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# Part # 13017199
# 68-70 Chrysler "B" Body Rear AirBar

**Components:**

| | | |
|---|---|---|
| 1 | 90000601 | Upper bar bridge |
| 1 | 90000600 | Upper Shockwave bridge |
| 2 | 90000599 | Lower bar frame mounts |
| 2 | 90001444 | Lower axle mounts |
| 1 | 90000535 | Driver side lower mount |
| 1 | 90000536 | Passenger side lower mount |
| 2 | 90002818 | Upper bars – TW 8.125" (10" C-C length) |
| 2 | 90002843 | Lower bars – WW 21.75" |
| 2 | 70013364 | RH R-Joint Threaded Housing End (installed in bars) |
| 2 | 99752004 | ¾"-16 jam nut – for rod end |
| 12 | 70013334 | R-Joint Spacers |
| 4 | 70013769 | Front Lower R-Joint Spacer |
| 2 | 90000524 | Inner axle tab (Larger) |
| 2 | 90000155 | Outer axle tab |
| 2 | 90000616 | Inner support plates |
| 2 | 70002825 | 5/8" shock studs w/ hardware |
| 4 | 90002067 | Aluminum spacer for stud |
| 4 | 99566001 | U-bolts - Lower axle bracket to axle |
| 2 | 70010694 | Jig brackets for upper bar installation |
| | **R-Joint Components** (installed in bar ends) | |
| | 70013279 | Retaining Ring |
| | 70012380 | Wavo Wave Spring |
| | 70013275 | R-Joint Center Ball |
| | 70013276 | R-Joint Composite Center Ball Cage |

**Hardware:** (Part # 99010021)

**4 Link Bars**

| | | |
|---|---|---|
| 6 | 5/8”-11 x 2 ¾” Gr.5 bolt | Upper & lower bars |
| 2 | 5/8”-11 x 4” Gr.5 bolt | Lower bar frame mount |
| 8 | 5/8”-11 Nylok jam nut | Upper & lower bars |

**Lower ShockWave mount to axle bracket**

| | | |
|---|---|---|
| 4 | 1/2”-13 x 1 ¼” Gr. 5 bolt | Lower Shockwave mount to axle bracket |
| 4 | 1/2"-13 Nylok nut | Lower Shockwave mount to axle bracket |

**ShockWave to Lower Mount**

| | | |
|---|---|---|
| 2 | 1/2”-13 x 2 ¼” Gr. 5 bolt | Shockwave to lower mount |
| 2 | 1/2”-13 Nylok jam nut | Shockwave to lower mount |

**Lower Bar Frame Mount**

| | | |
|---|---|---|
| 8 | 3/8”-16 x 1 ¼” Gr. 5 bolt | Lower bar frame mount |
| 8 | 3/8”-16 Nylok nut | Lower bar frame mount |
| 16 | 3/8” SAE flat washer | Lower bar frame mount |

**Upper Bridges**

| | | |
|---|---|---|
| 30 | 3/8”-16 x 1” thread forming bolt | Upper bridges |
| 32 | 3/8” SAE flat washer | Upper bridges |
| 2 | 3/8”-16 Nylok nuts | Inner support plate |
| 2 | 1/2"-13 x 1 ¼” Gr.5 bolt | Shockwave bridge to body |
| 2 | 1/2"-13 Nylok nut | Shockwave bridge to body |
| 2 | 1/2" SAE flat washer | Shockwave bridge to body |

**Bar Setting Jig**

| | | |
|---|---|---|
| 2 | 3/8”-16 x ¾” Gr. 5 bolt | Upper bar installation jig |
| 2 | 3/8”-16 nut | Upper bar installation jig |

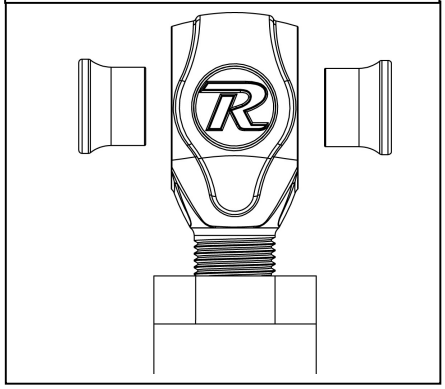
**U-Bolts**

| | | |
|---|---|---|
| 8 | 9/16”-18 Hex Nut | U-Bolt Hardware |
| 8 | 9/16” SAE Flat Washer | U-Bolt Hardware |

Shock Stud

| | | |
|---|---|---|
| 2 | 7/16” -20 Nylok Nut | Shock Stud |
| 2 | 7/16” SAE Flat Washer | Shock Stud |
| 2 | 5/8” SAE Flat Washer | Shock Stud |

**R-Joint Spacer Installation**



1. Raise the vehicle to a safe and comfortable working height. Use jack stands to support the vehicle with the suspension hanging freely.

2. Support the axle and remove the leaf springs, front leaf spring mounts, shocks and tail pipes. Refer to the factory service manual for proper disassemble procedures.



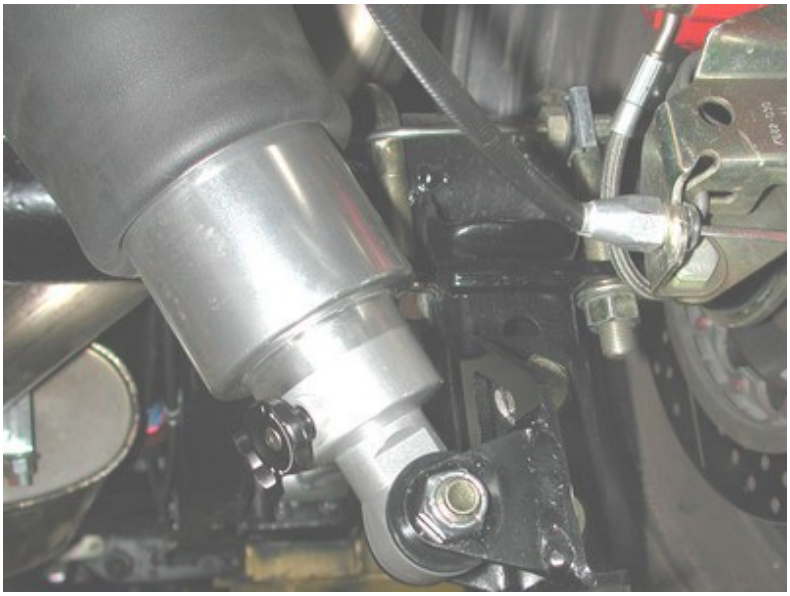

3. Slide the upper bar bridge between the frame rails. Using the bridge as a template, mark all the holes in the frame and drill with a 5/16” bit. Then secure the bridge using the 3/8” x 1” thread forming bolts and flat washers.

4. The front of the bridge will require a 3/8” hole to secure it to the body. The inner support plate will drop into these holes from the inside of the car. Two 3/8” nyloks will secure the plate.

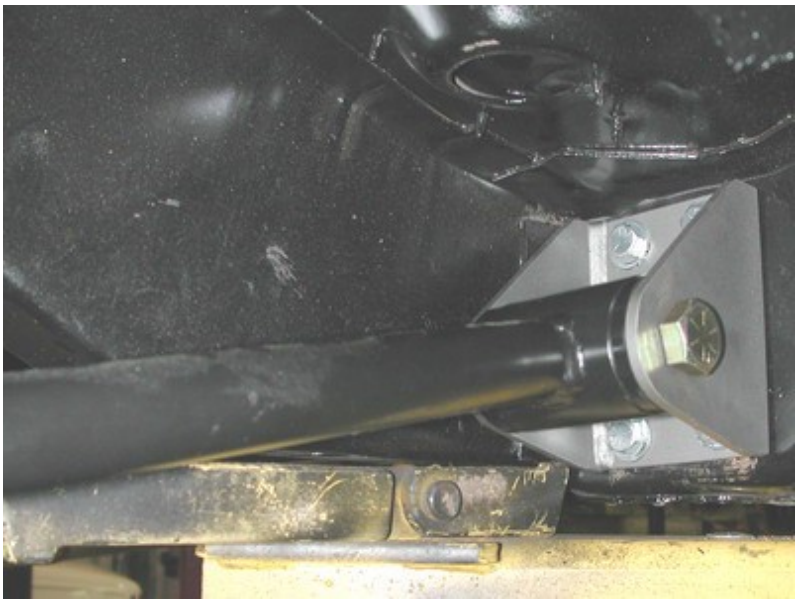



5. The upper Shockwave bridge will slide between the frame rails directly behind the factory shock cross member. The bridge will be positioned by bolting the tabs to the factory shock hole. Fasten the bridge to the factory shock mount using 1/2" x 1 ½” bolt, flat washer and Nylok nuts. Using the bridge as a template drill the holes in the frame with a 5/16” bit. 3/8” x 1” thread forming bolts and flat washers will hold the bridge in place.

6. Screw one of the Shockwave studs into the upper bridge.

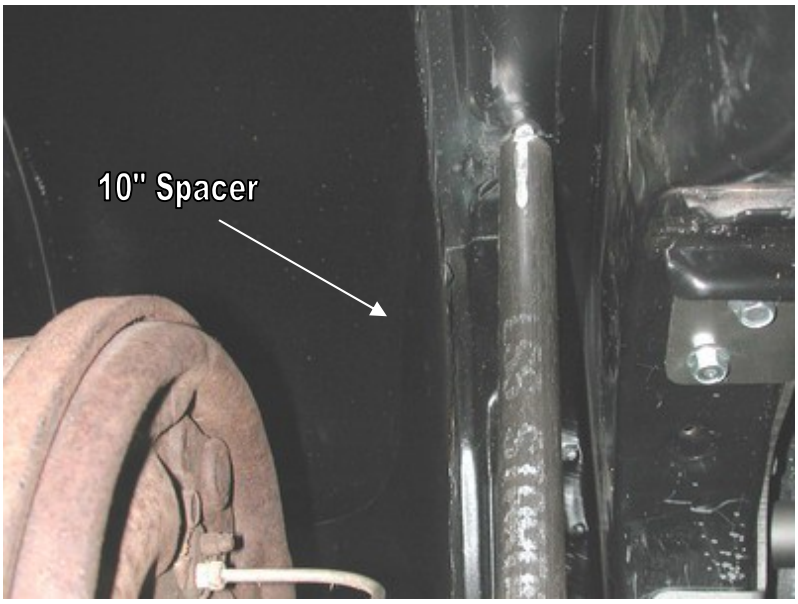


7. Bolt the lower axle bracket to the leaf spring pad using the 9/16” U-bolts and hardware supplied. Bolt the lower Shockwave mount to the axle bracket using the 1/2” x 1 ¼” bolts and Nylok nut.



8. Bolt the new lower bar frame mount to the body using 3/8” x 1 ¼” bolts, Nylok nuts and flat washers.

9. Insert the WIDE R-joint Spacers into the center pivot ball in one end of the lower bar and NARROW Spacers into the other end. Attach the wide end of the lower bar to the frame mount using a 5/8” x 4” bolt and Nylok jam nut. The smaller end will attach to the axle mount using a 5/8” x 2 ¾” bolt and Nylok jam nut.

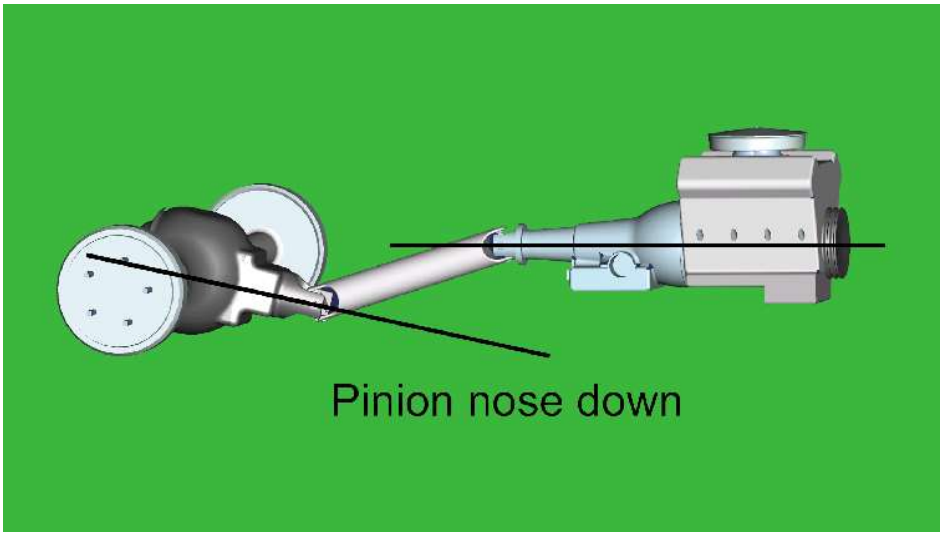


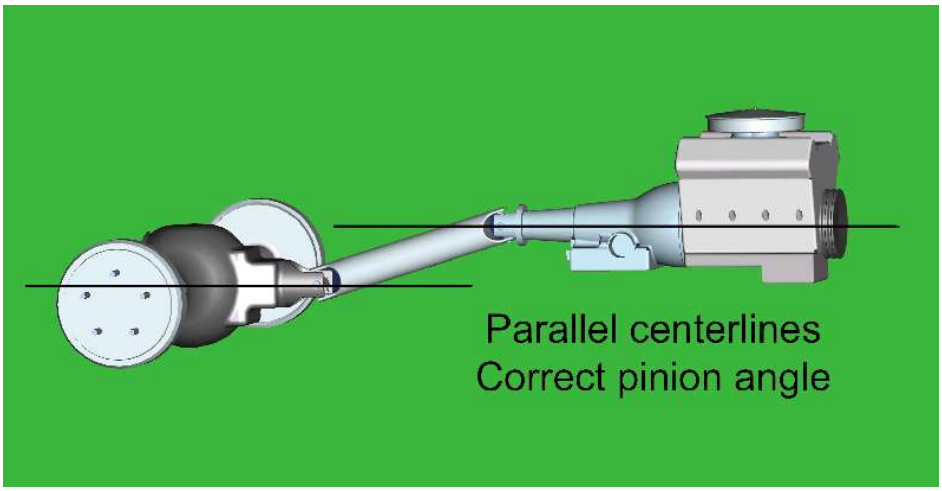

10. Raise the axle to ride height. This can be determined by measuring 10” from the top of the axle up to the body, just outside the rail.

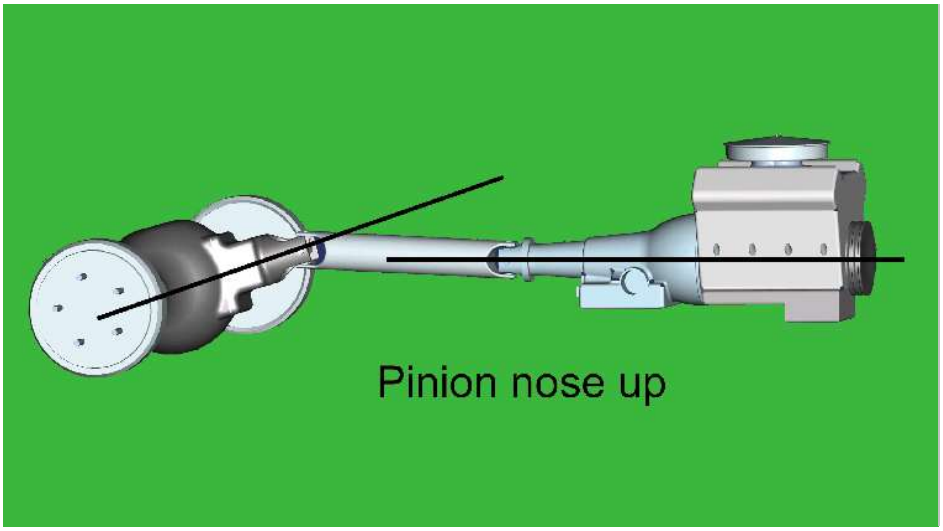
11. Then center the axle left to right between the frame rails.

12. The pinion angle must also be set at this time. This is explained on the next page.

13. One trick to help maintain the settings is to tack weld a 10” spacer between the axle and body. This spacer is temporary and must be removed after installation is complete.




14. How do you set the pinion angle? On a single-piece shaft you want to set it up where a line drawn through the center of the engine crankshaft or output shaft of the transmission and a line drawn through the center of the pinion are parallel to each other but not the same line.

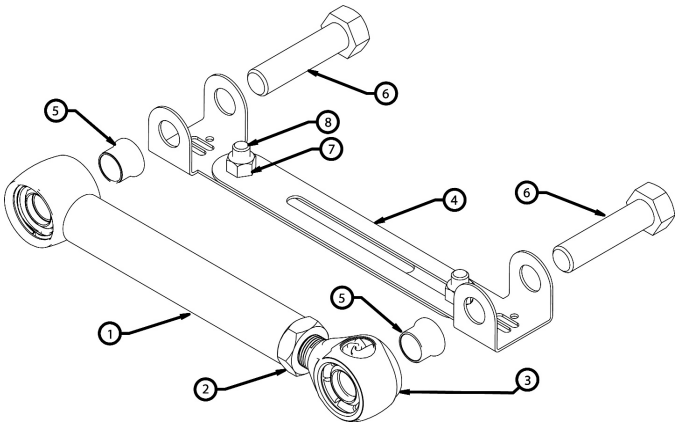
Your transmission angle should be around 3 degrees down in the rear. If it is more or less than 3 degrees, you might want to consider changing it. Too little angle on the transmission reduces the amount of oil getting to the rear bushing. Too much transmission angle will increase the working angles of the u-joints which will increase the wear. With the transmission at 3 degrees down in the rear, you will want to set the pinion 3 degrees up in the front.

A simple way to do this is to place a digital angle finder or dial level on the front face of the lower engine pulley or harmonic balancer. This will give you a reading that is 90 degrees to the crank or output shaft unless you have real problems with your balancer. At the other end, you can place the same level or angle finder against the front face of the pinion yoke that is also at 90 degrees to the centerline. If you rotate the yoke up or down so both angles match, you have perfect alignment.

Road testing will tell you if you have it right. If you accelerate and you get or increase a vibration, then the pinion yoke is too HIGH. Rotate it downward in small increments of a degree or two until the problem goes away. If you get or increase a vibration when decelerating, then the pinion yoke is too LOW. Rotate it upward to correct it.

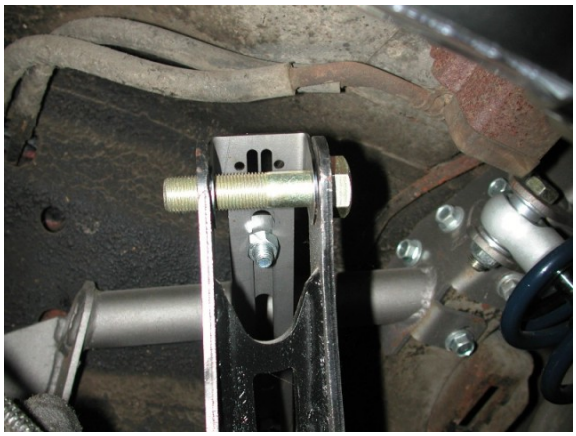
# Upper Bar Installation Jig

- This jig has been supplied to aid in the installation of the upper 4 link bar. It can be temporarily used to properly align, locate and weld the tabs onto the axle. It will also ensure that the mounting bolts are parallel to the ground.
- Follow the diagram below to set the jig to the same length as the upper bar, use the 3/8” x 3/4” bolt and nuts to set the length.
- Position the axle at ride height. Center the axle left to right between the quarter panels. Set pinion angle.
- Bolt one end of the jig to the cradle using a 5/8” x 2 ¾” bolt.
- Using another 5/8” x 2 ¾” bolt, fasten the axle tabs to the other end. The tabs must be bolted to the **outside** of the jig. Long tab to the inside, short tab to the outside.
- Swing the bar down letting the tabs rest onto the axle. Trim the brackets as necessary to minimize the gap to be welded.
- Check pinion angle, ride height and axle center. Tack-weld the tabs in place.
- Remove jig and install upper bar.
- Repeat this process for the other side.
- Recheck pinion angle, ride height and axle center. (Sound familiar?)
- After the tabs have been tack welded on both sides, remove the upper bars to avoid melting the rubber bushings. Let the axle drop down for better access to the tabs. Lay 1” welds on the inside and outside of the tabs. Skip around from one side to the other to avoid overheating the tube.




| Item # | Description |
|---|---|
| 1. | Upper bar |
| 2. | 3/4”-16 jam nut |
| 3. | R-Joint End |
| 4. | Alignment jig |
| 5. | R-Joint spacer |
| 6. | 5/8”-11 x 2 ¾” bolt |
| 7. | 3/8”-16 nut |
| 8. | 3/8”-16 x 3/4" bolt |





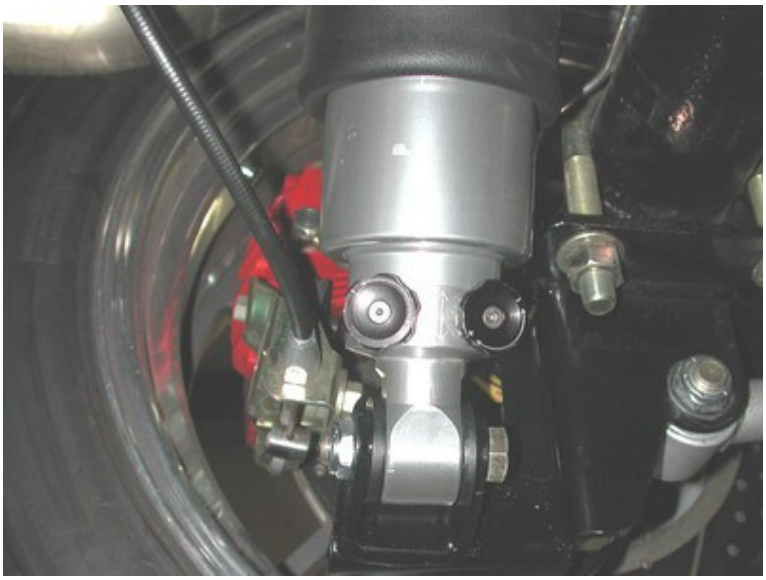


15. Check the length of the upper bar; it should be 10" C-C.

16. Refer to the previous page on using the setting jig to tack weld the tabs onto the axle.

17. Tack-weld the tabs to the axle then recheck alignment. To avoid warping the axle, weld 1” at a time and skip around.

18. Insert R-Joint spacers into the r-Joint in the upper bars and install the bars using 5/8” x 2 ¾” Bolts and 5/8” Nylok Nuts.

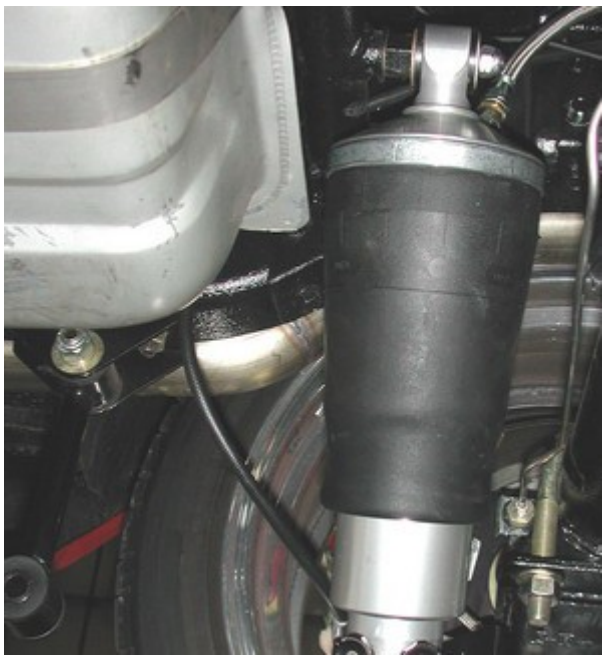


19. Apply thread sealant to the air fitting and screw it into the top of the Shockwave.

20. Fasten the Shockwave to the lower mount using the ½” x 2 ¼” bolt and Nylok nut.

21. The 10” spacer can now be removed.

22. With the axle still at ride height all of the bolts can be tightened.



23. The stock exhaust tail pipe will not work. A turndown may be installed or a custom pipe may be fabricated.

**24. Double-check Shockwave/CoilOver clearance through full suspension travel. Failure to do so will cause failure and is not a warrantable situation.**

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# Should I weld my AirBar 4 link assembly in?

Since we get this question quite often, it deserves a proper explanation.
The AirBar has been designed for bolt-in installation. We have paid special attention to interfacing with key structural areas of each vehicle, fastening bracketry in at least two planes to properly distribute load paths, and to using appropriate fasteners that roll, rather than cut, threads into the vehicle structure.
Having said that, you could potentially encounter a vehicle that has rust or collision damage in these areas. Or maybe you intend to consistently place the vehicle in severe racing applications with sticky racing slicks and high speed corners. In these cases it is perfectly acceptable to weld the AirBar components into your vehicle. Even in these severe cases we recommend that you install the entire AirBar assembly first [including the fasteners], and then use short 1” long tack welds to secure your installation. Remember that the vehicle structure metal is typically much thinner [.060”-.120” ]  than the .188” thick AirBar brackets. If you burn through the vehicle sheet metal structure you may end up with an installation that is weaker than before you tried to weld it.
The other reason to weld in your AirBar assembly is…you simply want to. You’re a welding kind of guy…that’s the way you’ve always done it…you have the skills and equipment to do it. In that case…weld away with our blessing!