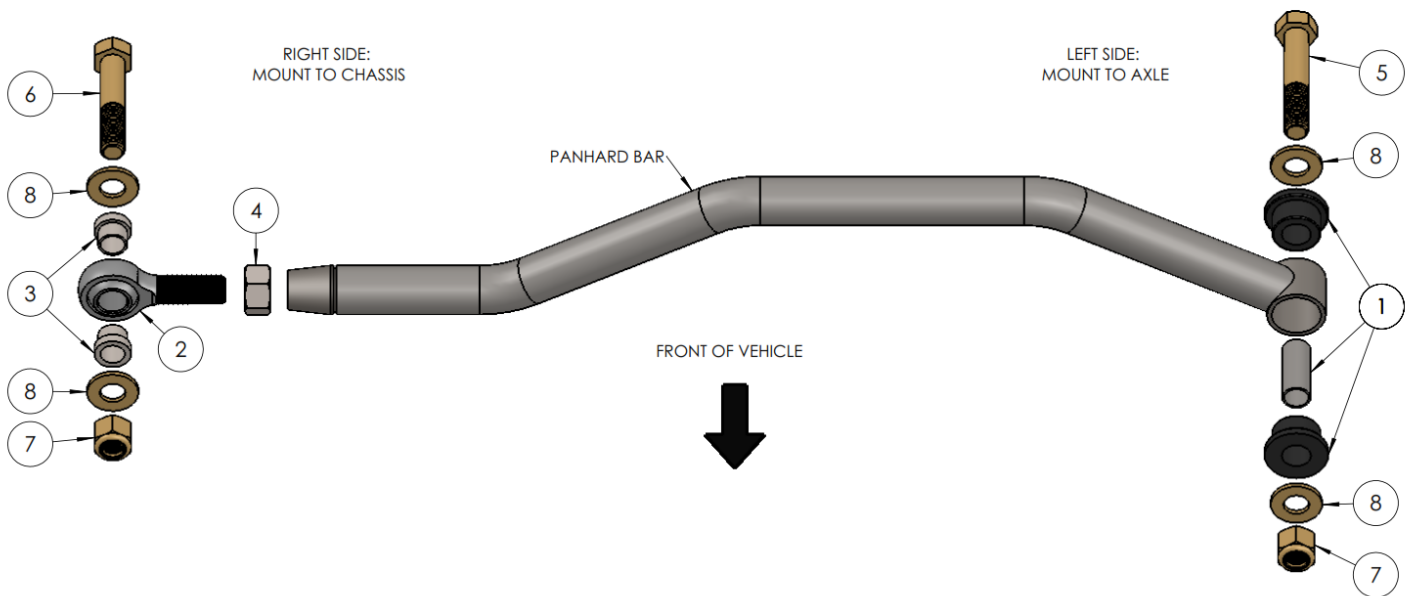


13. Once you have the pinion angle set and the differential properly centered side-to-side, place the brackets that are attached to the lower trailing arms onto the differential. When you are satisfied that the brackets are in the appropriate location and perpendicular to the differential axle tubes and the ground, place a tack weld in the corners of the brackets just to hold them into position. If you need to make an adjustment later you will only have to cut through a few tack welds.
14. Place the upper trailing arm differential brackets into position on the top front of the differential tubes. You can see the approximate position by viewing the CAD drawing on page 3. Just like on the lower brackets, tack the upper brackets into position ensuring they are parallel with the lower trailing arms and perpendicular to the differential axle tubes. Place a few tack welds into the corners of the brackets.
15. Now is the time to attach the panhard bar to the bracket on the right side of the chassis and the other bracket which will rest on the differential axle tube on the left side. Before placing a tack weld on the differential bracket for the panhard bar, be certain that the bar is running in line with the differential tubes. Once it is straight, tack weld the differential bracket for the panhard bar.



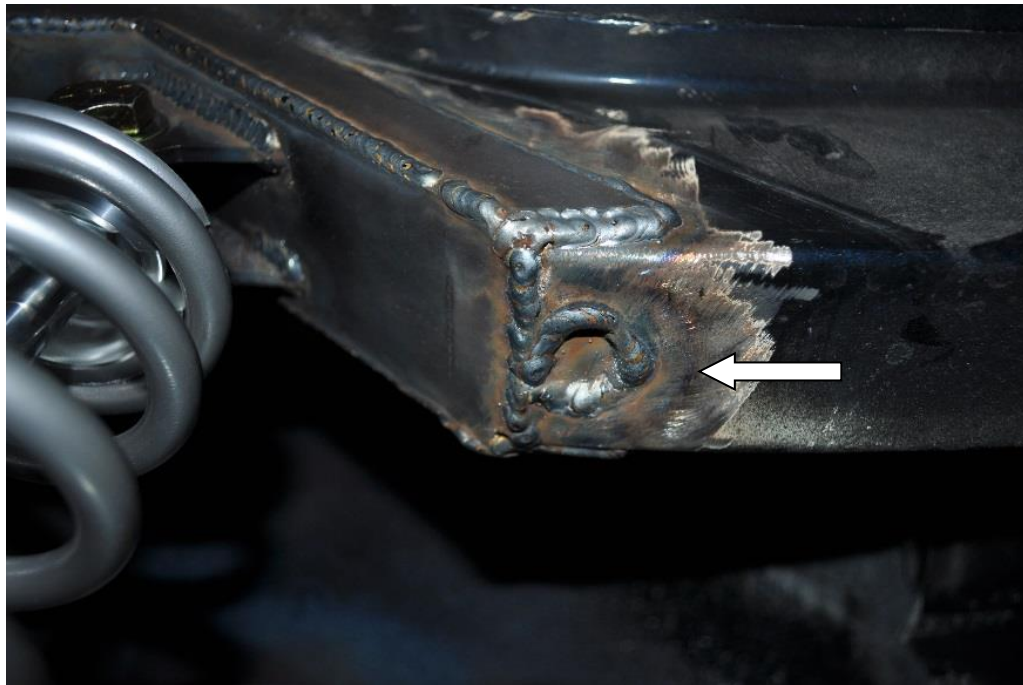
PANHARD BAR PARTS & HARDWARE

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	-	P & J BUSHING AND SLEEVE KIT	1
2	XMR-12	3/4" ROD END - RH THREADS	1
3	RS-9002	ROD END SLEEVE	2
4	75FNFJ8Z	3/4" JAM NUT - RH THREADS	1
5	62C350HC8Z	5/8"-11 X 3.5" HEX HEAD BOLT GRADE 8 YZ	1
6	62C325HC8Z	5/8"-11 X 3.25" HEX HEAD BOLT GRADE 8 YZ	1
7	62CNN8Z	5/8" -11 GRADE 8 NYLOCK NUT	2
8	62NWSHZ	5/8" SAE FLAT WASHER	4



- Attach the lower coil over mount into the holes on the lower trailing arm brackets on the differential tubes. The lower you locate the bracket, the lower the car will sit. The higher you locate the bracket, the higher the car will sit. Snug the nuts but do not torque them. Make certain that the upper coil over mount is directly perpendicular to the lower mounting bracket. You can make side to side adjustments with the lower coil over mount using the slotted holes for alignment.
- If adjustments need to be made, now is the time to do it...before permanently welding all of the brackets into their final position. After checking all of the tack welds, and being sure that everything is evenly and correctly installed, you can remove the trailing arms.

18. Carefully remove the trailing arms and the panhard bar. With the aid of a helper, carefully remove the differential from under the vehicle and prepare it for final welding of the brackets.
19. Before welding brackets to the differential, loosen the axles so heat does not build up and melt the axle seals. Weld a little at a time and alternate from side to side. We prefer to turn the differential upside down, making it easier to get a good, clean weld.
20. Weld all of the tack welded brackets and parts under the vehicle into place.
21. When welding the upper coil over mount brackets, be certain to weld in the open hole on the bottom of the bracket as shown in the picture below.



NOTE: Before final welding of the under-vehicle parts, remove carpeting and anything flammable from the interior of the vehicle.

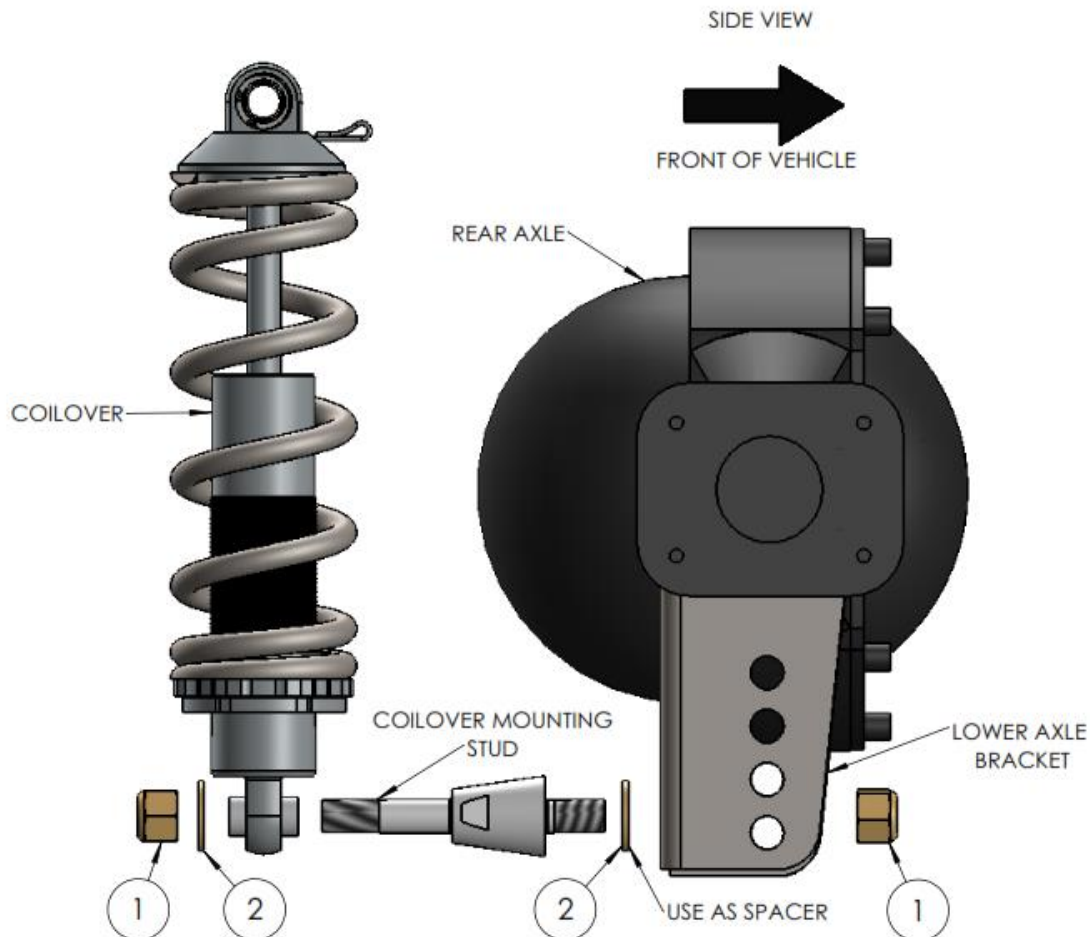
22. Once welded and cooled, take the opportunity to prime and paint the welded brackets and the areas around the welds.
23. You can now reinstall the differential, trailing arms and panhard bar, making certain to tighten all bolts.
24. Prepare the coil over shocks for assembly. Paint some silver anti-seize compound onto the bottom half of the threads on the coil over body. This will ensure that when the coil over is assembled and under load, the nut will still turn without binding, or galling. Thread the lower jam nut followed by the primary spring seat onto the body, install the spring and attach the hat to hold the spring.

25. Install the coil over shocks with the adjustment knobs on the bottom. On the lower coil over mounting stud be certain to install the 5/8" SAE washers onto the stud before attaching it to the lower trailing arm mount. No washer is required on the inside of the mount. The exploded view below will help explain the procedure. We recommend adjusting the coil over shocks about two full turns of threads after the spring is hand tightened. This is a good starting point. Coil overs will settle up to 3/4" after about fifteen to twenty miles of driving, so set the height of your vehicle about 5/8" higher than you want it. It will settle.

26. You can now put the vehicle on the ground. You are done. Drive carefully.

We strongly recommend that all fasteners are re-torqued at between 25-50 miles of driving.

LOWER COILOVER MOUNTING HARDWARE			
ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	62FNN8Z	5/8" - 18 GRADE 8 NYLOCK NUT YZ (FINE THREAD)	2
2	62NWSHZ	5/8" SAE FLAT WASHER	2



IMPORTANT

DISCLAIMER In an effort to offer our customers the value and service, Blue Moon Services LLC d/b/a Control Freak Suspensions

(herein referred to as Control Freak) reserves the right to change suppliers, specifications, colors, prices, materials. Each of the previous items is subject to change without notice. Control Freak is not responsible for any typographical errors or misinterpretations. Quantities are limited on some items.

WARRANTY DISCLAIMER The purchaser understands and recognizes that racing parts, specialized high performance equipment, and all parts and services sold by Control Freak, are exposed to many and varied conditions due to the manner in which they are installed and used. Control Freak makes no warranties, either express or implied, including any warranty of merchantability or fitness for a particular purpose other than those contained in its current catalog with respect to the goods identified on the face of the invoice. There is no warranty expressed or implied as to whether the goods sold hereby will protect purchaser or ultimate user of such goods from injury or death. Control Freak assumes no liability after this period.

DAMAGE CLAIMS Always inspect your package upon delivery. Inspect all packages in the presence of the delivery driver. The driver must note any damage. Ask the driver the Carrier's procedures for handling damage claims. You must hold the original box, packing material and damaged merchandise for inspection or the carrier will not honor the claim. Notify Control Freak for instructions on returning damaged goods. Control Freak is not responsible if no notification is given within two (2) days of receipt.

SHORTAGES Always check the contents of your delivery to insure all the parts that you ordered were received. Please read the invoice. Double check all packing materials, small items may be wrapped inside with these products. Shortages may occur from damage to the box, so save all packing materials. Inspect the box for holes that would allow parts to fall out. If you are missing any item(s) be sure to check your invoice for back orders or canceled items before calling the customer service department. If Control Freak has to split a shipment into multiple boxes, packages may be delivered on different days. You need to contact the customer service department within 5 days of delivery to assure the prompt replacement. Control Freak assumes no liability after this period.

REFUSALS All refused COD customers will be billed a 15% restocking charge plus freight to and from the destination! If you have questions please contact Control Freak.

WARRANTY CLAIMS If an item has a manufacturer's warranty as being free from defects we will exchange that item. If the item has been used and you are requesting warranty work, this may take up to 30 days as warranty work is done in-house by Control Freak. If you have any questions please contact customer service.

RETURNS Control Freak wants you to be satisfied with your purchase. If within 30 days after you receive your shipment you are not satisfied, you may return the item for refund or exchange. All exchanged or returned merchandise must be in original factory condition with no modifications or alterations. Returned merchandise must include all packaging materials, warranty cards, manuals, and accessories. If the items being returned need to be repackaged there will be a re-packing charge. Re-pack the item in a sturdy box and include a copy of your invoice and complete the form on the back of the invoice. You must ship orders back **PRE-PAID. WE DO NOT ACCEPT COD SHIPMENTS.** All exchanges need to have reshipping charges included. Items that are returned after 30 days are subject to 15% restocking charges. Absolutely no returns on custom built suspension systems or other special order merchandise.

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**INSTRUCTIONS – 1962-65
B-BODY PARALLEL 4-LINK**



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