

DAIMLERCHRYSLER

RECEIVED

MAY 14 P 4 30

DaimlerChrysler Corporation

May 9, 2002

OFFICE OF DEFECTS
REGISTRATION

Mr. Kenneth N. Weinstein
Associate Administrator, Safety Assurance
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

Dear Mr. Weinstein:

Reference: NHTSA Identification Number 01V312 and ~~01V313~~

Enclosed are representative copies of communications relating to the 1996 through 1999 model year vehicles involved in the referenced recalls. In order to facilitate implementation, NHTSA Recall 01V313 has been divided into two phases based on vehicle build dates. 1996 through early built 1999 model year vehicles involved in NHTSA 01V313 will be combined with correction of a rear differential mounting bracket issue (NHTSA 01V312 DaimlerChrysler Recall 998). The remaining later built 1999 and 2000 model year phase two vehicles that only require correction of the steering rack crossmember issue (NHTSA 01V313) will be included in DaimlerChrysler Recall 999. DaimlerChrysler expects to begin Recall 998 owner notification during the week of May 20, 2002. The exact number of vehicles in the recall is 3,006 (1996 and 1997 – The Polk Company currently registered and 1998 and 1999 – manufactured).

The involved Vehicle Identification Number range is:

<u>Low</u>	<u>High</u>
TV100001	TV201128
VV300076	VV302647
WV400001	WV401704
XV501033	XV503008

(VIN last eight characters) - T = 1996 model year; V = 1997 model year; W = 1998 model year; X = 1999 model year; V = Conner Ave. Assembly Plant, Detroit Michigan; and the last six digits = sequential number.

This completes DaimlerChrysler's package of information for 01V312 as required by the Defects Report Regulation.

Sincerely,



Stephan J. Speth, Director
Vehicle Compliance and Safety Affairs

Enclosure: Recall #998

cc: K. C. DeMeter

Dealer Service Instructions for:

Safety Recall No. 998

Steering and Differential Frame Repair

Models

1996-1999 (SR) Dodge Viper (Coupe and Roadster)

NOTE: This recall applies only to the above vehicles built through March 1, 1999 (MDH 030110).

IMPORTANT: Some of the involved vehicles may be in dealer used vehicle inventory. **Dealers should complete this recall service on these vehicles before retail delivery.** Dealers should also perform this recall on vehicles in for service. Involved vehicles can be determined by using the DIAL VIP System.

Subject

Aggressive driving, such as racing, on about 4,700 of the above vehicles, may lead to cracking and separation of the steering gear crossmember from the frame. This can cause unexpected steering looseness and lag. Aggressive driving can also lead to cracking and separation of a differential mounting bracket which could cause a loss of vehicle control. Either condition could result in an accident without warning.

Repair

The steering gear crossmember must be inspected for cracks. Vehicles with a cracked steering gear crossmember must have the crossmember replaced. All involved vehicles must have frame gussets and a steering gear crossmember reinforcement bracket installed.

In addition the left differential mounting bracket must be inspected for cracks. Vehicles that have a cracked mounting bracket must have the bracket replaced. All involved vehicles must also have a differential support bracket installed.

Parts Information

A. Frame Reinforcement Packages

NOTE: Frame reinforcement packages CAAM9981 and CAAP9982 are required to repair each vehicle. Additional parts packages, listed below, may be required depending on the conditions found on a particular vehicle.

<u>Part Number</u>	<u>Description</u>
CAAM9981	Steering Reinforcement Package

Each package contains the following components:

<u>Quantity</u>	<u>Description</u>
1	Steering Gear Crossmember Reinforcement
1	Right Side Frame Rail Gusset
1	Left Side Frame Rail Gusset
24	Structural Steel Rivets

<u>Part Number</u>	<u>Description</u>
CAAP9982	Differential Reinforcement Package

Each package contains the following components:

<u>Quantity</u>	<u>Description</u>
1	Differential Support Bracket
1	Differential Bracket "Z" Bracket
1	Differential Support Bracket Bolt
1	Differential Support Bracket Nut
10	Structural Steel Rivets

Each dealer to whom vehicles in the recall were invoiced (or the current dealer at the same street address) will receive enough of each reinforcement package to service about **10%** of those vehicles.

B. Steering Gear Crossmember Assembly

<u>Part Number</u>	<u>Description</u>
CAAM9983	Steering Gear Crossmember Assembly

Parts Information (Continued)

C. Differential Frame Bracket Repair Package

<u>Part Number</u>	<u>Description</u>
CAAP9984	Differential Frame Bracket Repair Package

Each package contains the following components:

<u>Quantity</u>	<u>Description</u>
1	Differential Frame Reinforcement Plate
1	Differential Mounting Bracket
1	Differential Mounting Bracket Gusset

D. Rear Toe Link Bracket Assembly

<u>Part Number</u>	<u>Description</u>
CAAP9985	Rear Toe Link Bracket Assembly

E. Fuel Tank Access Panel Package

<u>Part Number</u>	<u>Description</u>
CAAP9986	Fuel Tank Access Panel Package

Each package contains the following components:

<u>Quantity</u>	<u>Description</u>
1	Service Panel, Fuel Tank
24	Rivets

NOTE: If individual rivets are required order P/N 06034578.

F. Corrosion Protection

<u>Part Number</u>	<u>Description</u>
CAAM9987	Zinc Rich Primer (quart can)

NOTE: One can of zinc rich primer will repair approximately 10 vehicles.

<u>Part Number</u>	<u>Description</u>
CAAM9988	Black Spray Paint

Each dealer to whom vehicles in the recall were invoiced (or the current dealer at the same street address) will receive ONE (1) can of zinc rich primer and black spray paint. Additional primer and paint may be ordered as required.

Parts Information (Continued)

G. Vehicle Curb Height Adjustment Shims

<u>Part Number</u>	<u>Description</u>
04709321	Spring Seat Shim, Increase Height
04763943	Spring Seat, Reduced Height

Special Tools

A special air/hydraulic power set riveter tool is required for the installation of the structural rivets and fuel tank access panel rivets. ALL Chrysler and Dodge dealers previously received ONE (1) W-AK175ACH Power Set Riveter, free of charge, through Pentastar Service Equipment (PSE) in December 1998.

In addition, all Chrysler, Dodge and Jeep dealers received ONE (1) W-202145 air/hydraulic power set riveter tool nose piece, free of charge, in April 2002.

Additional power riveters and/or nose pieces may be ordered through Pentastar Service Equipment (PSE) at dealer cost by calling 1-800-223-5623 or faxing 1-800-734-4334. Additional power riveters and/or nose pieces are NOT reimbursable by DaimlerChrysler.

The following existing special tools may be required to perform this recall:

- | | |
|------------------------|-----------------------------------------------------|
| ➤ #6632 | Adapter, Torque Wrench |
| ➤ W-AK175ACH | Riveter, Air/Hydraulic Powered |
| ➤ W-202145 | Nose Piece, Gold Color |
| ➤ C-4799-1 | Hose, Pressure Release (Part of C-4799-A Gauge Kit) |
| ➤ #6856 | Spanner Wrench, Fuel Pump Module |
| ➤ C-3894-A | Puller, Tie Rod |
| ➤ GP-2020-C3.5 | Compressor, Coil Spring |
| ➤ APS357B or JHW-0-472 | Wrench, Spanner |
| ➤ #6914 | Height Gages, Suspension |
| ➤ #8396-1 | Adapter, Height Gage |
| ➤ #6990 | Essential Tool Kit, Viper |
| | Kit Contains: |
| | #6996 - Switch Box, Inclinometer |
| | #6989 - Inclinometer |
| | #6916 - Adapter, Rear Caster |
| | #6915 - Adapter, Front Caster |

Service Procedure

A. Inspect Steering Gear Crossmember

1. Raise the vehicle on an appropriate hoist.
2. Inspect the steering gear crossmember-to-frame attachment for cracks in areas shown in Figure 1.
 - If cracks are found, continue with Section “B – Replace Steering Gear Crossmember.”
 - If no cracks are found, continue with Section “C – Install Steering Gear Crossmember Reinforcement Bracket.”

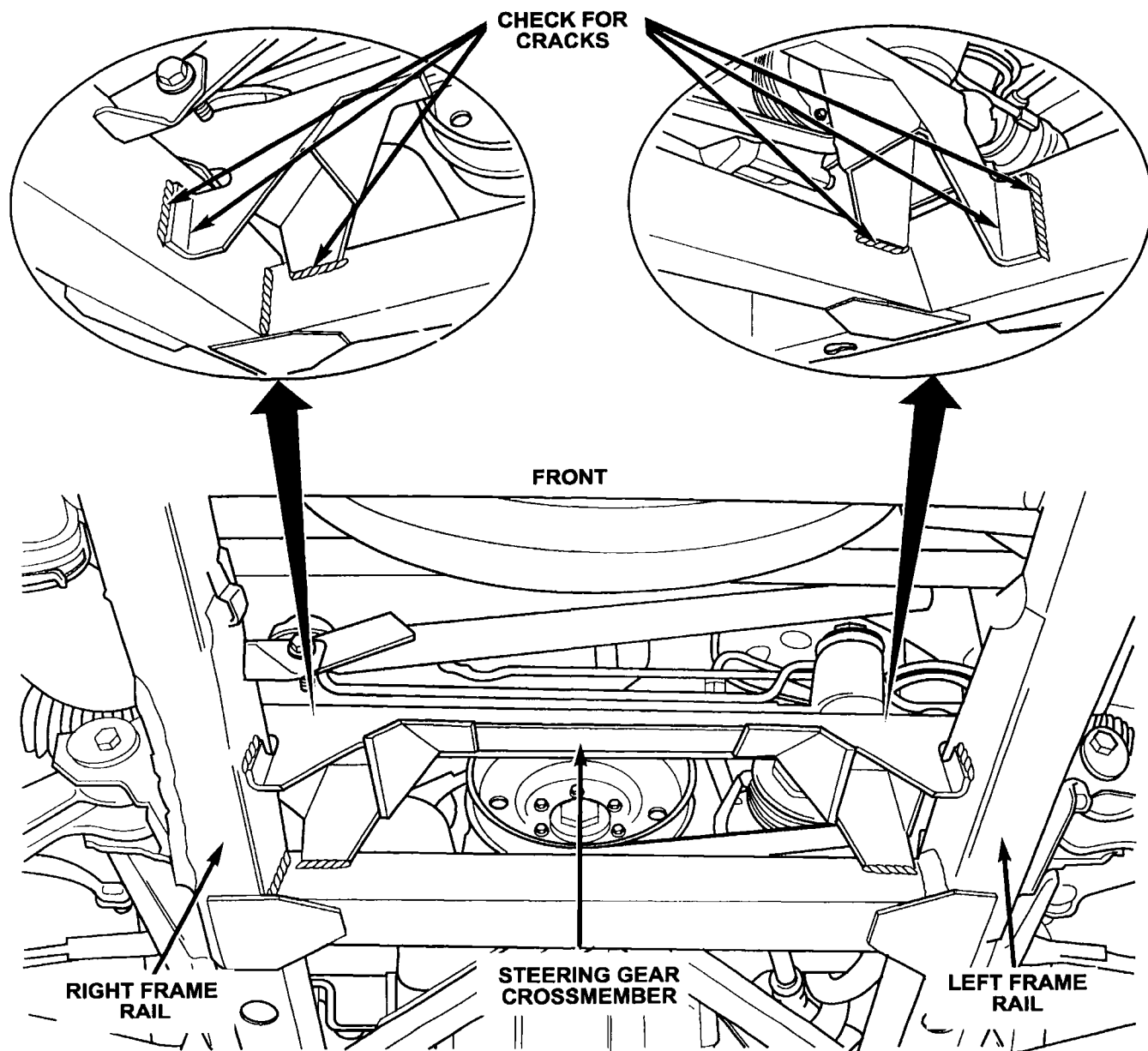


Figure 1 – Under-Car View

Service Procedure (Continued)**B. Replace Steering Gear Crossmember**

NOTE: Steering gear crossmember replacement requires the use of P/N CAAM9983.

1. Remove both rear tire and wheel assemblies.
2. Remove the fasteners that attach the battery access panel (Figure 2) and remove the panel.
3. Disconnect and isolate the negative battery cable at the battery.

NOTE: To enhance customer satisfaction, remember to record all radio settings before disconnecting the battery and to reset all electronic memory (clock, radio settings, etc.) when you have completed the service procedure.

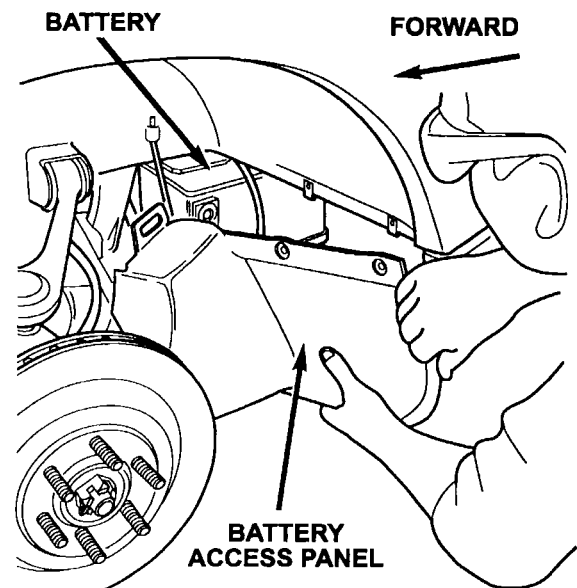


Figure 2

4. Disconnect and isolate the positive battery cable at the battery.

CAUTION: Failure to isolate both the positive and negative battery cables from the battery may cause Powertrain Control Module (PCM) and/or battery damage during welding.

Service Procedure (Continued)

B. Replace Steering Gear Crossmember (Continued)

- Using a 6-inch steel ruler, measure the distance from the inside rear edge of the steering gear crossmember to the lower edge of the frame crossmember. Perform this measurement procedure on the right and left side of the steering crossmember (Figure 3). Record these measurements for future reference.

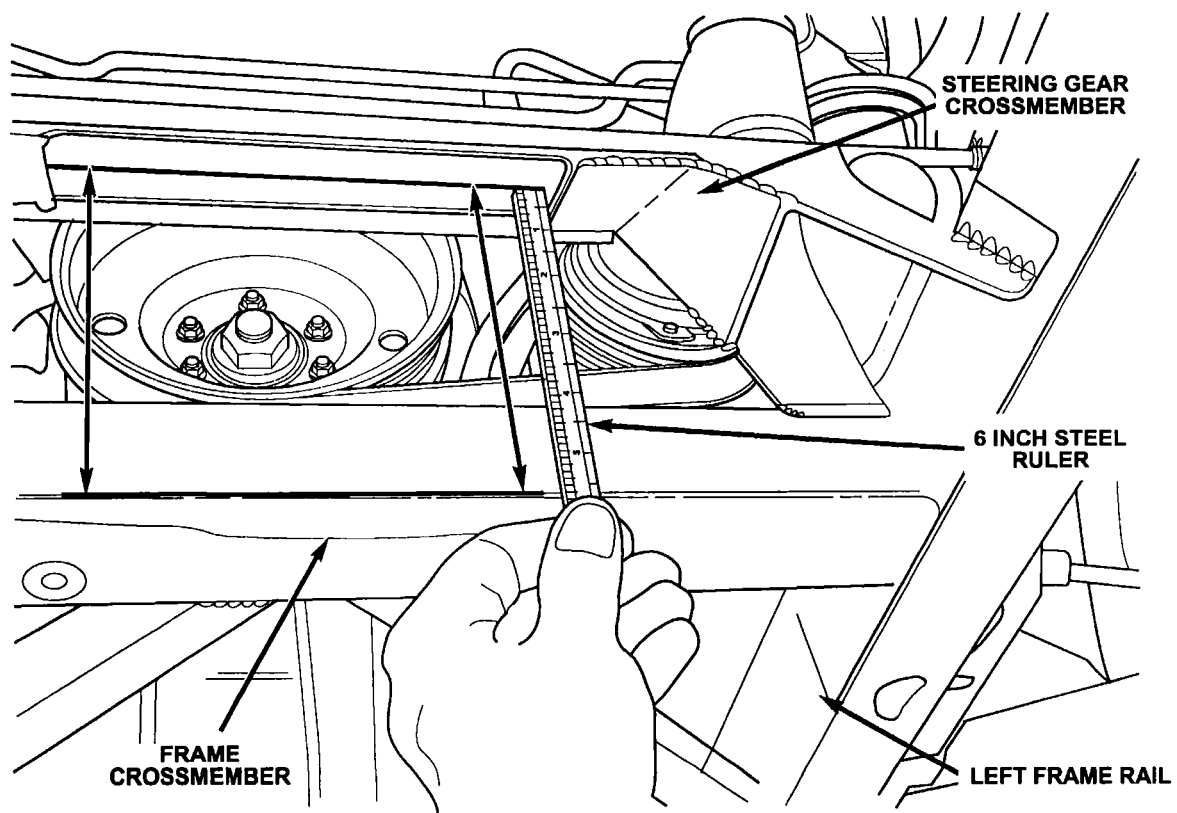


Figure 3

Service Procedure (Continued)**B. Replace Steering Gear Crossmember (Continued)**

- Using Special Tool #6632, remove the two steering gear mounting bolts (Figure 4).

CAUTION: There are selective toe pattern shims located between the steering gear mounting bushings and the steering gear crossmember (Figure 5). Using a grease pencil, mark the shims (right or left side) so that they can be reinstalled into their original position.

NOTE: The right side steering gear mounting bolt has a tapping plate nut located on the bottom side of the steering gear crossmember (Figure 5). The tapping plate nut must be saved.

- Using plastic tie straps or equivalent, temporarily secure the steering gear tie rod arms to the stabilizer bar. This will keep the steering gear suspended above the steering gear crossmember.
- Using a cut off wheel, grind off all of the welds that hold the steering gear crossmember to the frame.

CAUTION: Do not use plasma arc cutting equipment or cutting torch to remove the steering gear crossmember.

- Once the steering gear crossmember has been removed, grind all areas where the new steering crossmember is to be welded. All old weld material and paint must be removed.

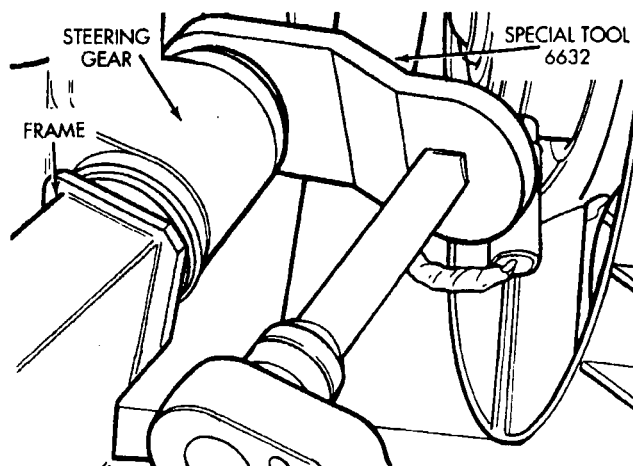


Figure 4

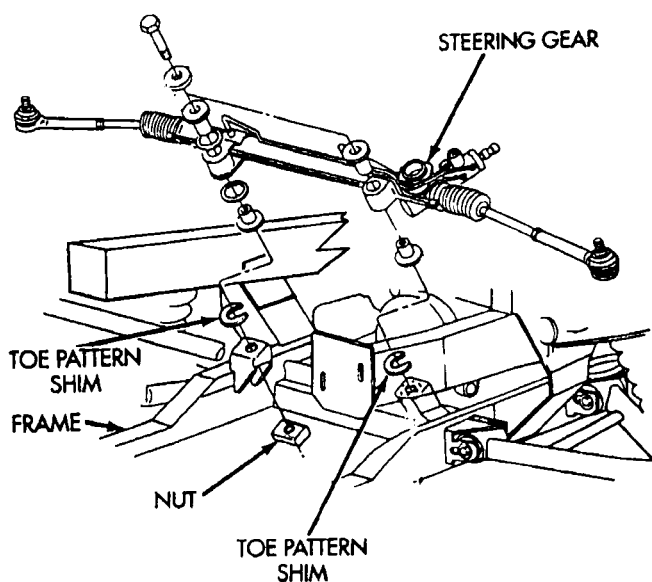


Figure 5

Service Procedure (Continued)

B. Replace Steering Gear Crossmember (Continued)

10. Using two "C" clamps, carefully clamp the new steering gear crossmember into position. Center the steering gear crossmember between the frame rails and use the measurements recorded in Step 5 to set new steering gear crossmember to the correct height (Figure 6).

NOTE: Place the "C" clamps at the bottom edge of the crossmember mounting tab.

11. Shield the surrounding area and components from exposure to welding heat and spatter.
12. Tack weld the rear crossmember mounting tabs into position. Remove the "C" clamps and check the position of the crossmember. Adjust the location if necessary.

WARNING: Only use the specified welding wire (Lincoln Electric Co. NR-211 MP). Do not substitute with other types or thickness welding wire.

IMPORTANT: All welding must be performed by a qualified welder.

NOTE: Refer to the Welding Procedure Specifications Chart on page 68 of this document for all welder set-up information.

CAUTION: Attach the welder ground lead directly to the frame as close to the weld area as possible.

13. Weld the rear crossmember tabs into position (Figure 8). Do not weld the front tabs at this time.
14. Using "C" clamps, clamp the right and left side steering crossmember front tabs to the frame rails (Figure 7).

NOTE: Both front tabs must be clamped into place before welding.

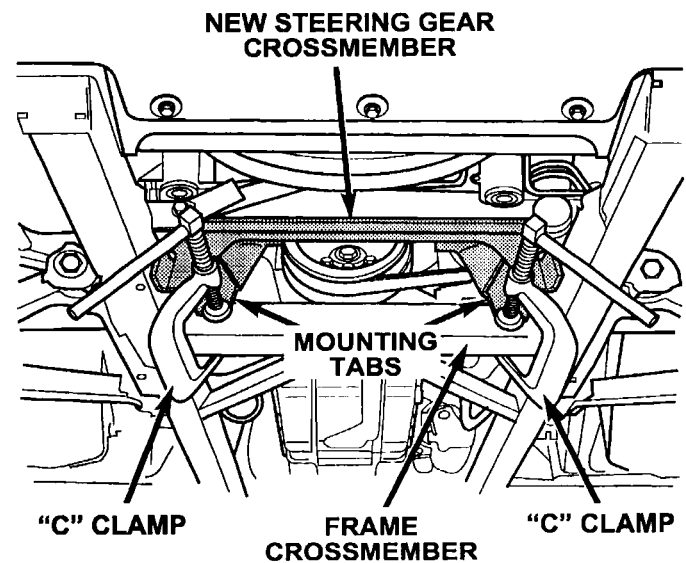


Figure 6

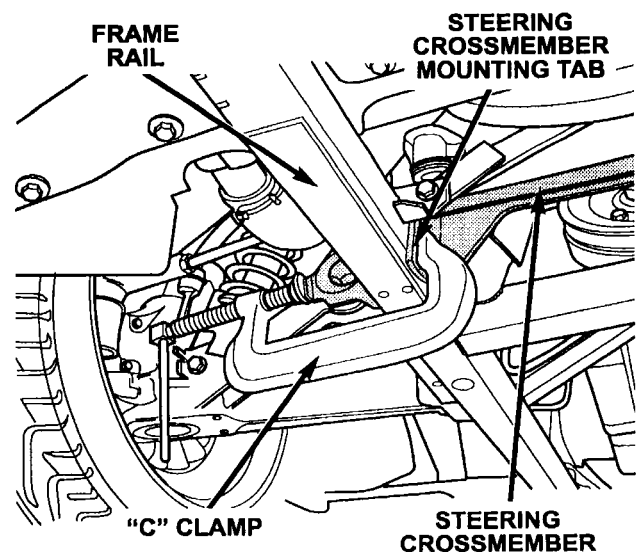


Figure 7 – Right Side Shown

Service Procedure (Continued)**B. Replace Steering Gear Crossmember (Continued)**

15. Tack weld the front steering gear crossmember mounting tabs to the side of the frame rails and then remove the “C” clamps (Figure 8).

16. Recheck the steering gear crossmember positioning and adjust if required.

17. Weld the steering gear crossmember mounting tabs to the side of the frame rails (Figure 8).

18. Remove the weld splatter shielding installed in Step 11.

19. Remove the tie straps and position the steering gear onto the steering gear crossmember.

20. Lift the left side of the steering gear slightly and place the left side selective toe pattern shim(s) under the steering gear mounting bushing (Figure 5). Then install the mounting bolt. Do not tighten the mounting bolt at this time.

21. Lift the right side of the steering gear slightly and place the right side selective toe pattern shim(s) under the steering gear mounting bushing (Figure 5). Then install the mounting bolt and tapping plate nut.

22. Using Special Tool #6632 and a torque wrench, tighten both mounting bolts to 150 ft. lbs. (203 N·m).

23. Continue with Step 5 of Section “C – Install Steering Gear Crossmember Reinforcement Bracket.”

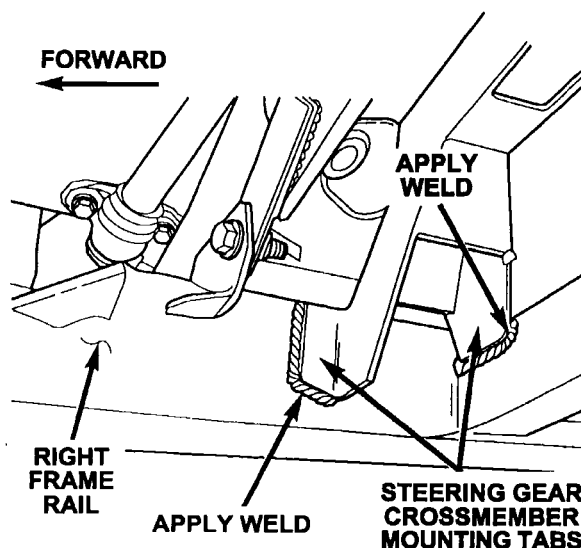


Figure 8 – Right Side Shown

Service Procedure (Continued)**C. Install Steering Gear Crossmember Reinforcement Bracket**

NOTE: Steering gear crossmember reinforcement repair requires the use of P/N CAAM9981 repair package.

NOTE: For vehicles that have had a new steering gear crossmember installed (Section “B”), proceed to step 5.

1. Remove both rear tire and wheel assemblies.
2. Remove the fasteners that attach the battery access panel (Figure 2) and remove the panel.
3. Disconnect and isolate the negative battery cable at the battery.

NOTE: To enhance customer satisfaction, remember to record all radio settings before disconnecting the battery and to reset all electronic memory (clock, radio settings, etc.) when you have completed the service procedure.

4. Disconnect and isolate the positive battery cable at the battery.

CAUTION: Failure to isolate both the positive and negative battery cables from the battery may cause Powertrain Control Module (PCM) and/or battery damage during welding.

Service Procedure (Continued)**C. Install Steering Gear Crossmember Reinforcement Bracket**
(Continued)

5. Place the steering gear reinforcement bracket into position, just in front of the steering gear crossmember and on top of the frame rails (Figure 9). The reinforcement bracket must be centered between the frame rails.

NOTE: The reinforcement bracket must be positioned flush against the steering gear crossmember. Minor grinding of the existing steering gear crossmember welds may be required.

6. Mark all of the locations on the steering gear crossmember, frame rails and reinforcement bracket where welding will be performed with a grease pencil (Figure 9).

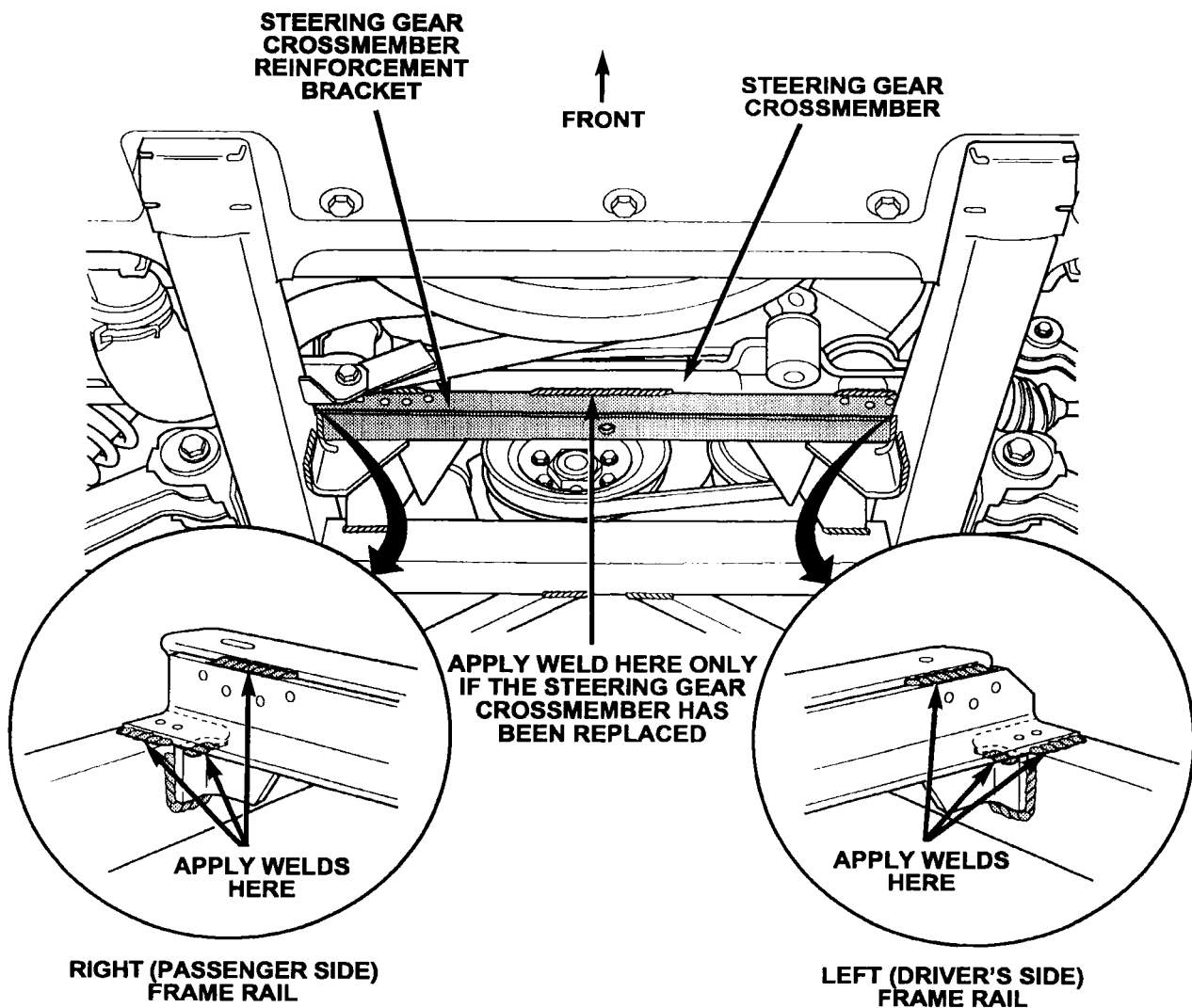


Figure 9

Service Procedure (Continued)**C. Install Steering Gear Crossmember Reinforcement Bracket
(Continued)**

7. Remove the reinforcement bracket from the vehicle.
8. Using a grinding wheel, remove all E-coat from the reinforcement bracket, steering gear crossmember and frame rails within 1 inch of the weld areas marked in Step 6.
9. Place the reinforcement bracket back into position and clamp it into place.
10. Tack weld each side of the reinforcement bracket to the frame rail (Figure 9).

WARNING: Only use the specified welding wire (Lincoln Electric Co. NR-211 MP). Do not substitute with other types or thickness welding wire.

IMPORTANT: All welding must be performed by a qualified welder.

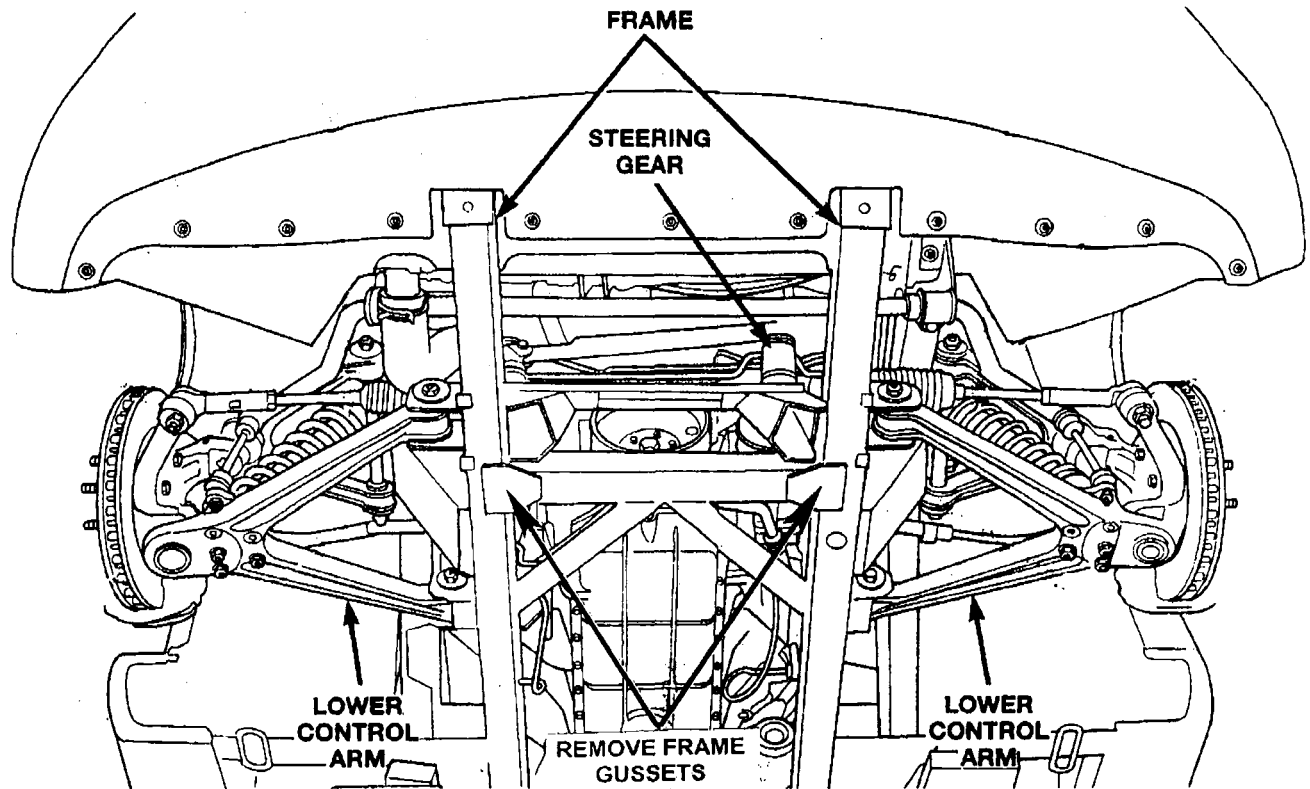
NOTE: Refer to the Welding Procedure Specifications Chart on page 68 of this document for all welder set-up information.

CAUTION: Attach the welder ground lead directly to the frame as close to the weld area as possible.

11. Remove the clamps and verify that the reinforcement bracket is properly positioned. Adjust the reinforcement bracket position if necessary.
12. Weld the reinforcement bracket to the frame rails and steering gear crossmember as shown in Figure 9.

NOTE: Vehicles that have had a new steering gear crossmember installed must have an extra weld applied as shown in Figure 9.

13. Clean all weld areas and apply zinc rich primer (P/N CAAM9987) to all new welds and bare metal.
14. After the zinc rich primer is dry, apply black spray paint (P/N CAAM9988) to cover the zinc rich primer applied in Step 13.
15. Continue with **Section “D – Install Frame Gussets.”**

Service Procedure (Continued)**D. Install Frame Gussets****Figure 10 – Bottom View**

1. Using a cut off wheel or grinder, grind off the welds that hold the left and right side frame rail gussets to the frame rails (Figure 10).

CAUTION: Do not use plasma arc cutting equipment or a cutting torch to remove the frame rail gussets.

2. If required, use a chisel to remove the old gussets after welds are ground off.
3. After the old gussets have been removed, grind off any remaining weld from the frame rail areas.
4. Thoroughly clean and degrease the frame rail. Then apply zinc rich primer to all bare metal.

Service Procedure (Continued)**D. Install Frame Gussets (Continued)**

5. After the zinc rich primer is dry, apply black spray paint to cover the zinc rich primer applied in Step 4.
6. Position and clamp the new left side gusset into place (Figure 11).

NOTE: Right and left side gussets are not interchangeable. Make sure that the correct gusset is being installed.

7. Using the new gusset as a template, drill eleven 1/4 inch (6.35 mm) holes into the frame rail.
8. Brush zinc primer into holes drilled in Step 7 to prevent corrosion.
9. Using power rivet gun (P/N W-AK175ACH) or equivalent, rivet the new gusset into place using the provided structural rivets.
10. Remove clamps from the gusset.
11. Apply a coat of black spray paint over the rivet heads.
12. Repeat steps 6 through 11 to install the new gusset on the right side frame rail gusset. Then continue with **Section “E – Inspect Differential Mounting Bracket.”**

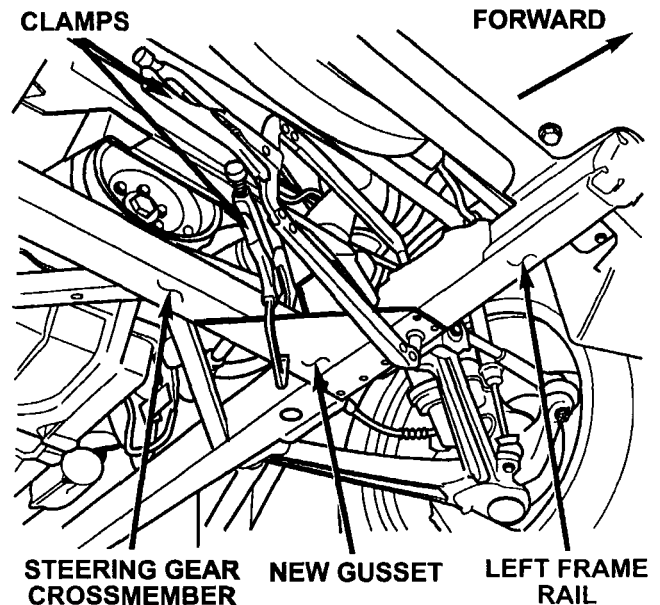


Figure 11 – Left Side Shown

Service Procedure (Continued)

E. Inspect Differential Mounting Bracket

1. Loosen the right and left side exhaust band clamps (Figure 12).
2. Remove the center exhaust isolator.
3. Remove the two rear muffler isolators (Figure 13).
4. Remove the muffler/rear exhaust pipes as an assembly.

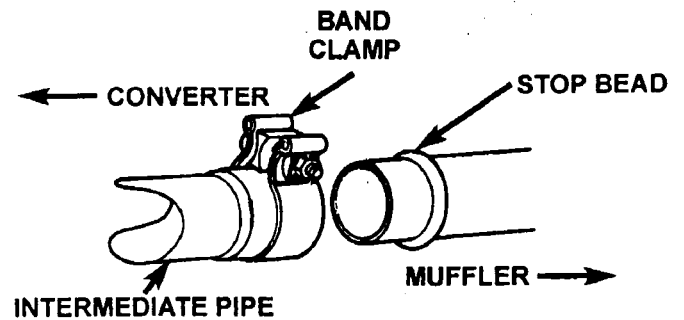


Figure 12

5. Remove the inner axle shaft universal joint straps from the left axle shaft.

NOTE: Mark universal joint cap for later installation.

6. Remove the inner axle shaft universal joint straps from the right axle shaft.

NOTE: Mark universal joint cap for later installation.

7. Remove the universal joint bolts and straps at the rear of the driveshaft.

NOTE: Mark universal joint cap for later installation.

8. Remove the driveshaft assembly from the transmission.

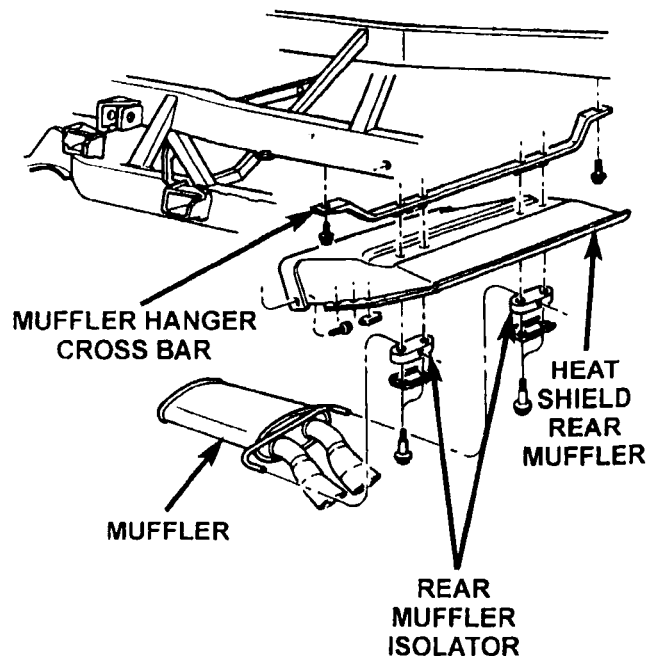
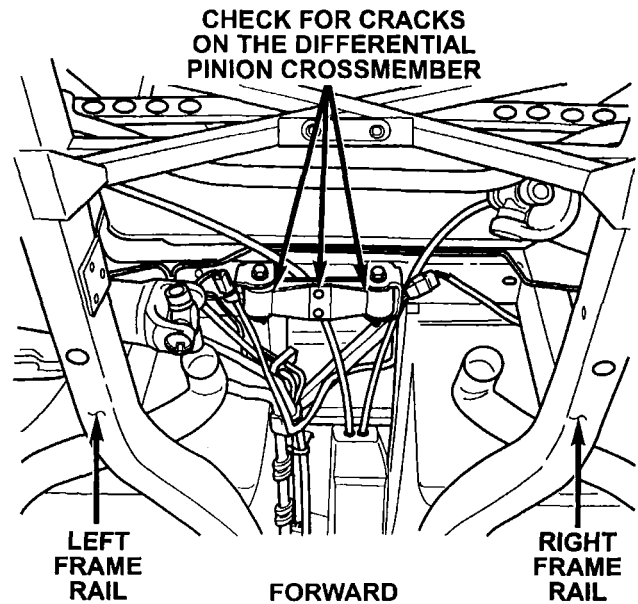


Figure 13

Service Procedure (Continued)**E. Inspect Differential Mounting Bracket (Continued)**

9. Remove the pinion-to-crossmember mounting bolts from the front of the axle assembly.
10. Secure the differential assembly to a transmission jack or other suitable lifting device.
11. Remove the right and left differential mounting bolts.
12. Remove differential assembly from the vehicle.
13. Inspect the aluminum differential pinion crossmember for cracks (Figure 14). If any cracks are found, replace the crossmember (P/N 04763524AB) as follows:

**Figure 14**

NOTE: The differential pinion crossmember has a slight off-set built into it. Correct orientation of the new crossmember must be maintained.

- a. Using a magic marker or equivalent, place a mark on the forward side of the original crossmember.
- b. Remove the two crossmember retaining nuts and bolts.
- c. Remove the aluminum crossmember.
- d. Verify the orientation of the new crossmember and then place it in position and install the retaining bolts and nuts.
- e. Tighten the retaining nuts to 100 ft. lbs. (135 N·m).

Service Procedure (Continued)**E. Inspect Differential Mounting Bracket (Continued)**

14. Inspect all sides of the left differential mounting bracket for weld cracking at the frame rail and at the toe link brackets (Figure 15).
- If there are differential mounting bracket weld cracks, continue with Section “F – Fuel Tank Removal - Roadster” or Section “G – Fuel Tank Removal - Coupe.”
 - If there are no weld cracks, continue with Section “M – Install Differential.”

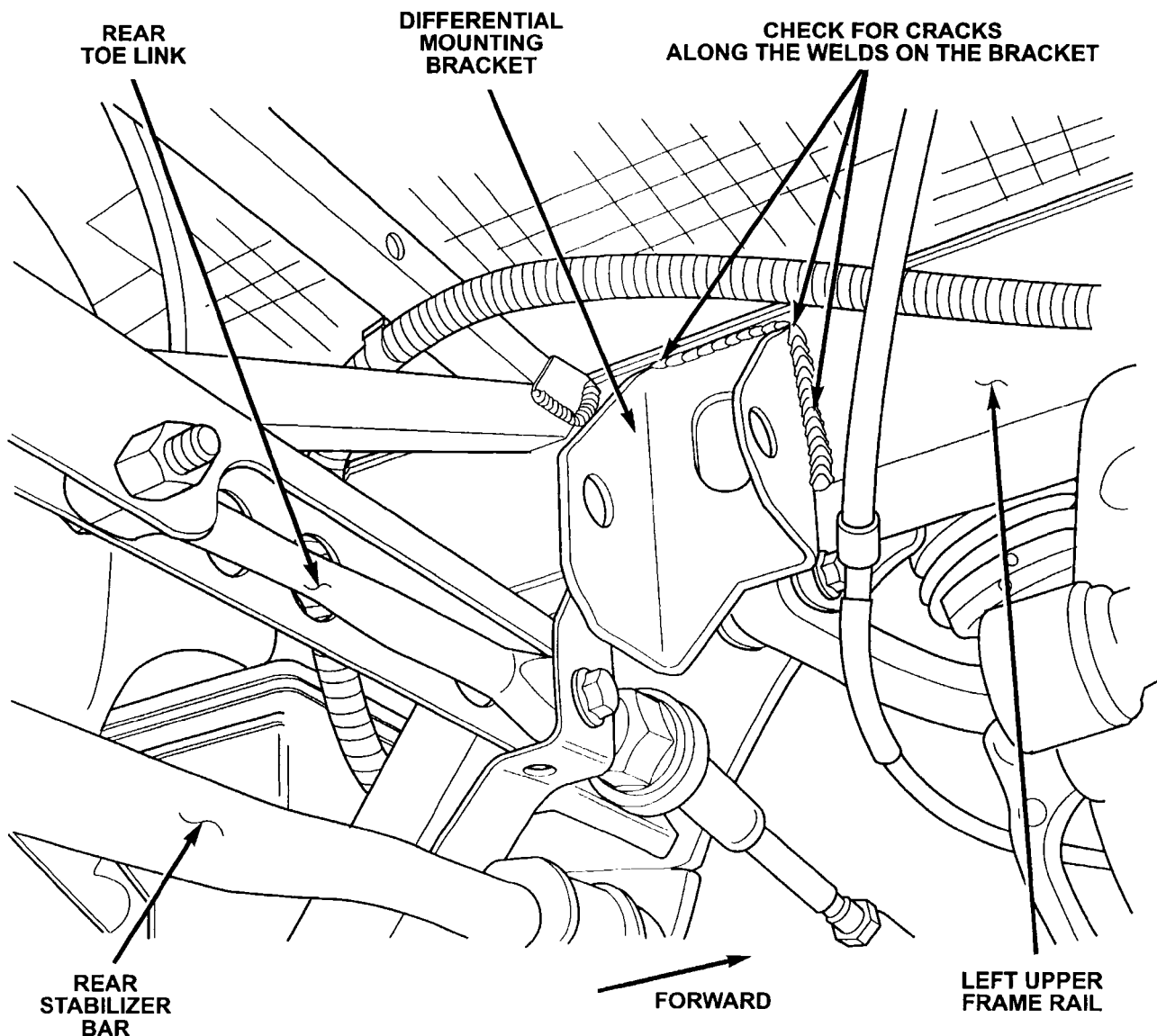


Figure 15

Service Procedure (Continued)**F. Fuel Tank Removal - Roadster**

1. Remove the fuel filler cap.
2. Release the fuel pressure from the fuel system using the following procedure:
 - a. Remove the protective cap from the fuel pressure test port located at the rear of the passenger side of the intake manifold.
 - b. Place the open end of the fuel pressure release hose, special tool number C-4799-1, into an approved gasoline container. Connect the other end of the hose (C-4799-1) to the fuel pressure test port (Figure 16). The fuel pressure will bleed off through the hose into the gasoline container.

NOTE: Fuel Gauge Kit C-4799-A contains hose C-4799-1.

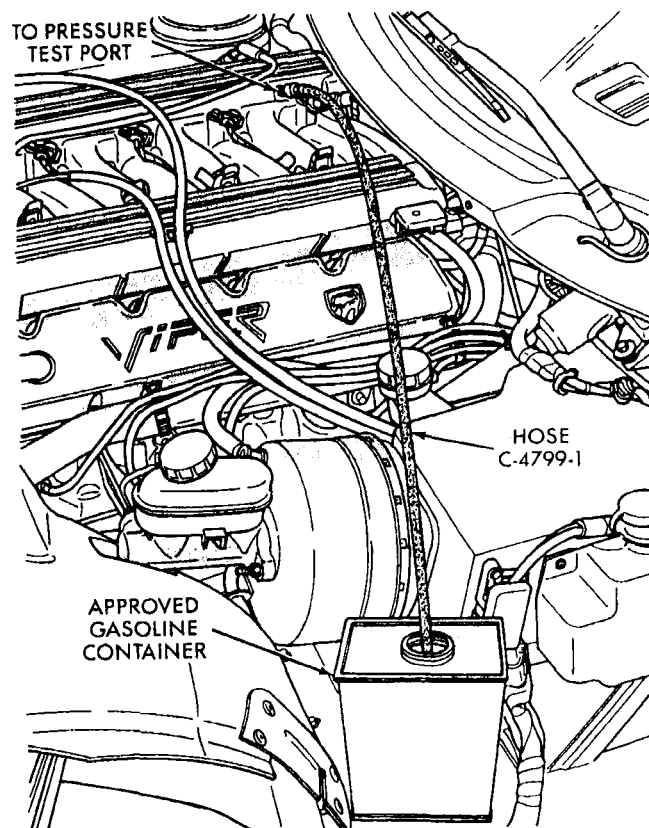


Figure 16

- c. Remove the hose and install the protective cap onto the fuel pressure test port.
3. Drain the fuel tank by inserting a 1/4 or 5/16 inch hose from a portable fuel siphoning tank through the fuel filler neck opening into the fuel tank. Refer to the siphoning tank manufacturer's instructions.
4. Remove the spare tire from the trunk.
5. Using a suitable drill with a 1/8 inch (3 mm) drill bit, drill out the rivets that hold the fuel tank access panel to the trunk pan (Figure 17).
6. Remove the access panel.

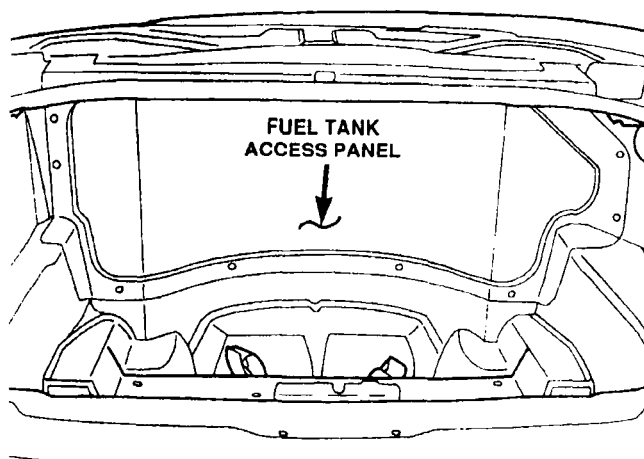


Figure 17

Service Procedure (Continued)

F. Fuel Tank Removal - Roadster (Continued)

7. Remove the fuel filler neck mounting screws (Figure 18).
8. Reach through the access panel opening and disconnect the filler tube from the fuel tank (Figure 19).
9. Remove the rollover valve vent tube.
10. Reach through the access panel opening and remove the two fuel tank attaching bolts.
11. Slide the fuel tank rearward and disconnect the fuel line from the pressure regulator.

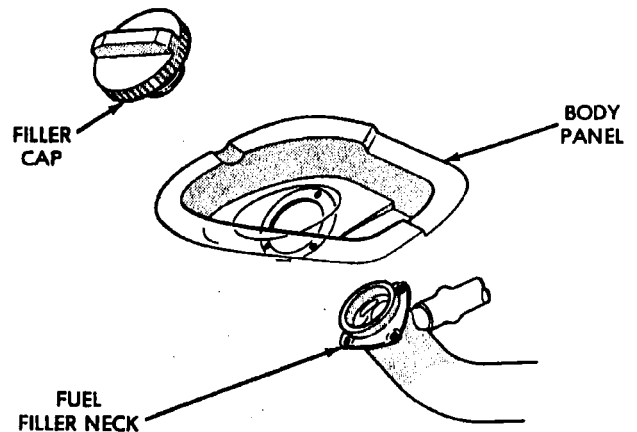


Figure 18

WARNING: To absorb any fuel still in the fuel lines, wrap a shop towel around the end of the fuel supply and vapor tubes.

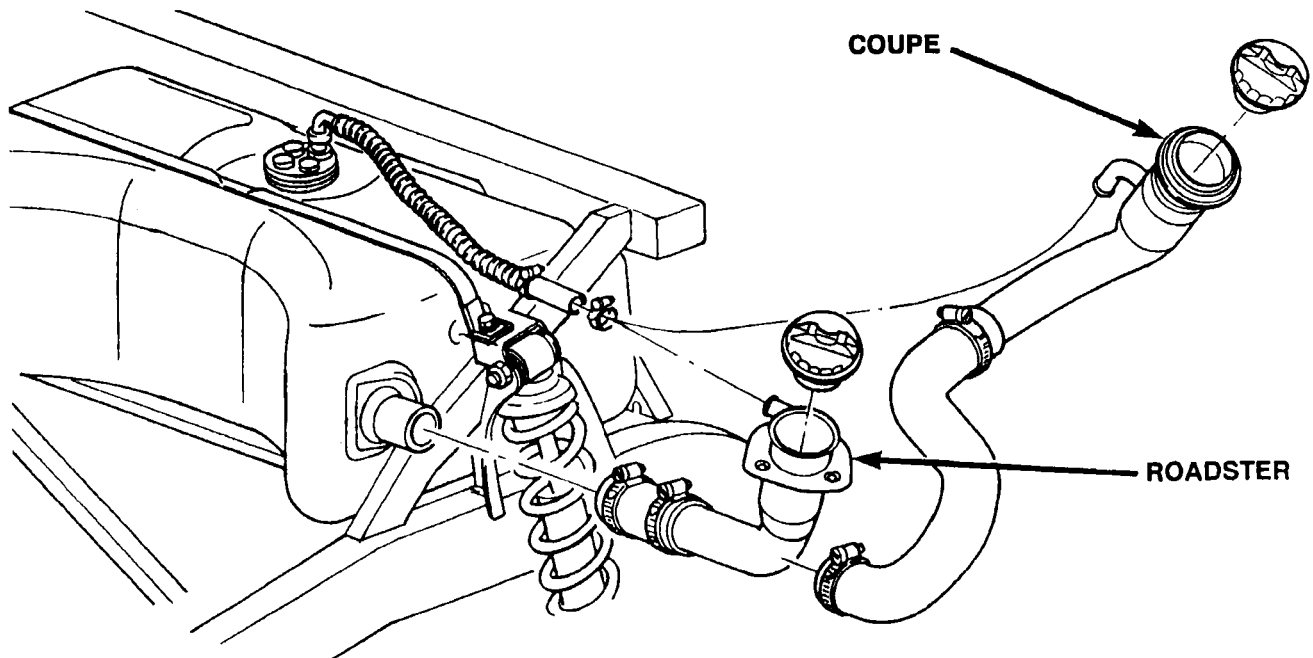


Figure 19

Service Procedure (Continued)**F. Fuel Tank Removal - Roadster (Continued)**

12. Disconnect the fuel pump module electrical connector.
13. Remove the fuel tank from the vehicle and set the tank aside.

WARNING: Store the fuel tank a safe distance away from the vehicle during the welding process.

14. For vehicles with:
 - **Less than 3/8 inch (9.5 mm)** cracking on the differential bracket, continue with Section “**H – Differential Bracket Repair (Minor Cracks Less Than 3/8 inch (9.5 mm)).**”
 - **More than 3/8 inch (9.5 mm)** cracking on the differential bracket, continue with Section “**I – Differential Bracket Repair (Cracks More Than 3/8 inch (9.5 mm)).**”

Service Procedure (Continued)**G. Fuel Tank Removal - Coupe**

1. Remove the fuel filler cap.
2. Release the fuel pressure from the fuel system using the following procedure:
 - a. Remove the protective cap from the fuel pressure test port located at the rear of the passenger side of the intake manifold.

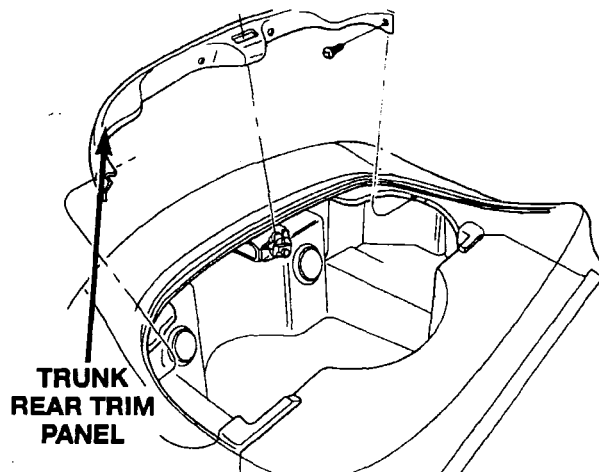


Figure 20

- b. Place the open end of the fuel pressure release hose, special tool # C-4799-1, into an approved gasoline container. Connect the other end of the hose to the fuel pressure test port (Figure 16). The fuel pressure will bleed off through the hose into the gasoline container.

NOTE: Fuel Gauge Kit #C-4799-A contains hose #C-4799-1.

- c. Remove the hose and install the protective cap onto the fuel pressure test port.
3. Open the liftgate and remove the spare tire and tool kit.
4. Remove the trunk rear trim panel (Figure 20).
5. Remove all of the screws from the left and right trim panels (Figure 21). Do not attempt to remove the panels at this time.
6. Move the driver and passenger seats to their forward-most position.

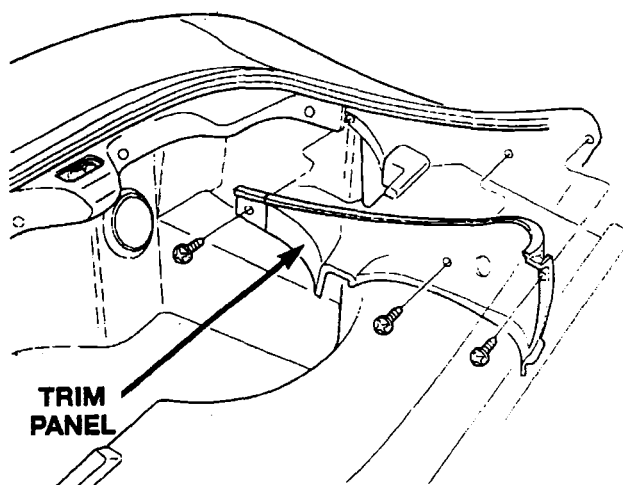
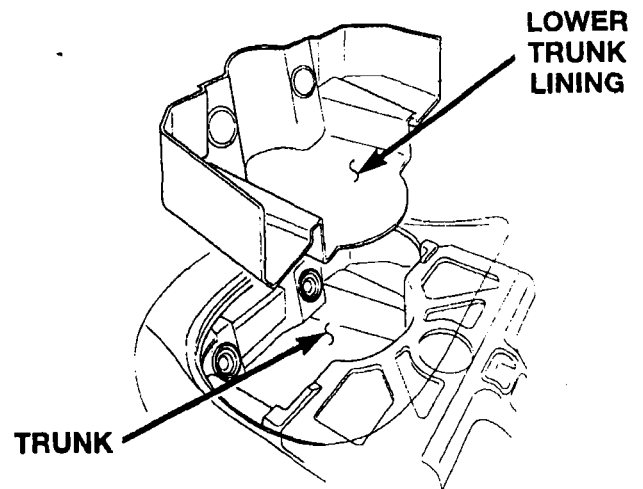
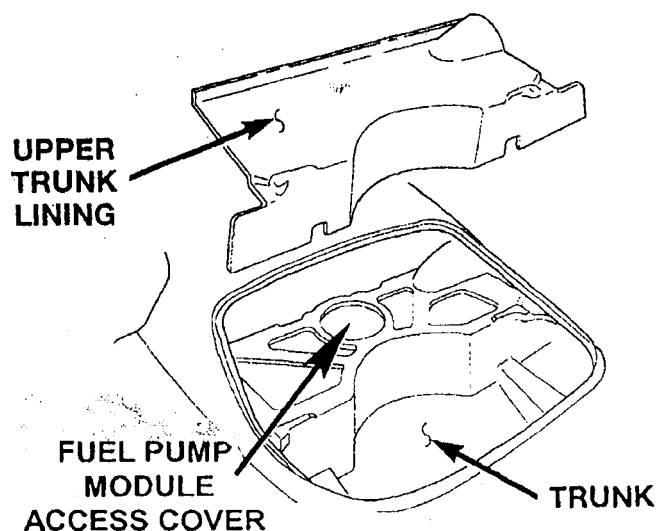


Figure 21 – Left Side Shown

Service Procedure (Continued)**G. Fuel Tank Removal - Coupe (Continued)**

7. While an assistant holds the liftgate, remove the lower liftgate support clips on the right side and disconnect the prop rod. Then slide the right trim panel out of the vehicle.
8. Temporarily reattach the right side liftgate prop rod.
9. Disconnect the ajar switch from the left prop rod.
10. While an assistant holds the lift gate, remove the lower liftgate support clips on the left side and disconnect the prop rod. Then slide the left trim panel out of the vehicle.
11. Temporarily reattach the left side liftgate prop rod.
12. Remove the radio amplifier located at the left corner of the trunk.
13. Remove the radio amplifier bracket mounting bolts and pull bracket aside.
14. Remove the lower trunk lining (Figure 22).
15. Remove the upper trunk lining (Figure 23).
16. Remove the fuel pump module access cover by drilling out the four rivets (Figure 23).

**Figure 22****Figure 23**

Service Procedure (Continued)**G. Fuel Tank Removal – Coupe (Continued)**

17. ➤ If the vehicle has not had a fuel tank access panel installed during a previous service repair, continue with Step 18 of this procedure.
 - If the vehicle has had a fuel tank access panel previously installed, remove the access panel using the following procedure:
 - a. Drill out all rivets that hold the access panel to the trunk wall.
 - b. Using a wide gasket scraper, carefully pry the access panel from the trunk wall.

NOTE: Save the access panel for installation after repairs are complete.
 - c. Continue with Step 25 of this procedure.
18. Mask off the passenger compartment to avoid dust entering the vehicle interior.
19. Position a new service access panel onto the front of the spare tire opening.
20. Using the access panel as a template, outline the outer edge with a grease pencil.
21. Remove the access panel and measure one inch (25 mm) inward from the line drawn in step 20 and then draw a new line for cutting.
22. Using a cut off wheel and a thin disc, cut along the inside line made in Step 21.

WARNING: Wear a long sleeve shirt, dust mask and a full face shield when cutting the access panel hole.

CAUTION: To avoid damage to components behind the panel, do not allow the cutting wheel to penetrate deeper than 1/2 inch (13 mm). The cutting wheel must remain on the inner line made in step 21. The one inch of material must be maintained for proper attachment of the panel rivets during installation of the fuel tank access panel.

23. Remove the panel cut out from the spare tire opening wall and discard it.
24. Using a suitable shop vacuum, clean all dust and debris from trunk area.

CAUTION: After the panel has been cut, do not apply any weight onto the forward floor pan area.

Service Procedure (Continued)

G. Fuel Tank Removal – Coupe (Continued)

25. Remove the mounting bolt from each end of the fuel tank strap by accessing the bolt through the wheel well (Figure 24).
26. Remove the fuel filler cap cover screws.
27. Using a twisting motion, remove the aluminum fuel filler cover from the fill tube.
28. Disconnect the fuel tank vent hose from the filler tube (Figure 19).
29. Disconnect the fuel filler hose, fuel line and vent hose from the tank module.
30. Using Special Tool #6856 - Fuel Pump Module Spanner Wrench, remove the fuel pump module lock ring (Figure 25).

CAUTION: The fuel pump module will have some stored fuel. Have a container ready to store the module in until assembly.

32. Drain the fuel tank using an approved siphoning tank. Refer to the siphoning tank manufacturer's instructions.

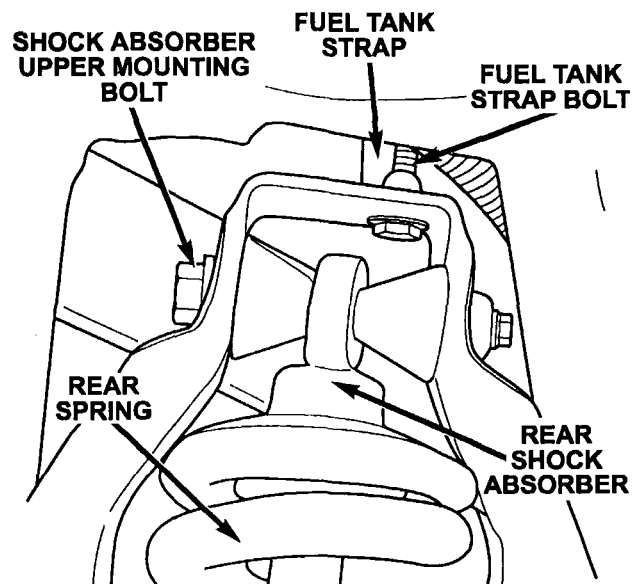


Figure 24 – Left Side Shown

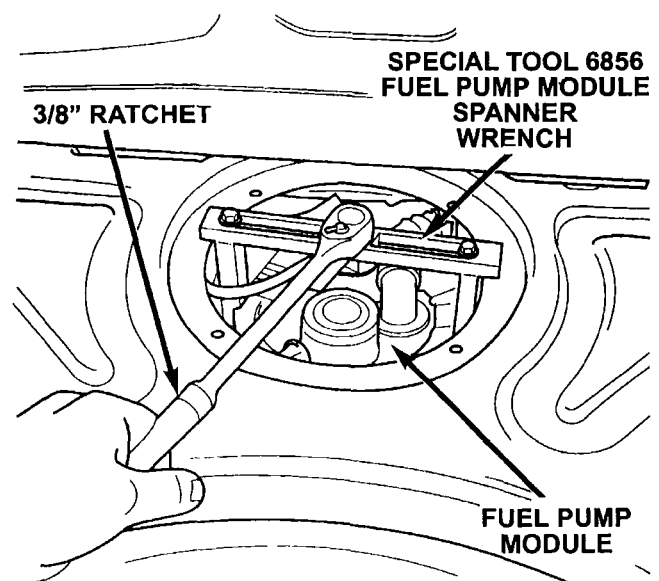


Figure 25

Service Procedure (Continued)**G. Fuel Tank Removal – Coupe (Continued)**

33. With the help of an assistant, slide the fuel tank and heat shield out of the new access hole.

CAUTION: There is limited clearance at the left fuel tank strap attachment. Use care when removing the tank at that position.

34. For vehicles with:

- **Less than 3/8 inch (9.5 mm)** cracking on the differential bracket, continue with Section “H – Differential Bracket Repair (Minor Cracks Less Than 3/8 inch (9.5 mm)).
- **More than 3/8 inch (9.5 mm)** cracking, continue with Section “I – Differential Bracket Repair (Cracks More Than 3/8 inch (9.5 mm)).

Service Procedure (Continued)**H. Differential Bracket Repair (Minor Cracks Less than 3/8 inch (9.5 mm))**

1. Remove the battery from the battery tray and store it a safe distance from the welding area.
2. Disconnect and remove the left half shaft from the wheel flange.
3. Use a cut off wheel or die grinder to remove only the cracked portion of the weld from the differential support bracket (Figure 15).
4. Drill a 1/8" inch (3 mm) hole at the end of each crack.
5. Using a small hammer, reform metal around cracks to minimize gaps.
6. Weld completely around the differential bracket, cracks and over existing welds.
7. Clean all weld areas and apply zinc rich primer (P/N CAAM9987) to all new welds and bare metal.
8. After the zinc rich primer is dry, apply black spray paint (P/N CAAM9988) to cover the zinc rich primer applied in Step 7.
9. Continue with Section "**K – Install Fuel Tank - Roadster**" or Section "**L – Install Fuel Tank - Coupe**"

Service Procedure (Continued)**I. Differential Bracket Repair (Cracks More Than 3/8 inch (9.5 mm))**

NOTE: Differential bracket repair requires the use of P/N CAAP9984 repair package.

1. Remove the battery from the battery tray and store it a safe distance from the welding area.
2. Disconnect and remove the left half shaft from the wheel flange.
3. Remove the original differential bracket from side of frame rail using a cut off wheel to remove existing welds (Figure 15).

CAUTION: Do not use plasma arc cutting equipment or a cutting torch to remove the original differential bracket.

4. Drill a 1/8" inch (3 mm) hole at the end of each crack in the frame.
5. Grind the frame surface flush.

CAUTION: The repair plate must overlap the damaged frame rail by a minimum of 3/4 inch (19 mm). If a larger plate is needed use .080" thick cold rolled steel.

CAUTION: The reinforcement plate must be flush against the side wall of the frame rail before welding

Service Procedure (Continued)**I. Differential Bracket Repair (Cracks More Than 3/8 inch (9.5 mm))
(Continued)**

6. Use a grinding wheel to clean any paint and/or corrosion from where the reinforcement plate will meet the frame.
7. Clamp the reinforcement plate into position (Figure 26). The reinforcement plate must be flush against the frame before welding.
8. Tack weld the reinforcement plate into position as shown in Figure 26.

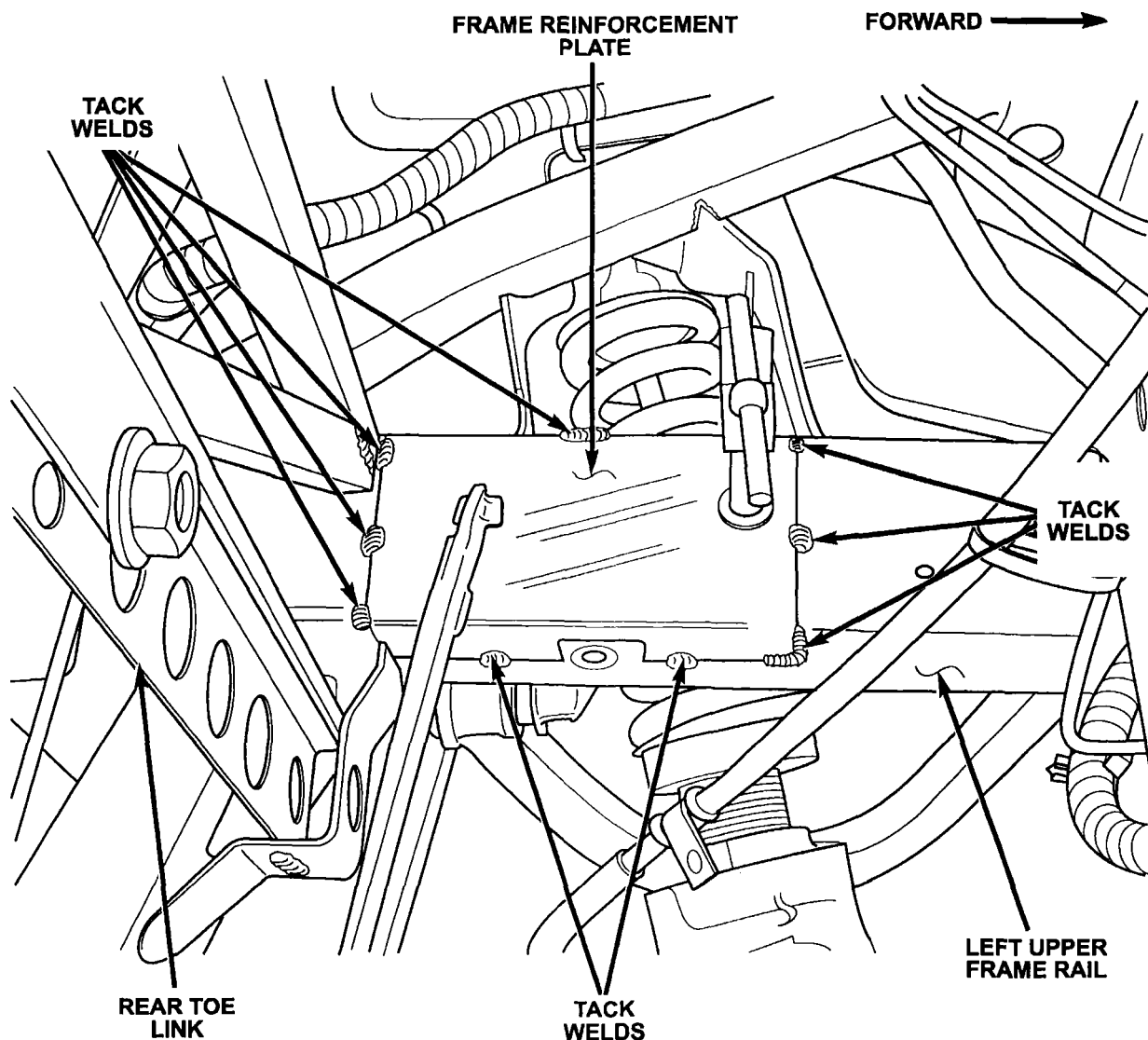


Figure 26

Service Procedure (Continued)**I. Differential Bracket Repair (Cracks More Than 3/8 inch (9.5 mm))
(Continued)**

9. Remove the clamps used to hold the reinforcement plate to the frame rail.
10. Weld all of the outside edges of the reinforcement plate to the frame rail using flux core arc welding method.
11. Measure forward from the rear frame brace 2-5/8 inches (67 mm) and then scribe a line as shown in Figure 27.

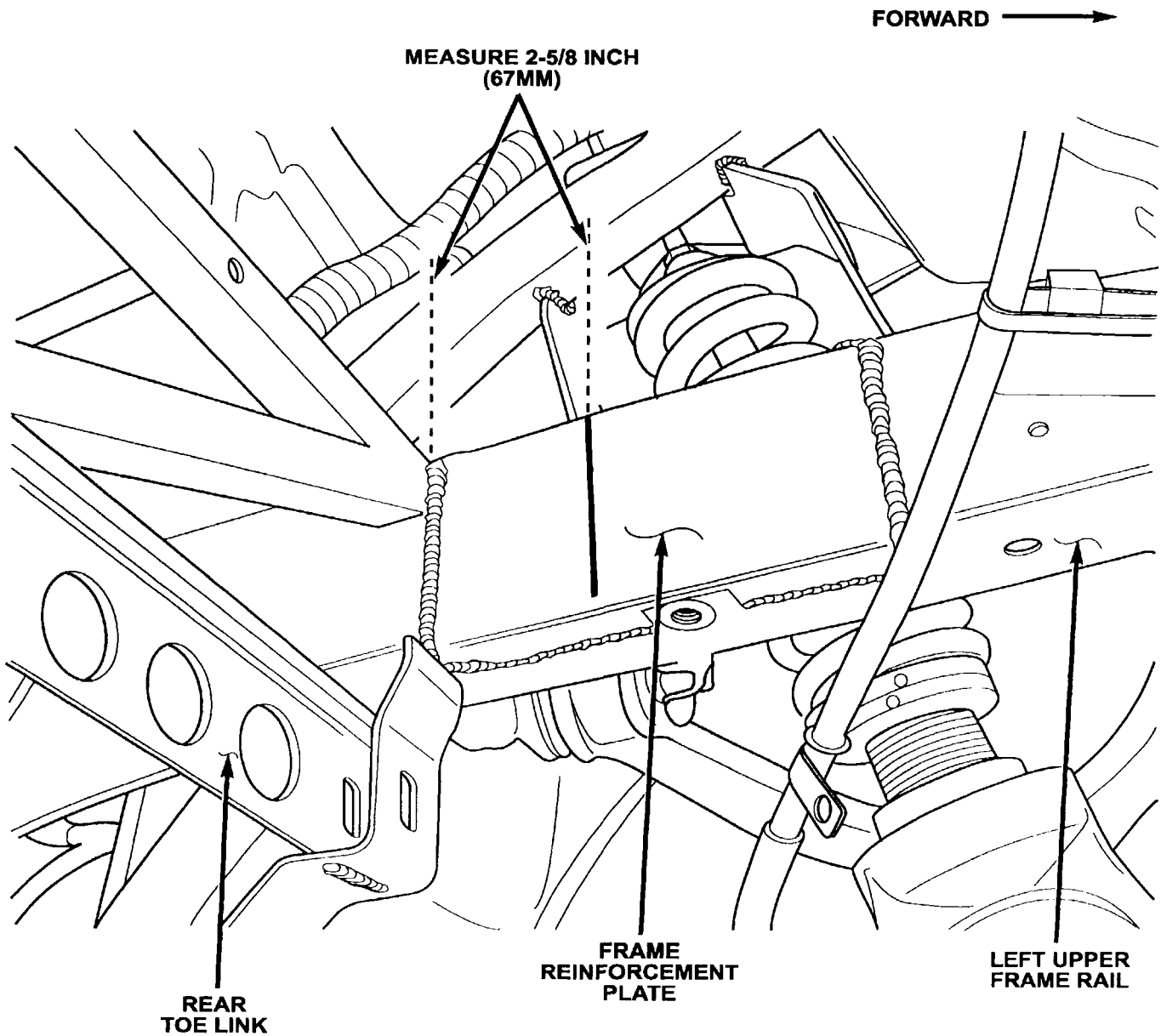


Figure 27

Service Procedure (Continued)

I. Differential Bracket Repair (Cracks More Than 3/8 inch (9.5 mm))
(Continued)

12. Find the center point of the new differential bracket and then scribe a line as shown in Figure 28.

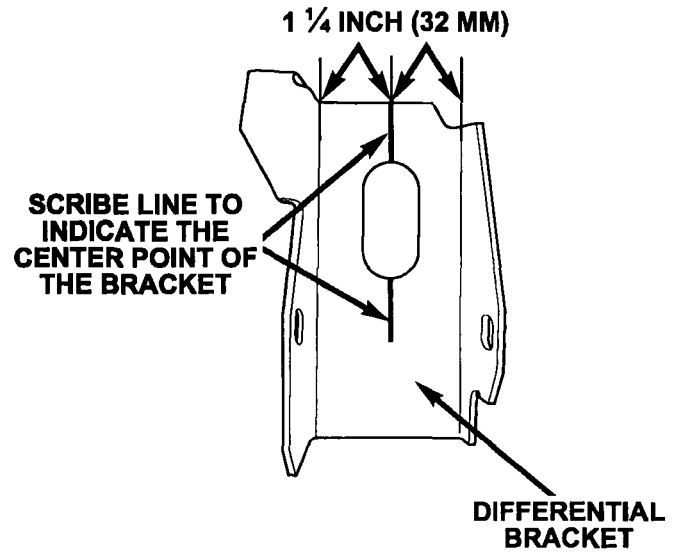
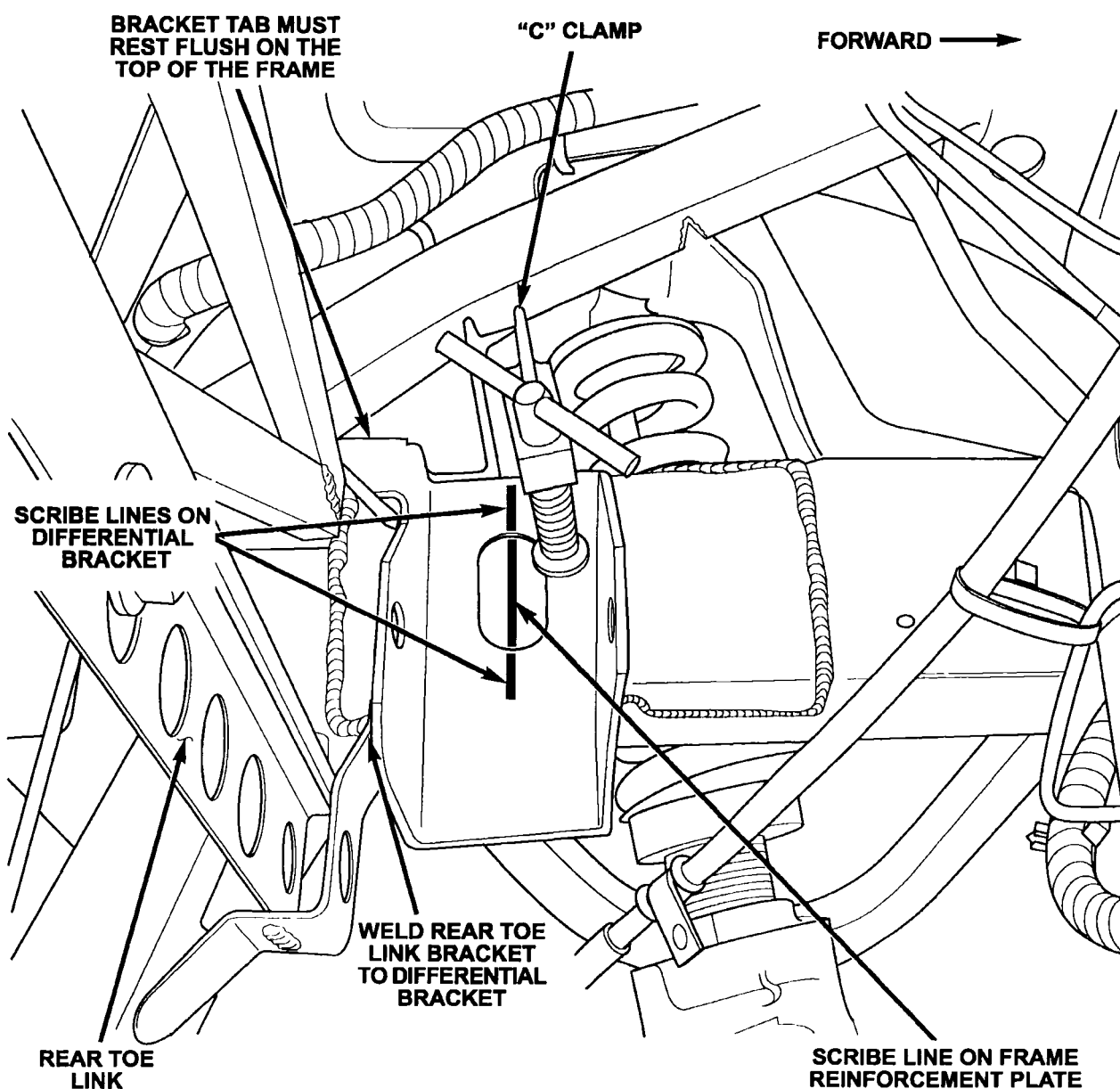


Figure 28

Service Procedure (Continued)**I. Differential Bracket Repair (Cracks More Than 3/8 inch (9.5 mm))
(Continued)**

13. Position the new differential bracket on the frame rail. Align the scribe line made on the reinforcement plate with the line made on the differential frame bracket to obtain the correct right-to-left location (Figure 29). The top tab of the differential frame bracket must be tight against the top of the frame rail. Clamp the bracket into position.

**Figure 29**

Service Procedure (Continued)

I. Differential Bracket Repair (Cracks More Than 3/8 inch (9.5 mm)) (Continued)

14. Tack weld the differential bracket into position (Figure 29). Recheck the bracket location and adjust if necessary.
15. Weld all sides of the new differential bracket to the reinforcement plate (top, bottom, front, and sides). Weld the top tab of the bracket to the top of the frame rail.
16. Apply a weld where the backside of the differential bracket meets the bottom of the frame rail (Figure 30).

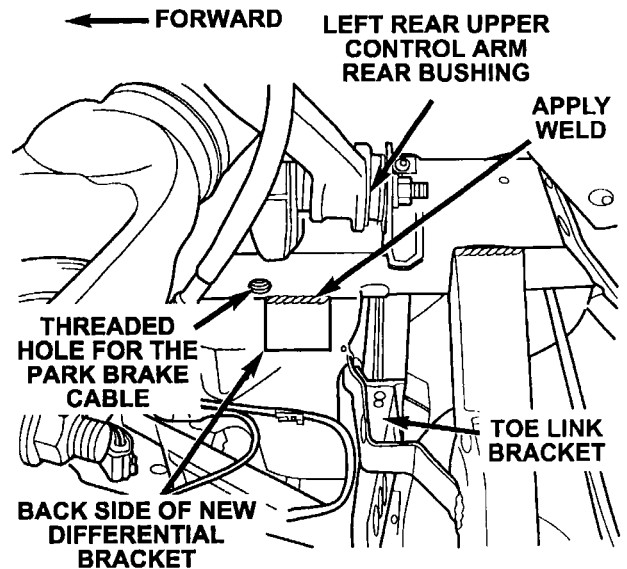


Figure 30 – View from Left Rear Wheel Opening

17. Install the gusset bracket (Figure 31) to the underside of the frame rail and position the gusset against the back of the differential mounting bracket. Weld all areas where the gusset bracket meets the frame rail and differential bracket.

NOTE: The lower rear side of the gusset bracket, when installed in the correct position, will not be in contact with the frame or differential bracket.

18. Straighten (if necessary) the toe link bracket and weld it to the side of the differential bracket (Figure 29). If the toe link is severely damaged continue with Section “J. – Replace Rear Toe Link Bracket.”
19. Clean all weld areas and apply zinc rich primer to all new welds and bare metal.
20. After the zinc rich primer is dry, apply black spray paint to cover the zinc rich primer applied in Step 19.

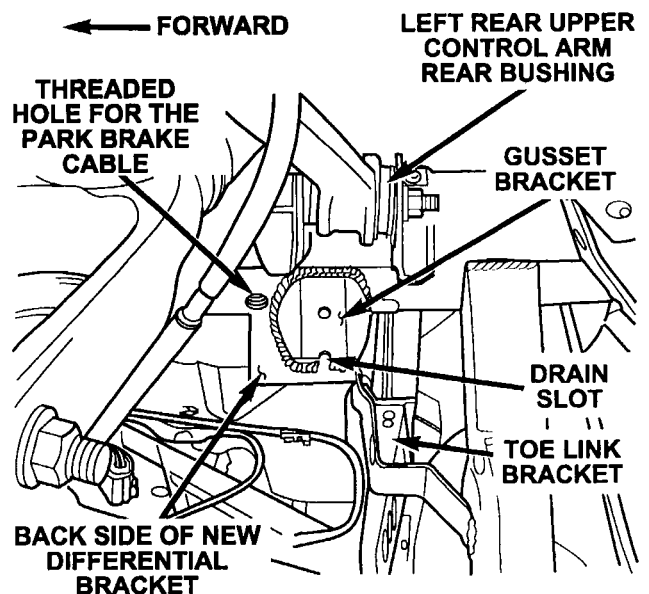


Figure 31 – View from Left Rear Wheel Opening

21. Continue with Section “K – Install Fuel Tank - Roadster” or Section “L – Install Fuel Tank - Coupe”

Service Procedure (Continued)

J. Replace Rear Toe Link Bracket

1. Remove the cotter pin and castle nut for the right and left toe link.
2. Remove the right and left toe link from the knuckles using puller, Special Tool C-3894-A (Figure 32).
3. Remove the right and left side toe link inner and outer attaching bolts and nuts (Figure 33).

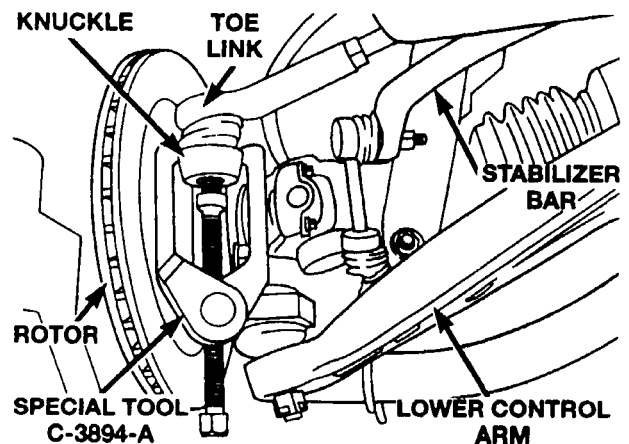


Figure 32 – Left Side Shown

CAUTION: The toe link outer mounting bolt location is used to adjust the rear wheel dynamic toe pattern. The rear wheel dynamic toe is adjusted by installing an adjustment shim at this location. When removing the outer mounting bolt and nut, be sure that the adjustment shim is not discarded. Also note the side of the vehicle and mark the adjustment shim position prior to removal. It must be installed in the same position when reassembled.

4. Remove the toe link assemblies from the vehicle by sliding them out of the toe link bracket through the rear wheel opening.

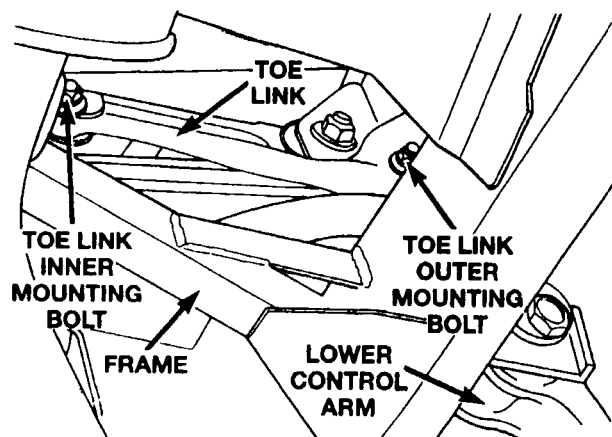


Figure 33 – Right Side Shown

Service Procedure (Continued)

J. Replace Rear Toe Link Bracket (Continued)

5. Locate the center point between the two weld nuts on the original toe link bracket and place a vertical scribe mark on the toe link bracket (Figure 34).
6. Transfer the scribe mark to the frame cross brace on the vehicle (Figure 34).
7. Make horizontal scribe marks on the frame cross braces where the toe link bracket meets the frame cross brace (Figure 34).

NOTE: The scribe marks made in Steps 6 and 7 will be used to correctly position the new toe link bracket onto the vehicle prior to welding.

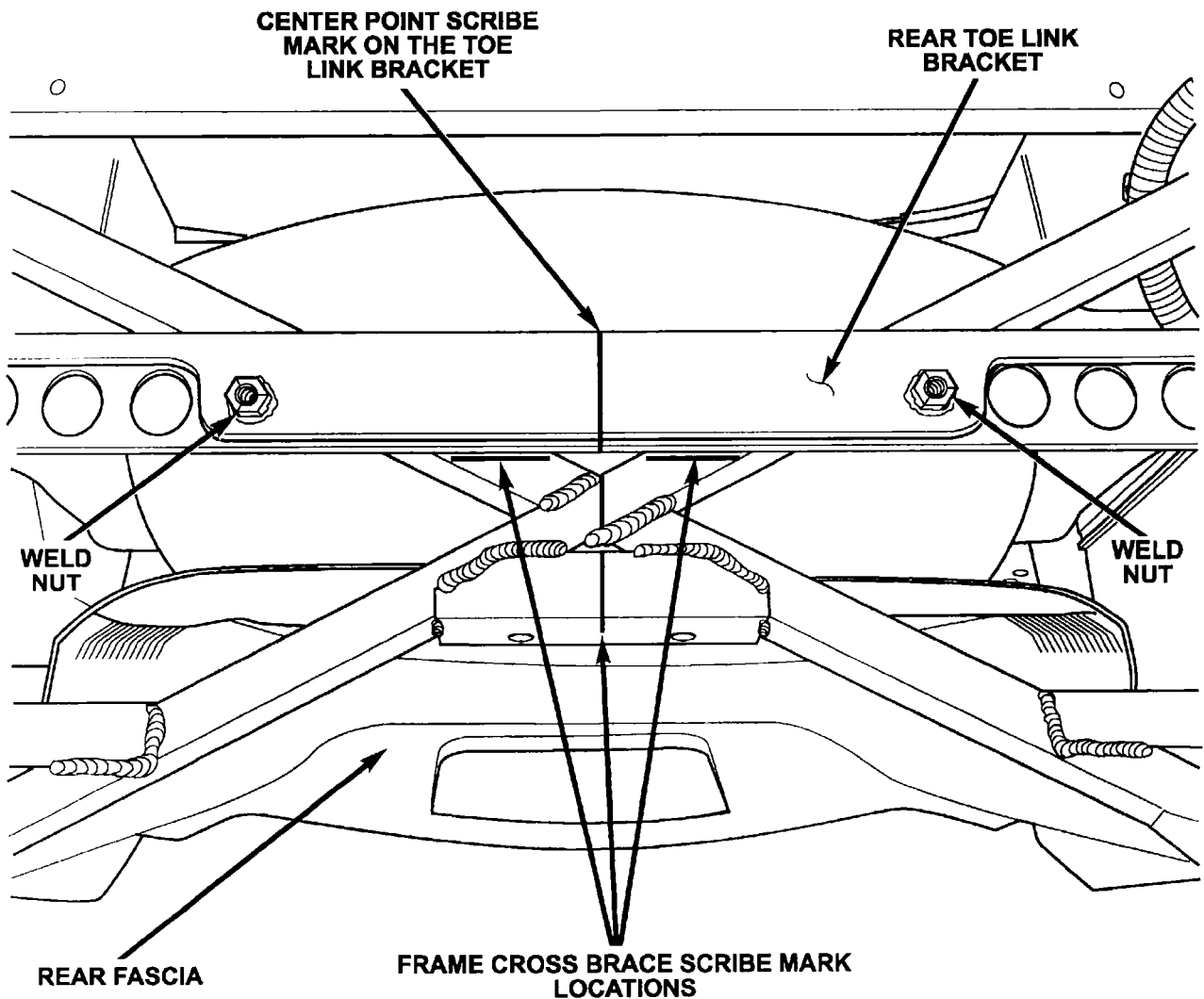


Figure 34

Service Procedure (Continued)**J. Replace Rear Toe Link Bracket (Continued)**

8. Remove the rear stabilizer bar.
9. Remove the right wheel opening splash shield.
10. Using a cut off wheel, remove all welds that hold the toe link bracket to the frame cross brace. Discard the old toe link bracket.

CAUTION: Do not use plasma arc cutting equipment or cutting torch to remove the toe link.

11. Clean and prepare areas on the frame cross brace and toe link bracket where new welds will be applied.
12. Locate the center point between the two weld nuts on the new toe link bracket. Place a scribe mark at that point (Figure 35).

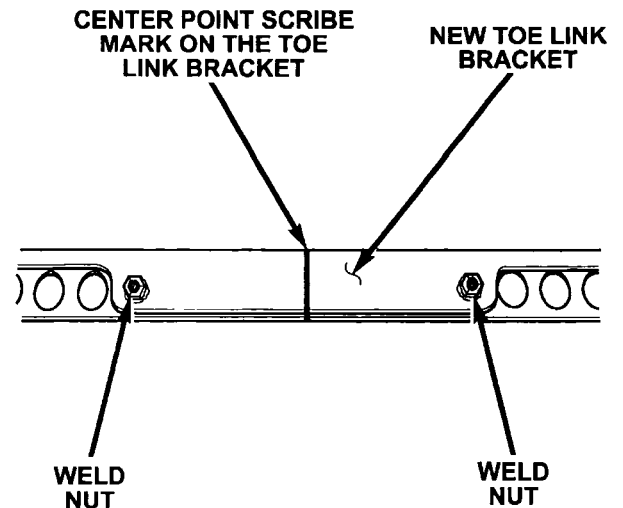


Figure 35

Service Procedure (Continued)

J. Replace Rear Toe Link Bracket (Continued)

13. Locate and clamp into place the new toe link bracket onto the frame cross brace by aligning the scribe marks (Figure 36).
14. Tack weld the toe link bracket into position.
15. Recheck the alignment of the toe link bracket and adjust if necessary.

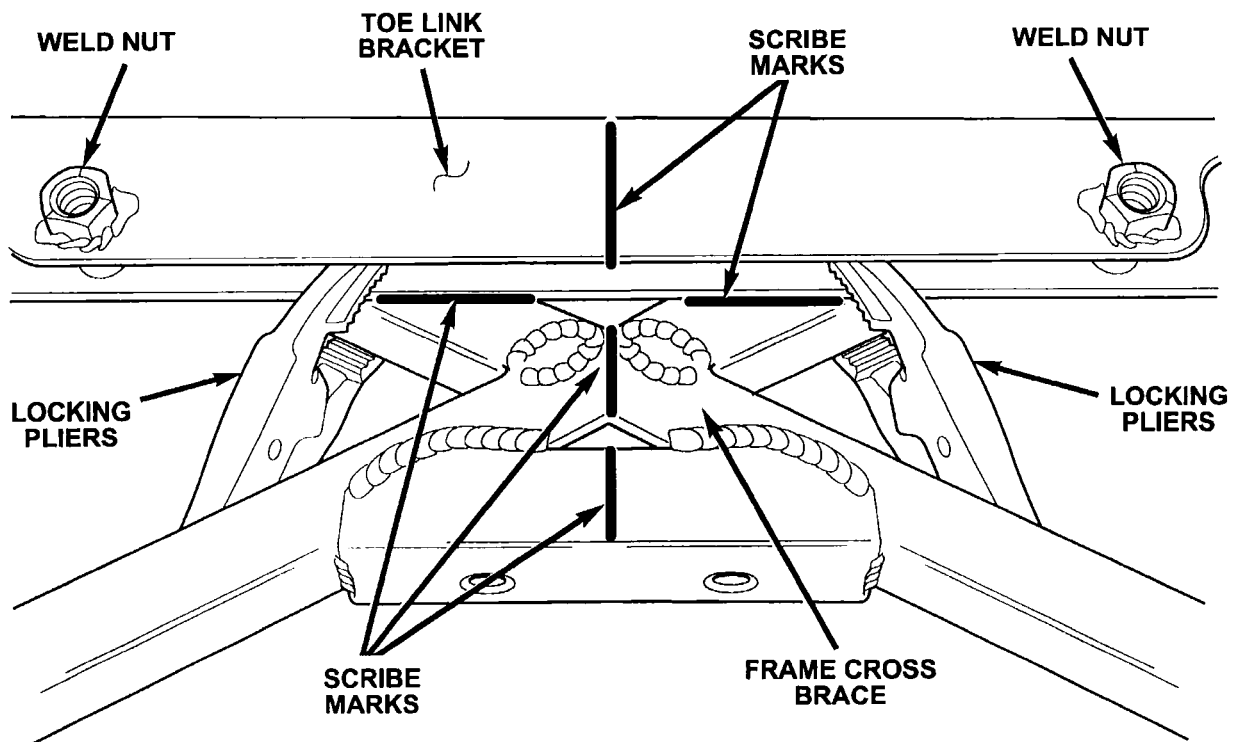


Figure 36

Service Procedure (Continued)

J. Replace Rear Toe Link Bracket (Continued)

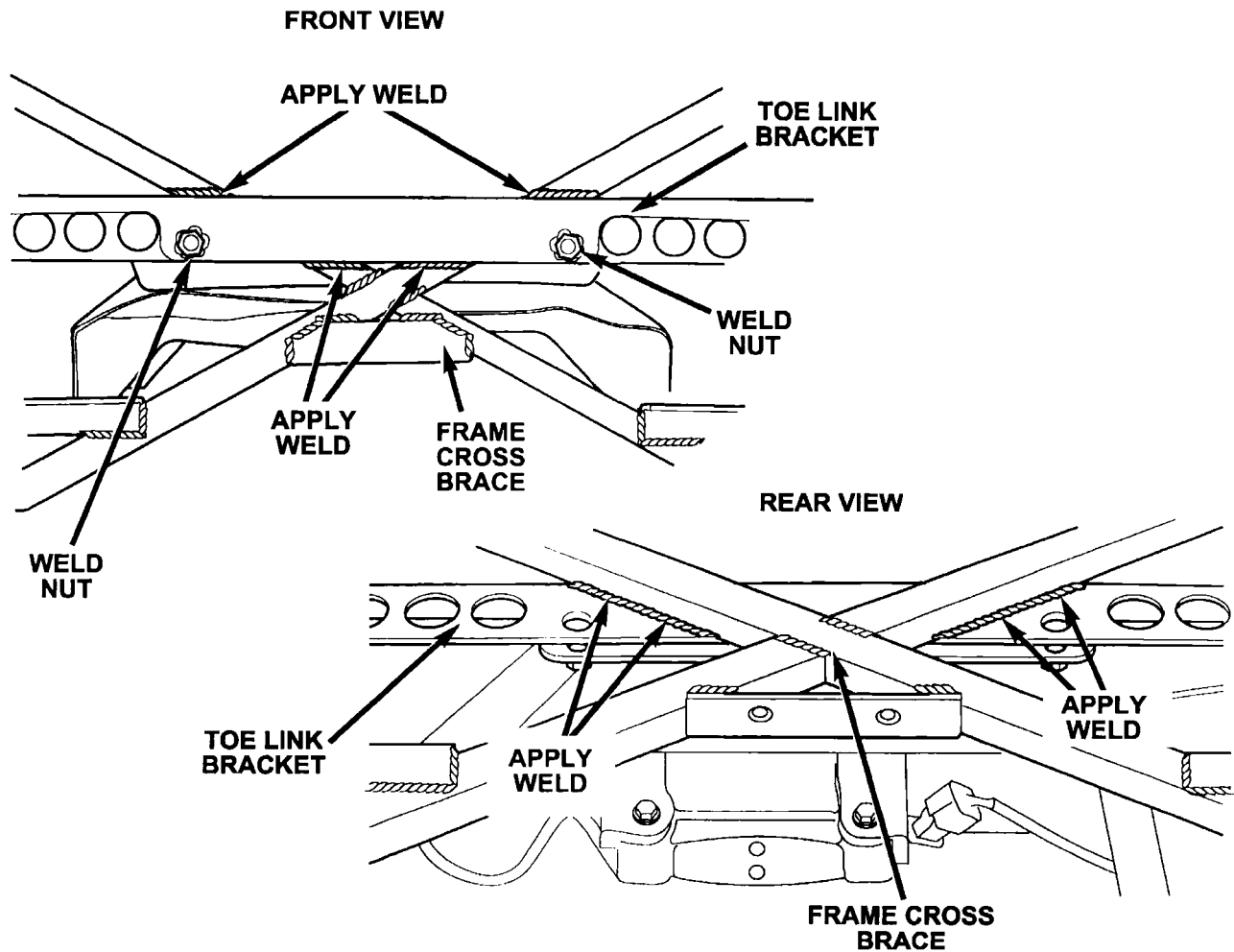
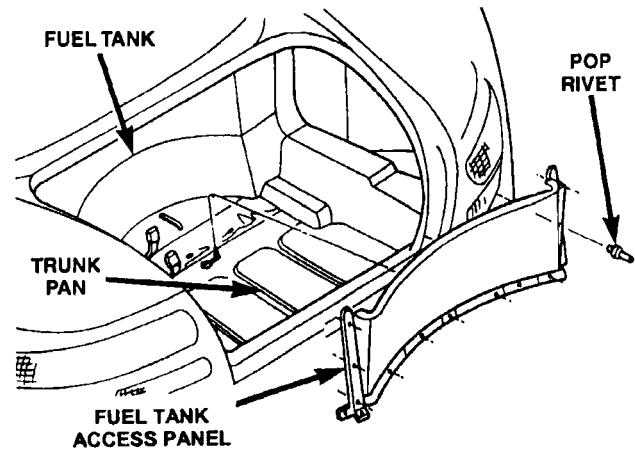


Figure 37

16. Weld the toe link bracket to the frame cross brace as shown in Figure 37.
17. After completion of all welding, clean all weld areas.
18. Apply zinc rich primer to all new welds and bare metal.
19. After the zinc rich primer is dry, apply black spray paint to cover the zinc rich primer applied in Step 18.
20. Continue with Section “K – Install Fuel Tank - Roadster” or Section “L – Install Fuel Tank - Coupe”

Service Procedure (Continued)**K. Install Fuel Tank - Roadster**

1. Install the fuel tank half way through the trunk opening.
2. Connect the fuel pump module electrical connector to the fuel pump module.
3. Connect the fuel line to the pressure regulator.
4. Connect the rollover valve vent tube.
5. Slide the tank into position.

**Figure 38**

6. Reach through the access panel opening and connect the filler tube to the fuel tank (Figure 19). Then tighten the hose clamp.
7. Position the fuel filler neck in the opening of the body panel (Figure 18). Install and tighten the mounting screws securely.
8. Reach through the access panel opening and install the two fuel tank attaching bolts. Tighten the bolts to 175 in. lbs. (20 N·m).
9. Install the fuel tank access panel using the following procedure:
 - a. Clean off any old sealant from the access panel and trunk pan.
 - b. Apply a 1/2 inch bead of Mopar Silicone Rubber Adhesive Sealant (P/N 04883971), or equivalent, around the outer edge of the fuel tank access panel.
 - c. Position the access panel into the opening in the trunk pan (Figure 38).
 - d. Install rivets (P/N 06034578) to hold the fuel tank access panel to the trunk pan.

NOTE: When using power rivet gun (P/N W-AK175ACH), use the provided gold color nose piece (P/N W-202145) to install these rivets. The rivet gun will not pull the special rivet (P/N 06034578) correctly if the gold colored nose piece is not installed on the rivet gun.

CAUTION: Do not substitute rivets. Use only P/N 06034578 rivets.

- e. Wipe off any excess silicone sealant from the perimeter of the access panel.

Service Procedure (Continued)

K. Install Fuel Tank – Roadster (Continued)

10. Install the spare tire.
11. Clean the truck area.
12. Continue with Section “**M – Install Differential.**”

Service Procedure (Continued)**L. Install Fuel Tank - Coupe**

NOTE: Fuel tank installation requires the use of P/N CAAP9986 repair package.

1. Place the fuel tank heat shield into position.

CAUTION: Make sure the electrical connector and fuel hoses are accessible through the fuel pump access hole before installing the fuel tank.

2. With the fuel tank strap placed on top of the fuel tank, slide the fuel tank into the access hole.
3. Install the mounting bolt at each end of the fuel tank strap. Tighten the strap bolts to 175 in. lbs. (20 N·m). Access the bolts through the rear wheel openings (Figure 24).
4. Install a new fuel tank pump module seal (P/N 52018808) into the opening on the fuel tank.
5. Using a twisting motion, slide the fuel pump module into the tank opening and start the fuel pump module lock ring by hand.

CAUTION: The fuel pump module is spring loaded against the bottom of the fuel tank. Some downward force will have to be applied to fully seat the module before installing the lock ring.

6. Using Special Tool #6856 – Fuel Pump Spanner Wrench, tighten the lock ring to 34 ft. lbs. (25 N·m) (Figure 25).
7. Connect the fuel filler hose and vent hose.

Service Procedure (Continued)**L. Install Fuel Tank – Coupe (Continued)**

8. Use the following procedure to connect the fuel tube quick connect fitting:

- a. Using a clean lint free cloth, clean the fuel tube nipple and retainer.
- b. Prior to connecting the fitting to the fuel tube, coat the fuel tube nipple with clean 30 weight engine oil.
- c. Push the quick-connect fitting over the fuel tube until the retainer seats and a click is heard.

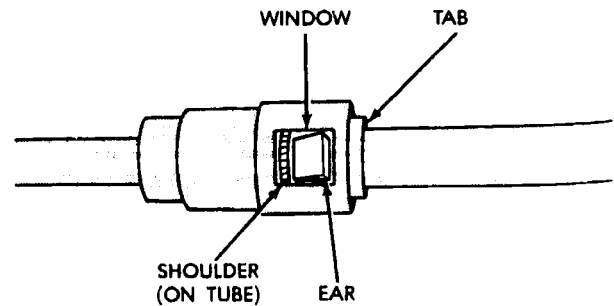


Figure 39

- d. The plastic quick-connect has windows in the side of the casing. When the fitting completely attaches to the fuel tube, the retaining locking ears and the fuel tube shoulder are visible in the windows. If they are not visible, the retainer was not properly installed (Figure 39). **Do not rely upon the audible click to confirm a secure connection. Pull back on the quick-connect to ensure a secure connection.**

9. Connect the fuel pump module electrical connector.
10. Connect the rollover valve hose at the fuel pump module.
11. Connect the vent hose to the filler tube (Figure 19).
12. Using a twisting motion, install the aluminum fuel filler cap cover onto the fill tube.
13. Install the fuel filler cap cover screws.
14. Install the fuel pump module access cover using four (4) supplied rivets (P/N 06034578).

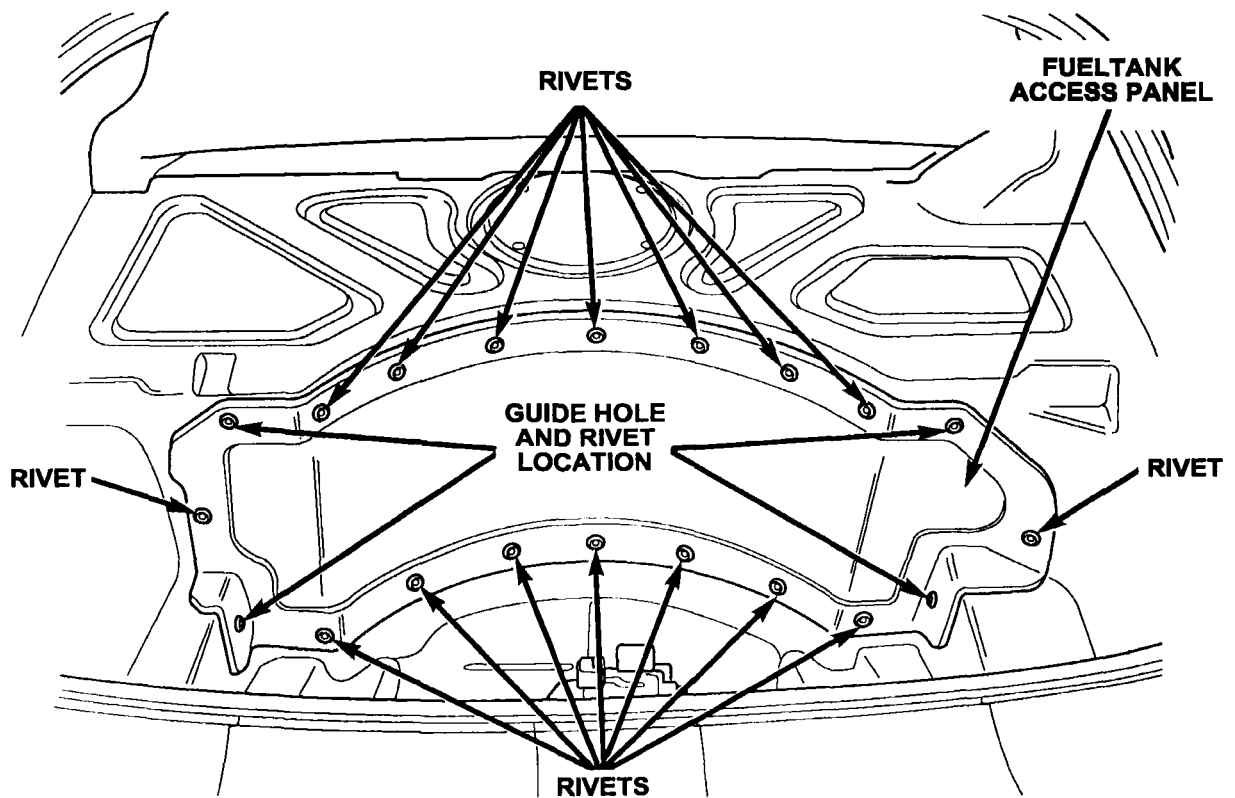
CAUTION: Rivet gun (P/N W-AK175ACH) requires the use of the provided gold color nose piece (P/N W-202145) to correctly install the fuel pump module access cover rivets (P/N 06034578).

Service Procedure (Continued)**L. Install Fuel Tank – Coupe (Continued)**

15. Place the new fuel tank access panel over the access hole and drill two guide holes in the lower corners of the access panel (Figure 40). Use a ¼ inch diameter drill bit and set the drill stop to 3/8 inch or damage to components behind the panel could result.
16. Drill two ¼ inch diameter holes in the upper corners using the holes in the access panel as a guide (Figure 40).
17. Remove the access panel and apply a ½ inch bead of Mopar Silicone Sealant (or equivalent) around the entire outer edge of the access hole.
18. Position the access panel over the access hole and install the four corner guide rivets using the air rivet gun.

NOTE: Rivet gun (P/N W-AK175ACH) requires the use of the provided gold color nose piece (P/N W-202145) to correctly install the rivets (P/N 06034578). If installing original access panel, rivets (P/N 06034578) can be ordered separately. Do not substitute rivets.

19. Drill 20 ¼” holes as shown in Figure 40 and install the rivets using rivet gun.

**Figure 40**

Service Procedure (Continued)**L. Install Fuel Tank – Coupe (Continued)**

20. Wipe off any excess silicone sealant from the trunk side perimeter of the access panel.
21. Install the upper trunk lining (Figure 23).
22. Install the lower trunk lining (Figure 22).
23. Install the radio amplifier and bracket onto the left side corner of the trunk.
24. While one technician holds the liftgate, remove the left lower liftgate prop rod support clip and disconnect the lower end of the liftgate prop rod.
25. Slide the left side quarter trim panel into place and reconnect the prop rod and support clip.
26. Repeat steps 24 and 25 to install the right side quarter trim panel.
27. Install all screws on the left and right rear quarter trim panel (Figure 21).
28. Connect the liftgate ajar switch electrical connection.
29. Install the trunk rear trim panel (Figure 20).
30. Clean trunk floor and install tool kit.
31. Install spare tire assembly.
32. Continue with Section “**M – Install Differential.**”

Service Procedure (Continued)

M. Install Differential

NOTE: Differential frame bracket reinforcement repair requires the use of P/N CAAP9982 repair package.

1. On vehicles that have not had the toe link replaced, remove the left outer toe link bolt and reinstall it so that the bolt enters from the back side of the toe link bracket. Tighten the bolt to 50 ft. lbs. (68 N·m). Failure to reverse the bolt installation orientation will trap the bolt if future toe link service is required.
2. On the left lower frame rail, measure 2 5/8 inches (67 mm) rearward from the rear edge of the frame locating hole and draw a line across the bottom of the frame (Figure 41).
3. Place the “Z” bracket on the frame as shown in Figure 41. Clamp the “Z” bracket into place.

CAUTION: Do not over tighten the clamps.

4. Using the “Z” bracket as a template, drill two 1/4 inch (6.35 mm) holes in the top side of the lower frame rail (Figure 41).

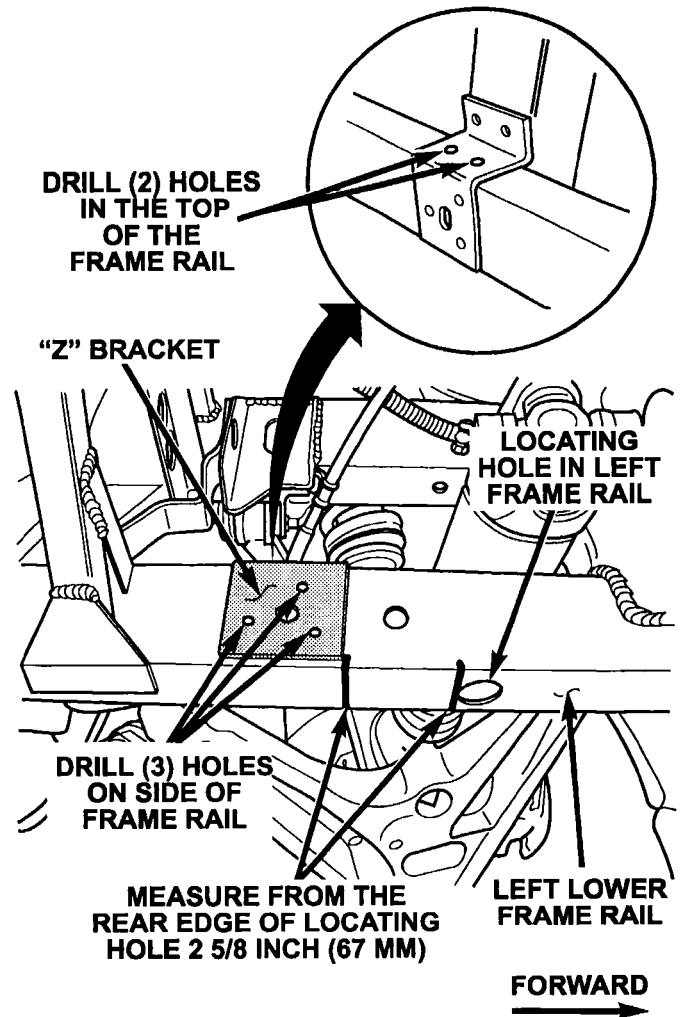


Figure 41

5. Brush zinc rich primer into holes drilled in Step 4 to prevent corrosion.
6. Attach the “Z” bracket to the frame with two structural rivets using a power rivet gun (W-AK175ACH) or equivalent.
7. Remove the clamps from the “Z” bracket.
8. Using the “Z” bracket as a template, drill the remaining three 1/4 inch (6.35 mm) holes into the side of the frame (Figure 41).
9. Brush zinc rich primer into holes drilled in Step 8 to prevent corrosion.

Service Procedure (Continued)

M. Install Differential (Continued)

10. Install three structural rivets using a power rivet gun (W-AK175ACH) or equivalent.
 11. If removed, install the right and left axle shafts to the wheel flanges. Tighten the U-joint straps at the wheel flange to 27 ft. lbs. (36 N·m).
 12. Place and secure the differential assembly on a transmission jack or equivalent.
 13. Position the differential assembly into the vehicle.
 14. Install the differential-to-pinion crossmember mounting bolts. Do not tighten the bolts at this time.
 15. Install the differential mounting bolts at the differential cover isolator bushings. Do not tighten the bolts at this time.
 16. Remove the left side differential mounting bolt and install the differential support bracket (Figure 42).
- NOTE: The differential support bracket wings may need to be spread slightly to aid in the installation.**
17. Install the new left side differential mounting bolt provided. Do not tighten at this time (Figure 42).
 18. Lightly clamp the differential support bracket to the frame rail (Figure 43).

CAUTION: Do not over tighten the clamp.

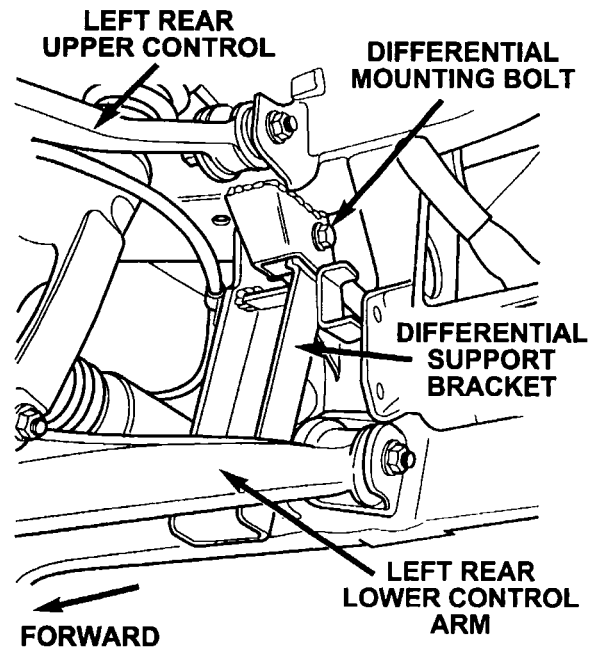


Figure 42 – View from Left Wheel Opening

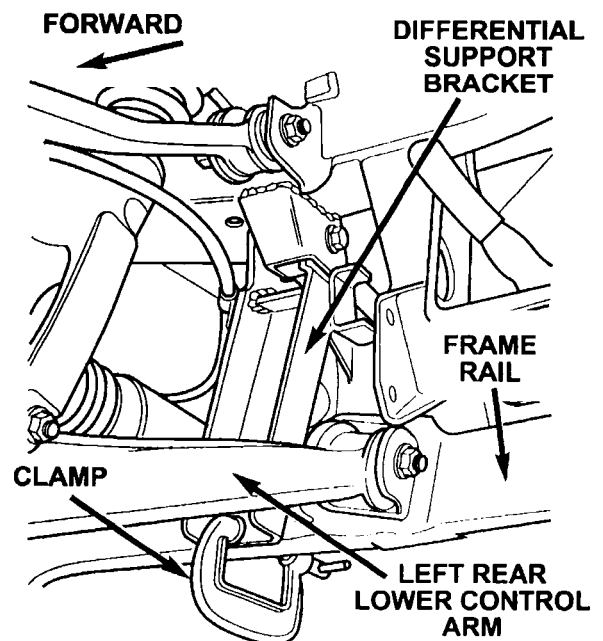


Figure 43

Service Procedure (Continued)

M. Install Differential (Continued)

19. Tighten the differential and pinion crossmember mounting bolts to 100 ft. lbs. (135 N·m).
20. Tighten the differential mounting bolts at the differential cover isolator bushings to 100 ft. lbs. (135 N·m).
21. Remove the transmission jack from under the differential assembly.
22. Remove the left rear shock absorber assembly.
23. Place a jack stand under the left rear lower control arm and raise the suspension to allow access to drill the two holes in the frame (Figure 44).

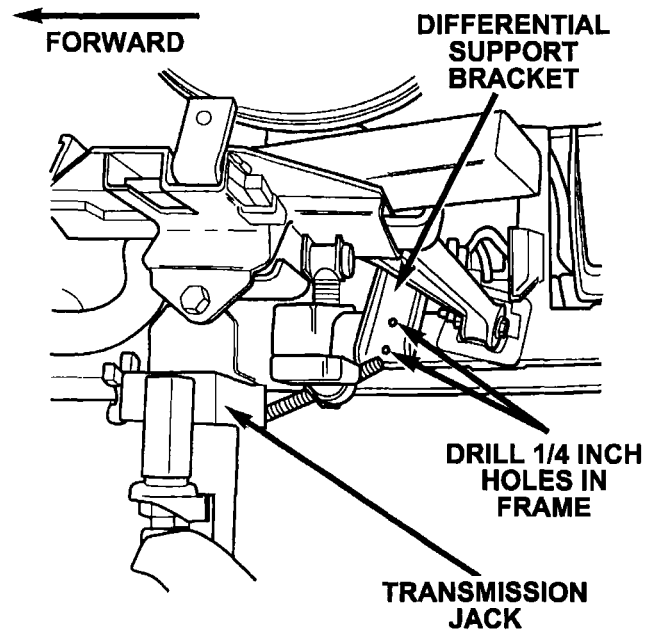


Figure 44

24. Using the differential support bracket as a template, drill two 1/4 inch holes in the frame as shown in Figure 44.
25. Apply corrosion resistant primer into the holes made in Step 24.

26. Using the provided structural rivets, attach the differential support bracket to the frame rail using power rivet gun (W-AK175ACH) or equivalent.

27. Remove the clamp from the frame.

28. Using the "Z" bracket as a template, drill two 1/4 inch holes into the differential support bracket (Figure 45).

29. Apply corrosion resistant primer into the holes made in step 28.

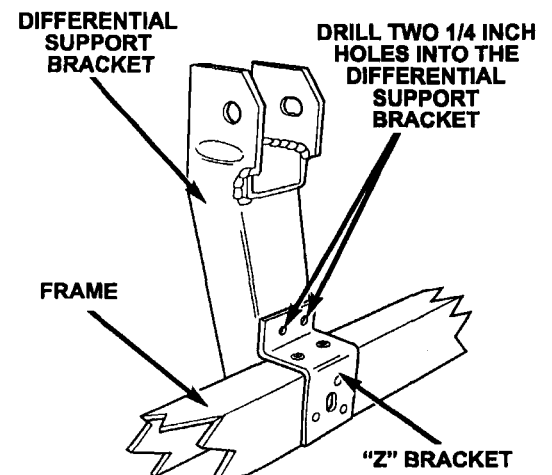
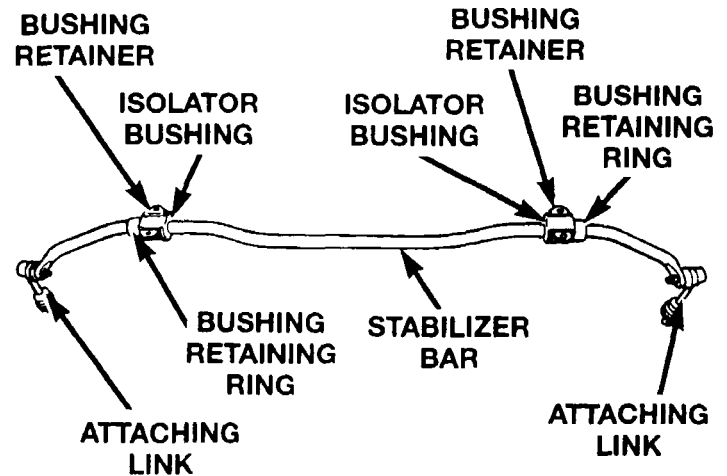


Figure 45

Service Procedure (Continued)**M. Install Differential (Continued)**

30. Using the provided structural rivets, attach the “Z” bracket to the differential support bracket (Figure 45).
31. Apply black spray paint to all rivet heads.
32. Lower the jack stand and install the left shock absorber assembly. Do not tighten mounting bolts at this time.

**Figure 46**

33. With the jack stand under the left rear lower control arm, raise the lower control arm until full vehicle weight is on the suspension.
34. Tighten the lower shock absorber mounting bolt to 100 ft. lbs. (135 N·m).
35. Tighten the upper shock absorber mounting bolt to 100 ft. lbs. (135 N·m).
36. Remove the jack stand.
37. Install the driveshaft. Tighten the universal joint strap bolts to 320 in. lbs. (36 N·m).
38. Connect the right and left axle shafts to the differential flanges. Tighten the universal joint strap bolts to 320 in. lbs. (36 N·m).
39. If previously removed, install the stabilizer bar (Figure 46). Tighten the stabilizer bar isolator bushing retainer bolts to 50 ft. lbs. (68 N·m). Tighten the stabilizer bar attaching link nuts to 200 in. lbs. (23 N·m).

Service Procedure (Continued)**M. Install Differential (Continued)**

40. If previously removed, install the right and left toe links. While pulling down on the toe link, tighten the outer toe link bolt to 50 ft. lbs. (68 N·m). Then tighten the inner toe link mounting bolt to 50 ft. lbs. (68 N·m) (Figure 47).

CAUTION: Be sure that the rear toe pattern adjustment shim is in its original position and that the left outer toe link mounting bolt is installed so that the bolt enters from the rear side of the toe link bracket.

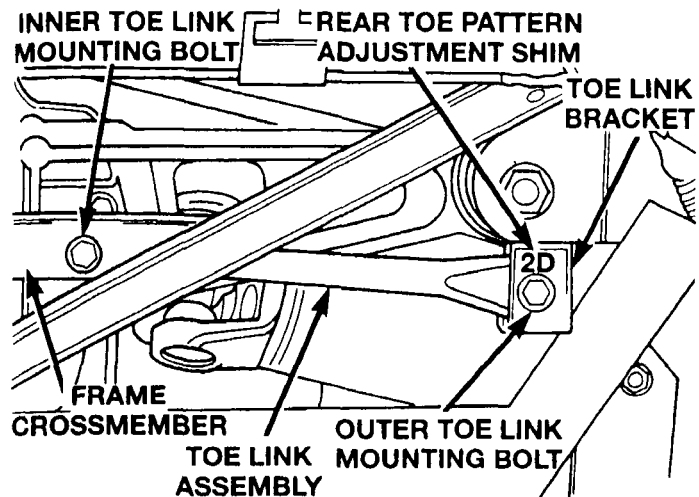


Figure 47

41. If removed, install the toe link through the knuckle arm. Then install the castle nut. Tighten the castle nut to 38 ft. lbs. (52 N·m) and install the cotter pin.
42. Install the park brake cable retainer.
43. Install the rear exhaust pipes and muffler assembly (Figure 13).
44. Install the two rear exhaust isolators (Figure 13).
45. Install the center exhaust isolators.
46. Tighten the two rear exhaust clamps to 55 ft. lbs. (70 N·m).
47. If removed, place the battery onto the battery tray. Tighten the hold down bolt to 124 in. lbs. (14 N·m).
48. Connect and tighten the positive battery cable first. Then connect and tighten the negative battery cable.

Service Procedure (Continued)**M. Install Differential (Continued)**

49. Install the battery access panel.
50. If removed, install right wheel opening splash shield.
51. Install both rear wheel and tire assemblies onto vehicle. Tighten lug nuts to 90 ft. lbs. (122 N·m) and tighten in the order shown in Figure 48.

NOTE: Wheel and tires are unidirectional. Verify that the correct wheel and tire assembly is on the correct side of the vehicle.

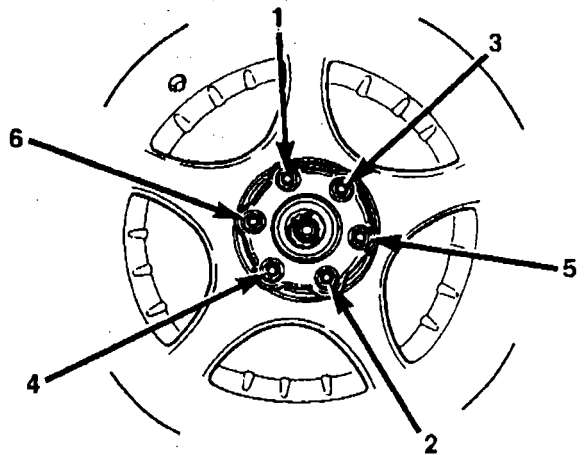


Figure 48

52. Lower vehicle from the hoist.
53. ➤ If the vehicle had the steering gear crossmember or differential mounting bracket replaced, continue with Section “N – Wheel Alignment.”
 - If the vehicles did not have the steering gear crossmember or differential mounting bracket replaced, wheel alignment is not required. Return the vehicle to the customer. No further action is necessary.

Service Procedure (Continued)

N. Wheel Alignment

NOTE: The following alignment procedure is only required on vehicles that have had the steering gear crossmember or differential mounting bracket replaced.

1. Before beginning the wheel alignment on the vehicle, the following pre-alignment inspection must be completed.
 - a. Check and adjust the tire pressure. Refer to the placard on the vehicle for pressure specification.
 - b. Verify correct tire size and equal tread wear.
 - c. Inspect each tire/wheel assembly for evidence of an unbalance condition.
 - d. Inspect the wheels for excessive radial and/or lateral runout.
 - e. Inspect the front and rear wheel hub and bearing assemblies for looseness.
 - f. Inspect ball studs and linkage pivot points and the steering gear for looseness, roughness, binding or a sticking condition.
 - g. Inspect all suspension components for wear.
 - h. Inspect the front and rear shock absorber assemblies for leaks or signs of damage.
 - i. Inspect the front and rear coil springs on the shock absorbers for signs of damage.
 - j. Verify that the front suspension upper control arm sport shims have not been removed (Figure 49). Correct camber angles can not be set if the sport shims have been removed.

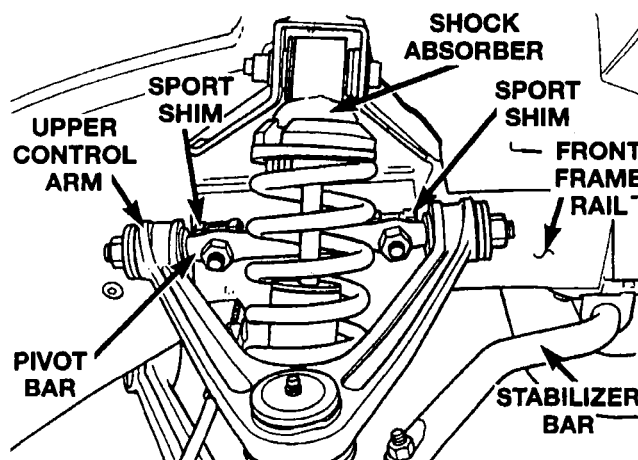


Figure 49 – Right Side Shown

CAUTION: The vehicle's suspension geometry and alignment settings change rapidly as the vehicle changes height. For this reason, it is extremely important that all suspension specifications be checked and adjusted with the vehicle at the correct curb height. Alignment specifications must be checked with the vehicle at curb height, the fuel tank full, fluids at the correct fill level, and all factory supplied equipment (top, removable windows, spare tire etc.) must be in the vehicle.

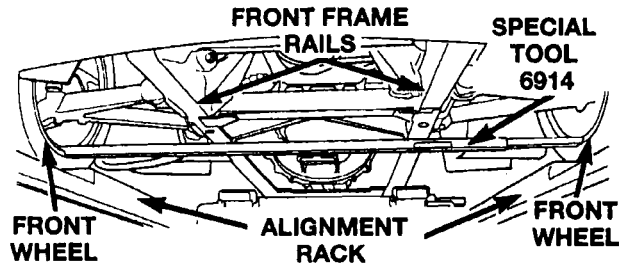
NOTE: Any additional repairs discovered during the pre-alignment inspection are the vehicle owner's responsibility.

Service Procedure (Continued)

N. Wheel Alignment (Continued)

2. Place the vehicle on an alignment machine.

NOTE: The alignment machine being used must have the capability of performing a four-wheel alignment.



3. Check and set the **curb height** of the vehicle using the procedure below.

NOTE: Curb height is the height that the vehicle is at when it has a full tank of fuel, all fluids are filled to their proper levels, and no passengers or additional weight is added to the vehicle. All factory supplied equipment (top, removable windows, spare tire etc.) must be in the vehicle.

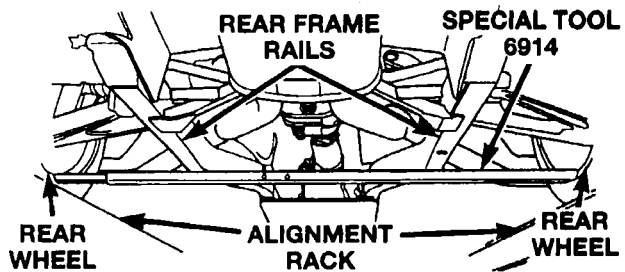


Figure 50

- a. Install front and rear Vehicle Height Checking Fixture (Special Tool #6914) at the base of both inner flanges of the front and rear wheels as shown in Figure 50.

NOTE: Vehicles equipped with the ACR package and/or BBS racing wheels must have Special Tool #8396-1 adapters installed onto Special Tool #6914 checking fixture before installing on the front and rear wheels.

Service Procedure (Continued)

N. Wheel Alignment (Continued)

- b. Check the distance from the bottom of each of the **front** frame rails to the top surface of the Vehicle Height Checking Fixture (Special Tool #6914) (Figure 51). The distance should be:

➤ **1996 and 1997 model year:**

1 ½ inches \pm ¼ inch
(38 mm \pm 6 mm).

➤ **1998 and 1999 model year:**

2 inches \pm ¼ inch
(50 mm \pm 6 mm).

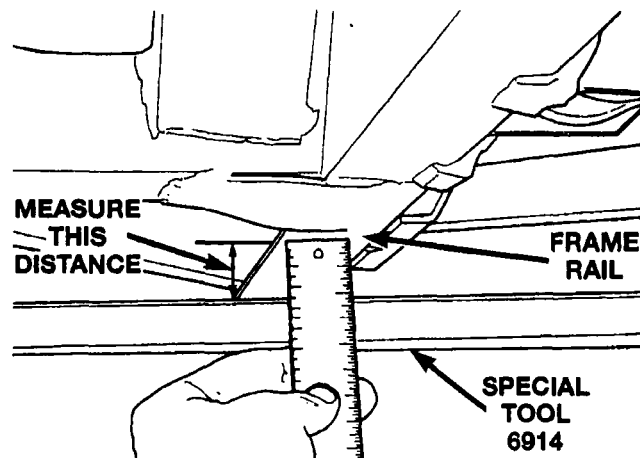


Figure 51

- c. Check the distance from the bottom of each of the **rear** frame rails to the top surface of the Vehicle Height Checking Fixture (Special Tool #6914) (Figure 52). The distance should be:

➤ **1996 and 1997 model year:**

2 inches \pm ¼ inch (50 mm \pm 6 mm).

➤ **1998 and 1999 model year:**

2 ½ inches \pm ¼ inch (64 mm \pm 6 mm).

- d. If the vehicle does not meet curb height specifications, continue with **Section "O – Setting the Vehicle Design Height"** before continuing with this procedure. If the curb height is within specifications, continue with Step 4 of this procedure.

NOTE: Vehicle curb height can be affected if the rubber bushings used in the vehicle's suspension are not tightened with the vehicle at Design Height. This is due to the extreme stiffness of the rubber used in the suspension component bushings.

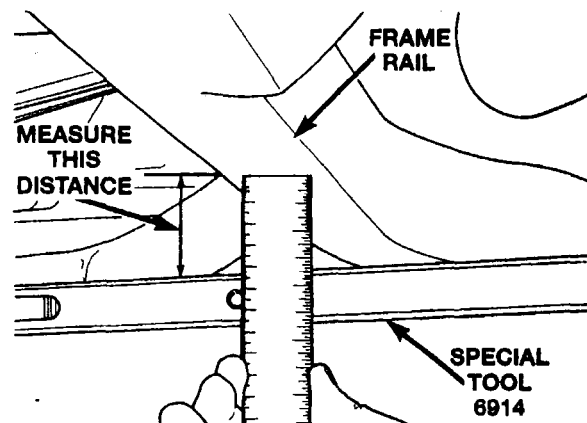


Figure 52

Service Procedure (Continued)

N. Wheel Alignment (Continued)

4. Install the wheel alignment equipment onto the vehicle per alignment equipment manufacturer's instructions.

NOTE: The vehicle is equipped with flangeless style wheels, thus any alignment equipment used must be capable of attaching to the outside edge of the wheel rim lip.

CAUTION: Both front and rear caster angle on the vehicle must be read directly off the front and rear knuckle through the use of inclinometer sensors attached to the DRB III scan tool. Do not use the alignment machine's sweep method to measure caster angle.

NOTE: All necessary adapters, cables, switch box and inclinometers are available in Viper Essential Tool Kit #6990.

5. Use the following procedure to connect and calibrate the DRB III and inclinometers.

NOTE: The DRB III must have a Super Card 2 installed to perform caster measurements.

- a. Plug the cable from the switch box (Special Tool #6996) into the PEP module connector on the DRB III marked "INCL" (Figure 53).
- b. Plug the power cable (supplied with the DRB III kit) into the DRB III power connector marked "VEHICLE" (Figure 53).

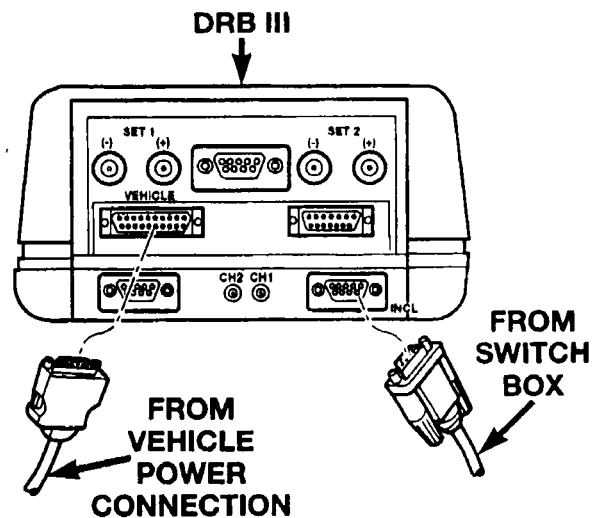


Figure 53

Service Procedure (Continued)

N. Wheel Alignment (Continued)

- c. Attach the two inclinometers (Special Tool #6989) to the switch box (Special Tool #6996) (Figure 54).

NOTE: Only two inclinometers are supplied and should be used as a pair to measure either rear caster or front caster, one at a time.

- d. Attach the power cable from the DRB III to the vehicle data connector.
- e. Select the **PEP Module Tools (#4)** option from the main menu screen.
- f. Select the **Inclinometer/Viper Alignment (#4) option** from the Stand Alone Main Menu.
- g. Select the **Read/Display Angle (#1) option** from Inclinometer Main Menu. This option is used to calibrate the inclinometers before being used on the vehicle.

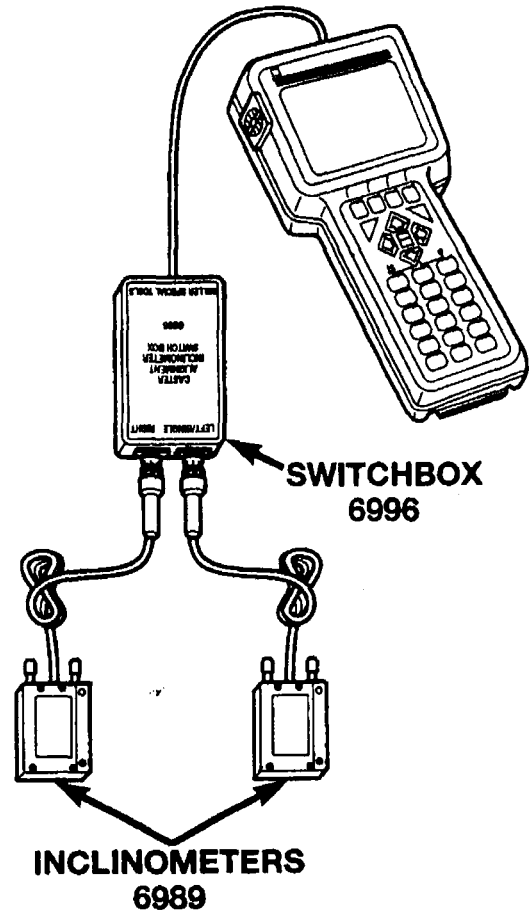


Figure 54

CAUTION: The inclinometer (Special Tool #6989) must be calibrated prior to each time it will be used to read the caster angle on the vehicle.

- h. Press **F2** on the DRB III key pad to show both inclinometers.

Service Procedure (Continued)

N. Wheel Alignment (Continued)

- i. Place both inclinometers together on a known flat level surface such as the alignment rack, with the knurled ends of the fastening screws facing upward (Figure 55).
- j. Press enter to continue.
- k. Rotate the inclinometers 180 degrees in place, then **press enter again** to calibrate both inclinometers in the other direction. The inclinometers are now ready to be installed on the vehicle (Figure 56).

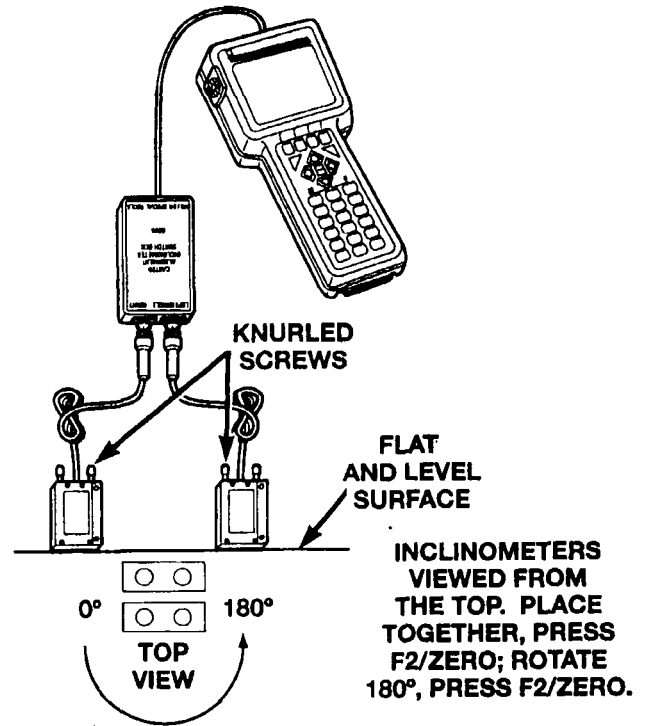


Figure 55

- 6. Mount the inclinometers to the rear Caster Angle Fixtures (Special Tool #6916) (Figure 56).

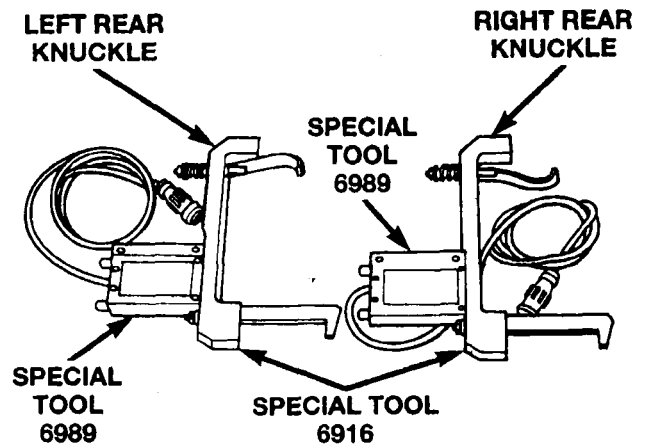


Figure 56

Service Procedure (Continued)

N. Wheel Alignment (Continued)

- Once the inclinometers are attached to the rear Caster Angle Fixtures, they can be mounted on the rear knuckle caster angle pads as shown in Figures 57.

CAUTION: The caster pads are located on the rear edge of the rear knuckle. Be sure that the caster pads are thoroughly cleaned before mounting the caster inclinometers on the knuckles. The caster inclinometers must sit flat on the caster pads to obtain accurate caster readings.

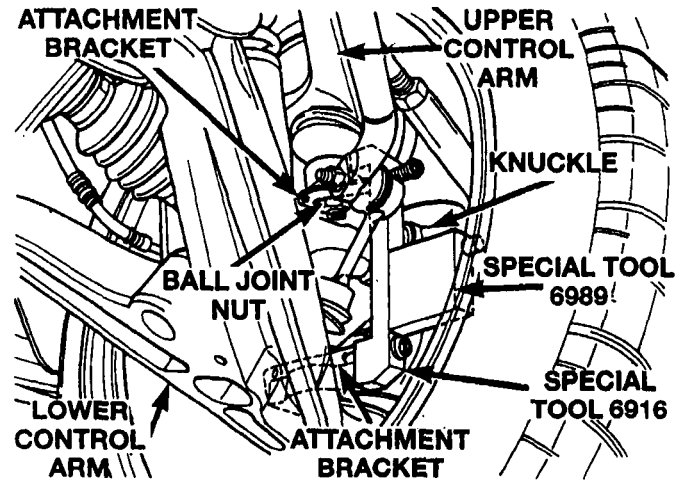


Figure 57 – Right Side Shown

- Adjust the rear caster angle using the measurements viewed on the DRB III screen, and the camber angle using the measurements viewed on the alignment equipment. Camber and caster angles are adjusted by turning the cam bolts on the lower control arm bushings (Figure 58). Refer to the Alignment Specifications Chart on page 69 of this document.

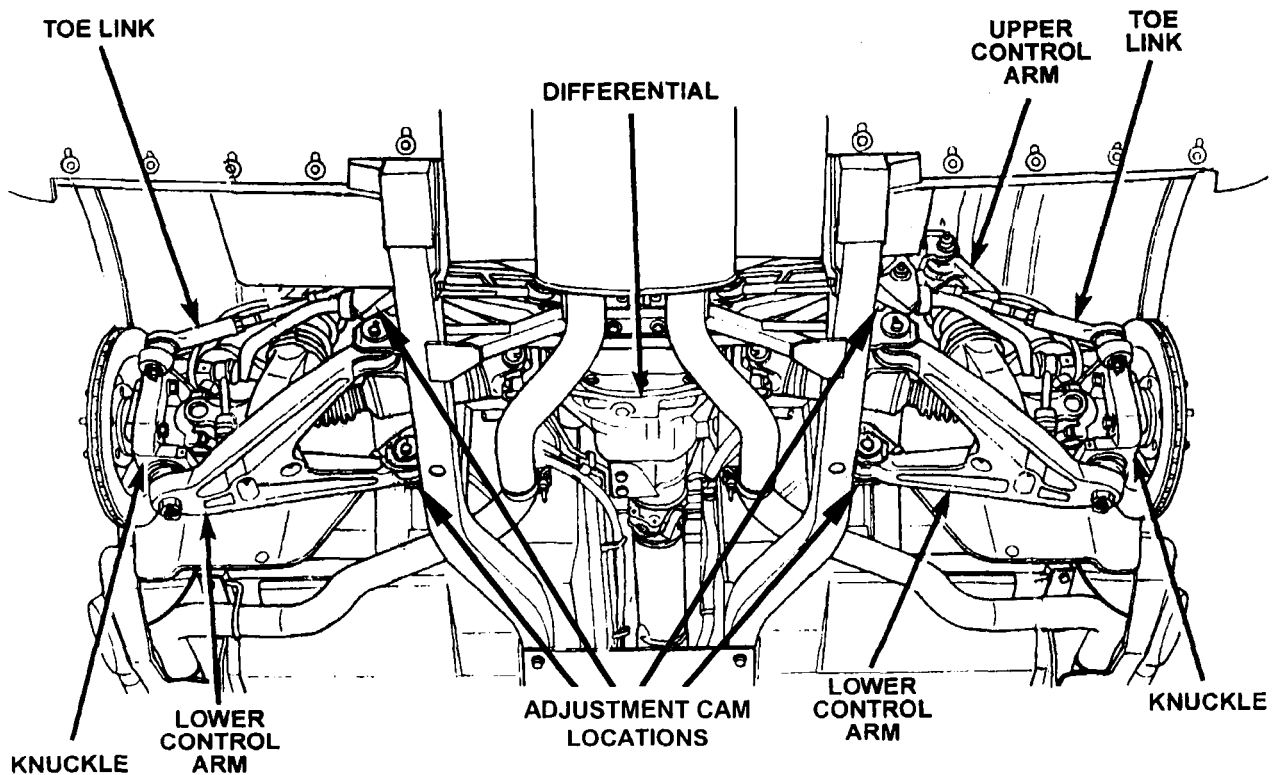


Figure 58

Service Procedure (Continued)

N. Wheel Alignment (Continued)

- Transfer the inclinometers to the front Caster Angle Fixtures (Special Tool #6915) (Figure 59).

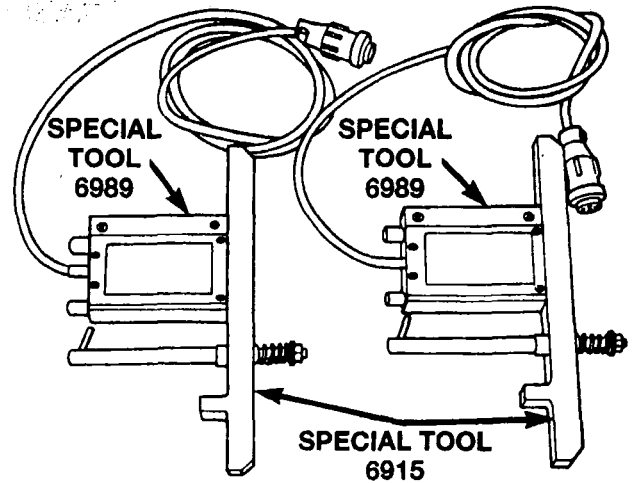


Figure 59

- Once the inclinometers are attached to the front Caster Angle Fixtures, the fixtures can be mounted on the front knuckle caster pads as shown in Figures 60.

CAUTION: The caster pads are located on the front edge of the front steering knuckle. Be sure that the caster pads are thoroughly cleaned before mounting the caster inclinometers on the front steering knuckles. The caster inclinometers must sit flat on the caster pads to obtain accurate caster readings.

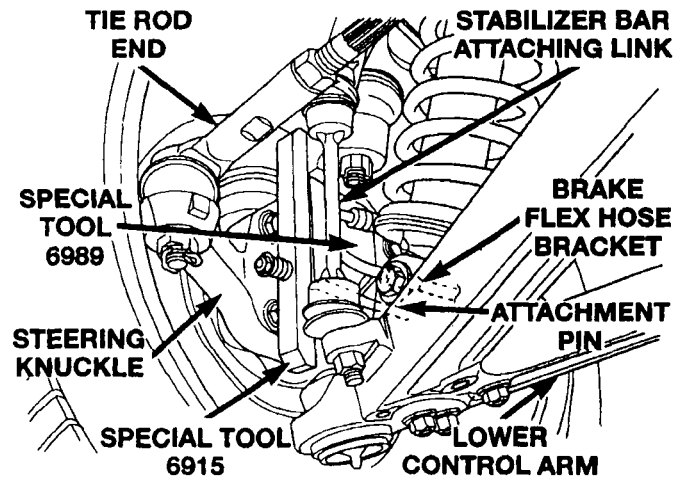


Figure 60 – Right Side Shown

Service Procedure (Continued)

N. Wheel Alignment (Continued)

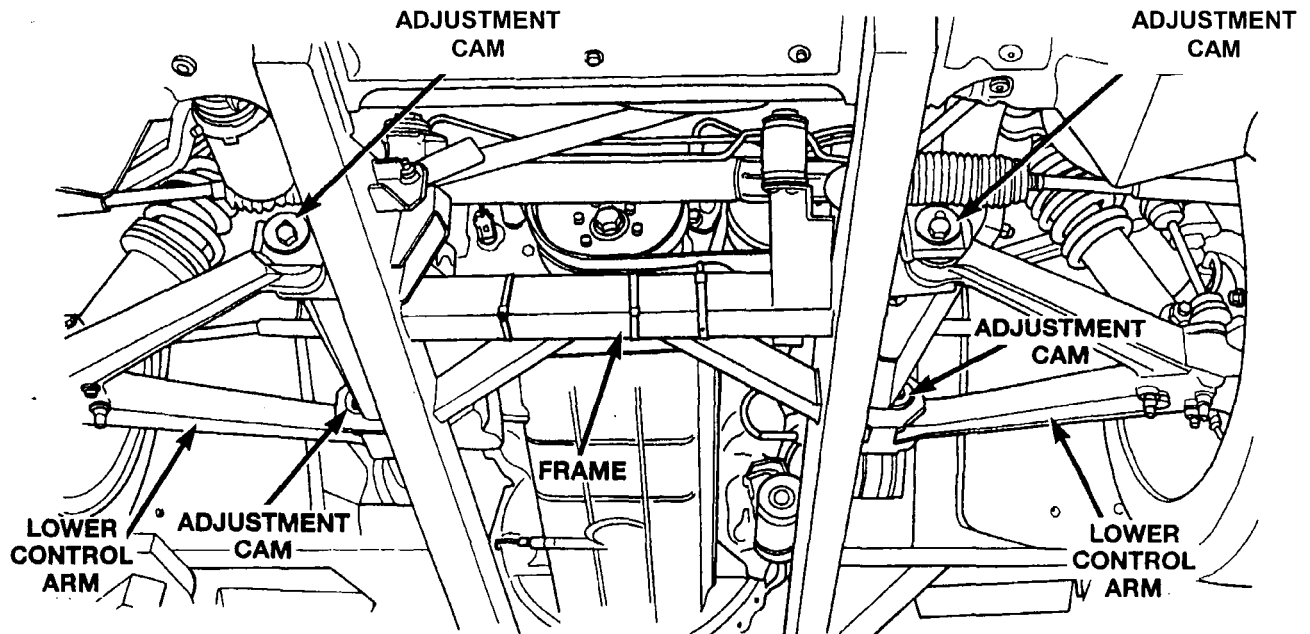


Figure 61

11. Adjust the front caster angle using the measurements viewed on the DRB III screen, and the camber angle using the measurements viewed on the alignment equipment. Camber and caster angles are adjusted by turning the cam bolts on the lower control arm bushings (Figure 61). Refer to the Alignment Specifications Chart on page 69 of this document.
12. Set the front and rear static wheel toe using the following procedure.

NOTE: The engine should be running during the front wheel toe setting procedure.

- a. Start the engine and turn the wheels both ways before straightening and centering the steering wheel. Center the steering wheel and retain the steering wheel position with a steering wheel clamp.
- b. Loosen the front outer tie rod end jam nut (Figure 62).
- c. Remove the clamp from the front inner tie rod boot (Figure 62).

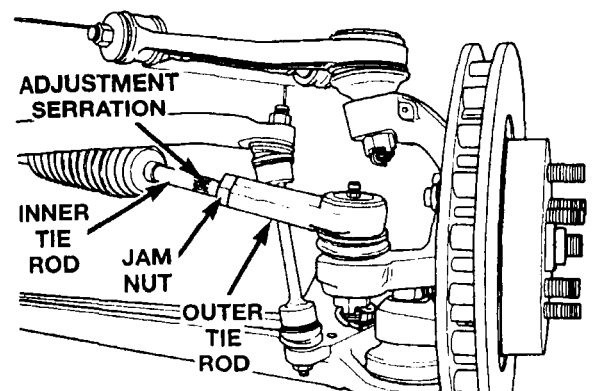
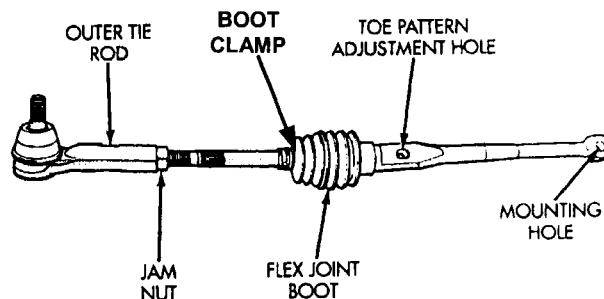


Figure 62 – Left Front Shown

Service Procedure (Continued)**N. Wheel Alignment (Continued)**

- d. Remove the clamp from the rear flex joint boot and loosen the tie rod jam nut (Figure 63).
- e. To adjust the rear wheel toe, rotate the right and/or left toe link in the direction required to obtain the specified individual wheel toe position. Refer to the Alignment Specifications Chart on page 69 of this document.

**Figure 63 – Left Rear Shown**

- f. To adjust the front wheel toe, grasp and rotate the right and/or left inner tie rod at the adjustment serration in the direction required to obtain the specified individual wheel toe position.
 - g. Once the individual wheel toe is set to specifications, tighten all of the jam nuts to 55 ft. lbs. (75 N·m).
 - h. Straighten both front tie rod boots at the inner tie rod so that the boots are not twisted. Then install both inner tie rod boot clamps.
 - i. Straighten both rear flex joint boots so that the boots are not twisted (Figure 63). Then install both boot clamps.
 - j. Remove the steering wheel clamp.
13. Remove the alignment equipment from the vehicle.
 14. Remove the caster angle inclinometers from the front knuckles.
 15. Remove the vehicle from the alignment rack and return it to the customer.

Service Procedure (Continued)

O. Setting the Vehicle Design Height

NOTE: The following procedure is only required on vehicles that have incorrect design height as determined by Section “N – Wheel Alignment.”

- Loosen the mounting bolts for the suspension components listed below. The bolts must be loosened enough to allow the suspension to move without loading (twisting) the rubber isolator bushings.
 - Front and rear lower control arm-to-frame bracket mounting bolts.
 - Front and rear upper control arm-to-frame bracket mounting bolts.
 - Front upper control arm-to-pivot bar end nuts.
 - Front and rear shock absorber-to-frame bracket mounting bolts.
 - Front and rear shock absorber-to-lower control arm mounting bolts.

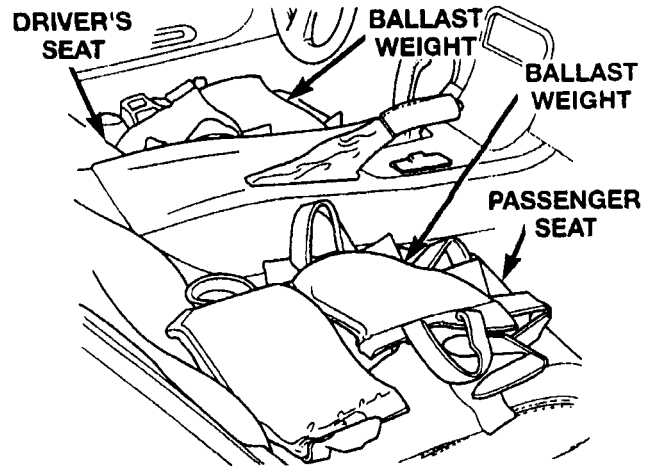


Figure 64

- Add ballast weight as required to the passenger compartment of the vehicle to lower the front of the vehicle to the specified design height (Figure 64).

CAUTION: Do not over ballast the vehicle. If the vehicle is over ballasted, the design height will be incorrect and the special tool can be bent.

NOTE: When lowering the vehicle to its specified design height do not add all the ballast (weight) to the vehicle at one time. Add ballast slowly until the correct distance between the Vehicle Height Checking Fixtures (Special Tool #6914) and the frame of the vehicle is achieved.

The approximate total weight needed to lower the vehicle to its design height is 400 lbs. (180 Kg). The weight distribution in the vehicle is about 330 lbs. (150 Kg) in the passenger compartment (165 lbs. (75 Kg) per seat) and 70 lbs. (30 Kg) in the trunk (Figure 64 and 65).

NOTE: Vehicles equipped with the ACR package will require significantly more weight to achieve design height.

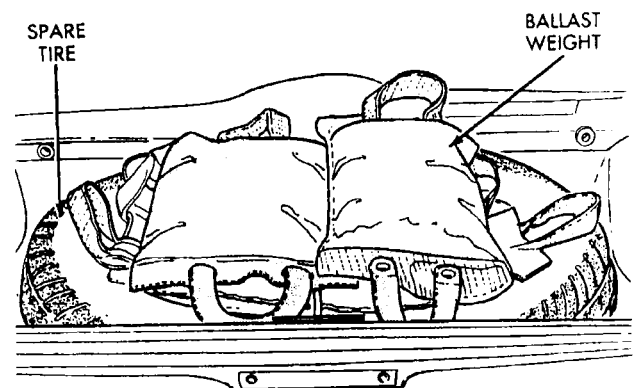


Figure 65

Service Procedure (Continued)**O. Setting the Vehicle Design Height (Continued)**

3. Check the vehicle's front design height by measuring between the Height Checking Fixture (Special Tool #6914) and the frame rail crossmember (Figure 52). The **front design height** with added weight should be:

- **1996 and 1997 model years:** 11/16 inch \pm 1/4 (18 mm \pm 6 mm).
- **1998 and 1999 model years:** 1-13/64 inch \pm 1/4 (30 mm \pm 6 mm)

NOTE: Vehicles equipped with the ACR package and/or BBS racing wheels must have Special Tool #8396-1 adapters installed onto Special Tool #6914 checking fixture before installing on the front and rear wheels.

4. Check the vehicle's rear design height by measuring between the Height Checking Fixture (Special Tool #6914) and the frame rail crossmember (Figure 53). The **rear design height** with added weight should be:

- **1996 and 1997 model years:** 1/2 inch \pm 1/4 (13 mm \pm 6 mm).
- **1998 and 1999 model years:** 1 inch \pm 1/4 (25 mm \pm 6 mm).

NOTE: After ballasting the rear of the vehicle, recheck the front design height to see if the front of the vehicle lifted when the rear was ballasted.

5. With the vehicle properly ballasted, tighten the mounting bolts of the following suspension components:

- Front and rear lower control arm-to-frame bracket cam adjusting bolts and nuts to 75 ft. lbs. (101 N·m).
- Rear upper control arm-to-frame bracket pivot bolts to 70 ft. lbs. (95 N·m).
- Front upper control arm-to-pivot bar mounting end nuts to 100 ft. lbs. (136 N·m).
- Front and rear shock absorber-to-frame bracket mounting bolts to 100 ft. lbs. (136 N·m).
- Front shock absorber-to-lower control arm mounting bolts to 100 ft. lbs. (136 N·m).
- Rear shock absorber-to-lower control arm mounting bolts to 140 ft. lbs. (190 N·m).

6. Remove the ballast from the trunk and passenger compartment of the vehicle.

Service Procedure (Continued)**O. Setting the Vehicle Design Height (Continued)**

7. Lightly jounce the front and rear suspension of the vehicle to ensure that the vehicle is settled at curb height.

NOTE: When jouncing the vehicle, the vehicle must be released at the bottom of the jounce cycle. This will ensure the vehicle's suspension will raise the vehicle to the correct curb height at the top of the jounce cycle.

8. Check vehicle's **front curb height** by measuring the distance from the front frame rail to the top of the Vehicle Height Checking Fixture (Figure 51).
 - **1996 and 1997 model year:** 1 ½ inches ± ¼ inch (38 mm ± 6 mm).
 - **1998 and 1999 model year:** 2 inches ± ¼ inch (51 mm ± 6 mm).
9. Check vehicle's **rear curb height** by measuring the distance from the rear frame rail to the top of the Vehicle Height Checking Fixture (Figure 52).
 - **1996 and 1997 model year:** 2 inches ± ¼ inch (51 mm ± 6 mm).
 - **1998 and 1999 model year:** 2 ½ inches ± ¼ inch (64 mm ± 6 mm).
10. If the curb height is within specifications continue with **Step 4 of Section "N - Wheel Alignment."** If the vehicle does not meet vehicle curb height specification after setting the design height, inspect the following suspension components of the vehicle for conditions that may cause the vehicle to not meet vehicle curb height specifications:
 - Shock absorber assembly mounting bushings.
 - Upper and lower control arm mounting bushings.
 - Shock absorber springs.
 - Frame damage to the vehicle which affects mounting location of a suspension component.
 - Front and rear sway bar.
 - Inspect all suspension components for signs of damage.
11. If the component inspection does not determine why the vehicle is not meeting front and/or rear curb height specification, the coil springs on the shock absorber assemblies can be shimmed, or have a reduced height spring seat installed to correct the curb height on standard suspension vehicles. Vehicles with ACR suspension have adjustable spring seats. Continue with **Section "P – Coil Spring Preload Adjustment"** or **Section "Q – Coil Spring Preload Adjustment (ACR Suspension).**

Service Procedure (Continued)**P. Coil Spring Preload Adjustment**

NOTE: The following procedure is only required on vehicles that have incorrect design height as determined by Section “O – Setting the Vehicle Design Height.”

CAUTION: If the shock absorber/coil spring assembly on the front or rear of the vehicle requires shimming or reduced height upper spring seats, both sides (front or rear) must have the same shims or reduced height spring seat installed.

1. Remove both front and/or rear shock absorber/coil spring assemblies from the vehicle.
2. Securely hold the shock absorber in a vise by clamping the lower bushing.

CAUTION: Do not clamp the shock absorber in a vise that is not equipped with protective caps on the vise jaws. Failure to use protective caps will result in damage to the bushing and clevis of the shock absorber.

3. Compress the shock absorber coil spring using Professional Service Equipment Spring Compressor GP-2020-C3.5 or equivalent (Figure 66). The spring compressor must be equipped with an A-20 spring shoe on the top and bottom.

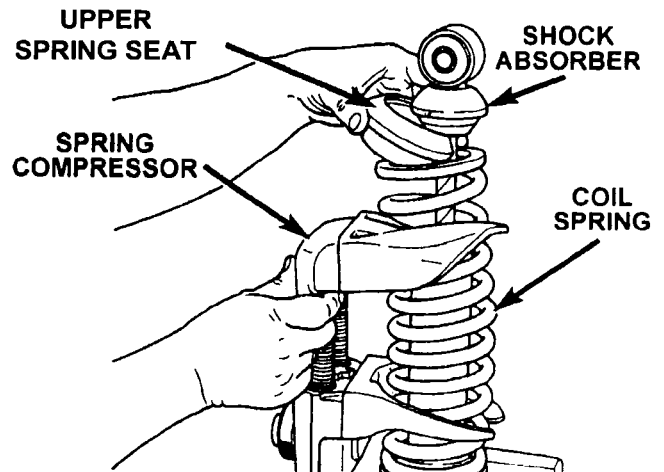


Figure 66

Service Procedure (Continued)**P. Coil Spring Preload Adjustment (Continued)**

4. Compress the coil spring enough to allow the coil spring upper seat to be removed (Figure 66).
 - If the vehicle was lower than curb height specification, add one spring shim under the upper spring seat (P/N 04709321).
 - If the vehicle was higher than curb height specification, remove the original upper spring seat and replace it with a reduced height spring seat (P/N 04763943).

CAUTION: When installing the upper spring seat, be sure the end of the last coil of the coil spring is not positioned at the cut-out notch in the spring shim or upper spring seat (Figure 67).

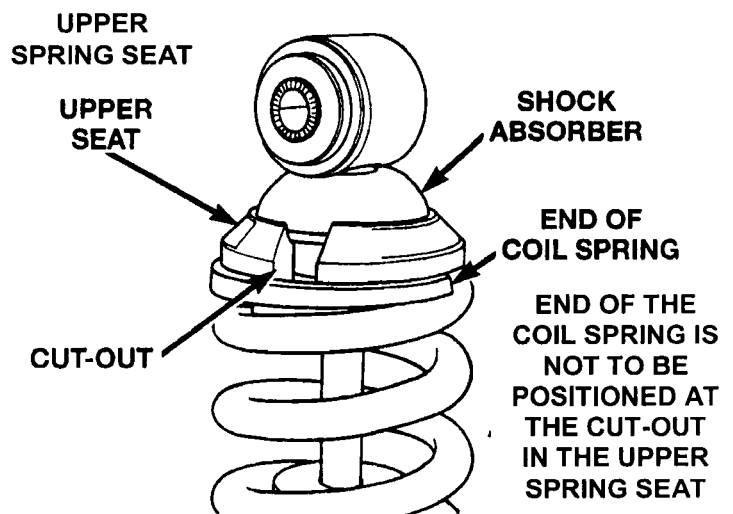


Figure 67

5. Release the spring compressor tension on the coil spring and remove the spring compressor from the coil spring.
6. Remove the shock absorber/coil spring assembly from the vise.
7. Repeat steps 2 through 6 for the other shock absorber/coil spring as necessary.
8. Install both front and/or rear shock absorber/coil spring assemblies onto the vehicle.

CAUTION: When installing shock absorber/coil spring assemblies, the vehicle must be at design height before tightening the upper and lower mounting bolts to specifications.

9. Continue with Section “O – Setting the Vehicle Design Height.”

Service Procedure (Continued)

Q. Coil Spring Preload Adjustment - ACR Suspension

NOTE: The following procedure is only required on vehicles that have incorrect design height as determined by Section “O – Setting the Vehicle Design Height.”

1. Remove the front and/or rear shock absorber assemblies from the vehicle (Figure 68).
2. Securely hold the shock absorber in a vise by clamping the lower bushing or clevis.

CAUTION: Do not clamp the shock absorber in a vise that is not equipped with protective caps on the vise jaws. Failure to use protective caps will result in damage to the bushing and clevis of the shock absorber.

3. Using two adjustable pin spanner wrenches (Snap-on P/N APS357B, OTC P/N JHW-0-472 or equivalent), one on the lower spring seat and the other on the lock nut below it, loosen and back off the lock nut (Figures 68 and 69).
4. Using one of the adjustable pin spanner wrenches, rotate the lower spring seat in the direction needed.

NOTE: If the vehicle was lower than curb height specification, rotate the spring seat upward. If the vehicle was higher than curb height specification, rotate the spring seat downward.

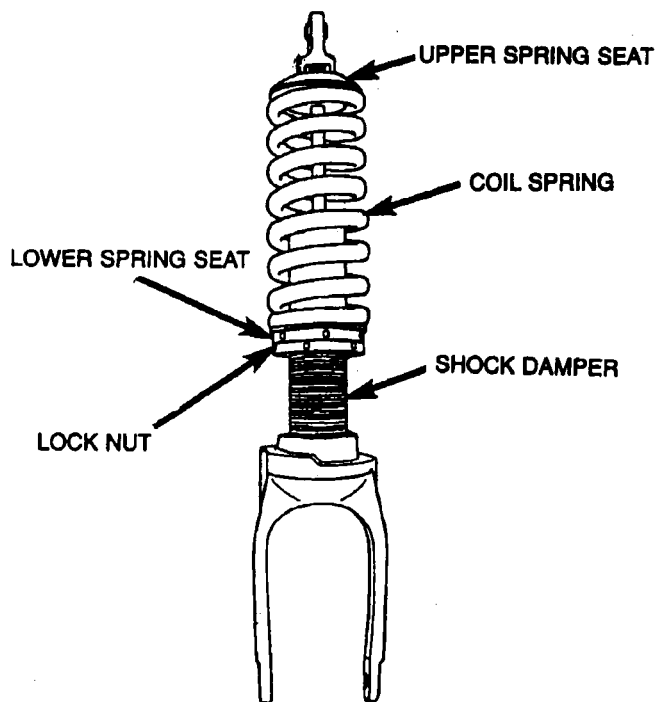


Figure 68 - Rear Shock Assembly Shown

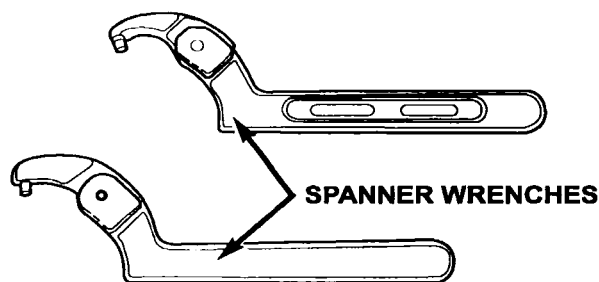


Figure 69

Service Procedure (Continued)**Q. Coil Spring Preload Adjustment - ACR Suspension (Continued)**

5. Once preferred spring height is achieved, thread the lock nut up against the bottom of the lower spring seat.
6. Place an adjustable pin spanner wrench on the lower spring seat to hold it in place, then tighten the lock nut up against the lower spring seat.
7. Remove the shock absorber/coil spring assembly from the vise.
8. Repeat steps 2 through 7 for the other shock absorber/coil spring as necessary.
9. Install front and/or rear shock absorber/coil spring assemblies onto the vehicle.

CAUTION: When installing shock absorber/coil spring assemblies, the vehicle must be at design height before tightening the upper and lower mounting bolts to specifications.

10. Continue with Section “O – Setting the Vehicle Design Height.”

Service Procedure (Continued)

WELDING PROCEDURE SPECIFICATIONS

WELDING PROCESS	*FLUX CORED ARC
Electrode Type	Lincoln Electric Co Product No: NR-211 MP (Do Not Substitute)
Electrode Size Inches	.045 (1.2 mm) Tubular
Electrode Stick Out	3/8" – 1/2" (10 – 13 mm)
Polarity	Electrode - Work Piece +
Shielding Gas	Self-Shielded
Gas Flow rate	N/A
Wire Feed Speed (inches per min.)	90 - 110 (38 – 46.5 mm per second)
Approx. Welding Amperage (All Positions)	130 – 140
Voltage	15.5 - 16.5
Direction of Welding: Vertical Position Flat Position Overhead	Vertical - down Flat- Push or drag Overhead-Push or drag

* Flux Cored Arc is the only approved Welding Method

WARNING: Only use the specified welding wire (Lincoln Electric Co. NR-211 MP). Do not substitute with other types or thickness welding wire.

NOTE: Flux Cored Arc Welding is a welding process that uses a special type of welding wire in a standard wire feed (MIG) welder. Flux Cored welding wire is a hollow wire (tubular) with a flux center. When an arc is created during the welding process, the flux located in the center of the welding wire burns and creates its own shielding gas. No additional shielding gas (CO₂/Ar) is required when using this grade of Flux Cored welding wire.

Service Procedure (Continued)

WHEEL ALIGNMENT SPECIFICATIONS

WHEEL ALIGNMENT ADJUSTMENT***	FRONT SUSPENSION*	REAR SUSPENSION*
Vehicle Curb Height (1996 and 1997 Models)	1 ½ inches ± ¼ inch (38 mm ± 6 mm)	2 inches ± ¼ inch (50 mm ± 6 mm)
Vehicle Curb Height (1998 and 1999 Models)	2 inches ± ¼ inch (50 mm ± 6 mm)	2 ½ inches ± ¼ inch (64 mm ± 6 mm)
Vehicle Design Height (1996 and 1997 Models)	11/16 inches ± ¼ inch (18 mm ± 6 mm)	½ inch ± ¼ inch (13 mm ± 6 mm)
Vehicle Design Height (1998 and 1999 Models)	1-13/64 inches ± ¼ inch (30 mm ± 6 mm)	1 inch ± ¼ inch (25 mm ± 6 mm)
CAMBER	- 0.20° ± 0.20°	- 0.50° ± 0.20°
CASTER	+ 6.0° ± 0.50°	+ 1.0° ± 0.20°
TOE** (Per Wheel)	+ 0.05° ± 0.04°	+ 0.10° ± 0.04°
* The vehicle must be at specified curb height before performing alignment.		
** Positive (+) is toe in; Negative (-) is toe out.		
*** Maximum left to right alignment specification differential is: Caster 0.50° Toe 0.04°		

CAUTION: The suspension geometry is such that the vehicle alignment settings change rapidly as the vehicle changes height. For this reason, it is extremely important that all suspension specifications be checked and adjusted with the vehicle at the correct curb height. Alignment specifications must be checked with the vehicle at curb height, the fuel tank full, fluids at the correct fill level, and all factory supplied equipment (top, removable windows, spare tire etc.) must be in the vehicle.

NOTE: Vehicle curb height is the difference in height between the outer end of the front and rear lower control arms and the frame of the vehicle. All alignment adjustments must be made with the vehicle set to its required curb height specification.

NOTE: Vehicle design height is the height specification the vehicle must be at when tightening fasteners for the vehicle's suspension components that are mounted using rubber isolator bushings.

Completion Reporting and Reimbursement

Claims for vehicles that have been serviced must be submitted on the DIAL System. Claims submitted will be used by DaimlerChrysler to record recall service completions and provide dealer payments.

Use the following labor operation number and any appropriate related operations as necessary. Related operations must be included in the same condition as the primary repair labor operation.

	<u>Labor Operation Number</u>	<u>Time Allowance</u>
Inspect steering gear crossmember and differential mounting bracket for cracks. Install steering gear crossmember reinforcement, frame gussets and differential brace.	13-99-81-82	5.3 hours
<u>Related Operations:</u>		
Replace steering gear crossmember	13-99-81-50	2.0 hours
Repair minor cracks in left differential bracket/frame rail area (Roadster SR-27) (Includes gas tank removal)	13-99-81-51	6.5 hours
Repair minor cracks in left differential bracket/frame rail area (Coupe SR-29) (Includes gas tank removal)	13-99-81-52	6.9 hours
Replace left differential frame rail bracket (Roadster SR-27). (Includes gas tank removal)	13-99-81-53	7.2 hours
Replace left differential frame rail bracket (Coupe SR-29). (Includes gas tank removal)	13-99-81-54	7.6 hours
Replace differential pinion crossmember	13-99-81-55	0.1 hours
Replace rear toe link	13-99-81-56	4.3 hours
Four wheel alignment (Includes setting design height and curb height)	13-99-81-57	3.4 hours

Add the cost of the recall parts package plus applicable dealer allowance to your claim.

NOTE: See the Warranty Administration Manual, Recall Claim Processing Section, for complete recall claim processing instructions.

Parts Return

Not required.

Dealer Notification and Vehicle List

All dealers will receive a copy of this dealer recall notification letter by first class mail. Two additional copies will be sent through the DCMMS, and the MDS2 will be updated to include this recall in the near future. **Each dealer to whom involved vehicles were invoiced will receive a list of their involved vehicles.** The vehicle list is arranged in Vehicle Identification Number (VIN) sequence. Owners known to DaimlerChrysler are also listed. The lists are for dealer reference in arranging for service of involved vehicles.

DIAL System Functions 53 and VIP

All involved vehicles have been entered to DIAL System Functions 53 and VIP for dealer inquiry as needed.

Function 53 provides involved dealers with an updated VIN list of their incomplete vehicles. The customer name, address and phone number are listed if known. Completed vehicles are removed from Function 53 within several days of repair claim submission. To use this system, type "53" at the "ENTER FUNCTION" prompt, then type "ORD998".

Owner Notification and Service Scheduling

All involved vehicle owners known to DaimlerChrysler are being notified of the service requirement by first class mail. They are requested to schedule appointments for this service with their dealers. A copy of the owner letter is attached.

Enclosed with each owner letter is an Owner Notification Form. The involved vehicle and recall are identified on the form for owner or dealer reference as needed.

Vehicle Not Available

If a vehicle is not available for service, let us know by filling out the pre-addressed Owner Notification Form or describe the reason on a postcard and mail to:

DaimlerChrysler Corporation
CIMS 482-00-85
800 Chrysler Drive East
Auburn Hills, Michigan 48326-2757

Additional Information

If you have any questions or need assistance in completing this action, please contact your Zone Service Office.

Customer Services Field Operations
DaimlerChrysler Corporation

SAFETY RECALL TO REPAIR YOUR VEHICLE'S STEERING GEAR CROSSMEMBER AND DIFFERENTIAL MOUNTING BRACKET

Dear Dodge Viper Owner:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

DaimlerChrysler Corporation has determined that two defects, which relate to motor vehicle safety, exist in some **1996 through 1999 model year Dodge Viper vehicles**.

The problems are... **Aggressive driving, such as racing, may lead to cracking and separation of:**

- **The steering gear crossmember from the frame. This can cause unexpected steering looseness and lag.**
- **A differential mounting bracket from the frame. This can cause a loss of vehicle control.**

Either of these conditions could cause an accident without warning.

What DaimlerChrysler and your dealer will do... **DaimlerChrysler will repair your vehicle (identified on the enclosed form) free of charge (parts and labor).** To do this, your dealer will inspect and reinforce your vehicle's frame. The reinforcement work will take about 6 hours to complete. Several days may be necessary if inspection determines that additional frame repairs are required. However, additional time may also be necessary depending on how dealer appointments are scheduled and processed.

What you must do to ensure your safety...

- Simply **contact your dealer** right away to schedule a service appointment. Ask the dealer to hold the parts for your vehicle or to order them before your appointment.
- **Bring the enclosed form with you to your dealer.** It identifies the required service to the dealer.

If you need help... If you have questions or concerns which the dealer is unable to resolve, please contact the DaimlerChrysler Customer Assistance Center at 1-800-853-1403. A representative will assist you.

If you have already experienced the problems described above and have paid to have them repaired, you may send your original receipts and/or other adequate proof of payment to the following address for reimbursement: DaimlerChrysler Customer Assistance Center, P.O. Box 1040, St. Charles, MO 63302-1040, Attention: Reimbursement.

If your dealer fails or is unable to remedy these defects without charge and within a reasonable time, you may submit a written complaint to the Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, DC 20590, or call the toll-free Auto Safety Hotline at 1-888-327-4236.

We're sorry for any inconvenience, but we are sincerely concerned about your safety. Thank you for your attention to this important matter.

***Buckle up
for Safety***

Customer Services Field Operations
DaimlerChrysler Corporation

DAIMLERCHRYSLER

RECEIVED

2002 MAY 17 P 12: 39

DaimlerChrysler Corporation

May 10, 2002

OFFICE OF
DEFECTS INVESTIGATION

Mr. Kenneth N. Weinstein
Associate Administrator, Safety Assurance
National Highway Traffic Safety Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

Dear Mr. Weinstein:

Reference: NHTSA Identification Number 01V-313

Enclosed are representative copies of communications relating to the 1999 and 2000 model year vehicles involved in the referenced recall. In order to facilitate implementation, NHTSA Recall 01V313 has been divided into two phases based on vehicle build dates. Information on phase one (DaimlerChrysler Recall 998) was provided in our May 9, 2002 letter. The remaining later built 1999 and 2000 model year phase two vehicles are included in the attached DaimlerChrysler Recall 999. DaimlerChrysler expects to begin owner notification during the week of May 20, 2002. The exact number of manufactured vehicles in the recall is 2,238.

The involved Vehicle Identification Number range is:

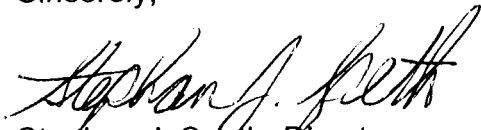
<u>Low</u>	<u>High</u>
XV502624	XV505392
YV600016	YV606769

(VIN last eight characters) - X = 1999 model year; Y = 2000 model year; V = Conner Ave. Assembly Plant, Detroit Michigan; and the last six digits = sequential number.

We caution that the above range represents only the lowest and highest VIN sequential numbers included in the recall. This range cannot be used to determine conclusively that a vehicle is involved in the recall because most vehicles with a VIN within the range are not affected by the recall.

This completes DaimlerChrysler's package of information for this recall as required by the Defects Report Regulation.

Sincerely,



Stephan J. Speth, Director
Vehicle Compliance and Safety Affairs

Enclosure: Safety Recall #999

cc: K. C. DeMeter

May 2002

Dealer Service Instructions for:

Safety Recall No. 999

Steering Gear Crossmember Reinforcement

Models

1999 - 2000 (SR) Dodge Viper (Coupe and Roadster)

NOTE: This recall applies only to the above vehicles built from March 1, 1999 through October 2, 2000 (MDH 030111 through MDH 1002XX).

IMPORTANT: Some of the involved vehicles may be in dealer used vehicle inventory. **Dealers should complete this recall service on these vehicles before retail delivery.** Dealers should also perform this recall on vehicles in for service. Involved vehicles can be determined by using the DIAL VIP System.

Subject

Aggressive driving, such as racing, on about 2,200 of the above vehicles, may lead to cracking and separation of the steering gear crossmember from the frame. This can cause unexpected steering looseness and lag which could result in an accident without warning.

Repair

The steering gear crossmember must be inspected for cracks. Vehicles with a cracked steering gear crossmember must have the crossmember replaced. All involved vehicles must have frame gussets and a steering gear crossmember reinforcement installed.

Parts Information

A. Steering Gear Crossmember Reinforcement Package

NOTE: Steering gear crossmember reinforcement package CAAM9981 is required to repair each vehicle. An additional parts package, listed below, may be required. This depends on what conditions may be found on a particular vehicle.

<u>Part Number</u>	<u>Description</u>
CAAM9981	Steering Gear Crossmember Reinforcement Package

Each package contains the following components:

<u>Quantity</u>	<u>Description</u>
1	Steering Gear Crossmember Reinforcement
1	Right Side Frame Rail Gusset
1	Left Side Frame Rail Gusset
24	Structural Steel Rivets

Each dealer to whom vehicles in the recall were invoiced (or the current dealer at the same street address) will receive enough of each reinforcement package to service about **10%** of those vehicles.

B. Steering Gear Crossmember Assembly

<u>Part Number</u>	<u>Description</u>
CAAM9983	Steering Gear Crossmember Assembly

C. Corrosion Protection

<u>Part Number</u>	<u>Description</u>
CAAM9987	Zinc Rich Primer (quart can)

NOTE: One can of zinc rich primer will repair approximately 20 vehicles.

<u>Part Number</u>	<u>Description</u>
CAAM9988	Black Spray Paint

Each dealer to whom vehicles in the recall were invoiced (or the current dealer at the same street address) will receive ONE (1) can of zinc rich primer and black spray paint. Additional primer and paint may be ordered as required.

D. Vehicle Curb Height Adjustment Shims

<u>Part Number</u>	<u>Description</u>
04709321	Spring Seat Shim, Increase Height
04763943	Spring Seat, Reduced Height

Special Tools

A special air/hydraulic power set riveter tool is required for the installation of the structural rivets. ALL Chrysler and Dodge dealers previously received ONE (1) W-AK175ACH Power Set Riveter, free of charge, through Pentastar Service Equipment (PSE) in December 1998.

Additional power riveters may be ordered through Pentastar Service Equipment (PSE) at dealer cost by calling 1-800-223-5623 or faxing 1-800-734-4334. Additional power riveters are NOT reimbursable by DaimlerChrysler.

The following existing special tools may be required to perform this recall:

- #6632 Adapter, Torque Wrench
- W-AK175ACH Riveter, Air/Hydraulic Powered
- GP-2020-C3.5 Compressor, Coil Spring
- APS357B or JHW-0-472 Wrench, Spanner
- #6914 Height Gages, Suspension
- #8396-1 Adapter, Height Gage
- #6990 Essential Tool Kit, Viper
Kit Contains:
 - #6996 - Switch Box, Inclinator
 - #6989 - Inclinator
 - #6916 - Adapter, Rear Caster
 - #6915 - Adapter, Front Caster

Service Procedure

A. Inspect Steering Gear Crossmember

1. Raise the vehicle on an appropriate hoist.
2. Inspect the steering gear crossmember-to-frame attachment for cracks in areas shown in Figure 1.
 - If **cracks** are found, continue with Section “B – Replace Steering Gear Crossmember.”
 - If **no cracks** are found, continue with Section “C – Install Steering Gear Crossmember Reinforcement Bracket.”

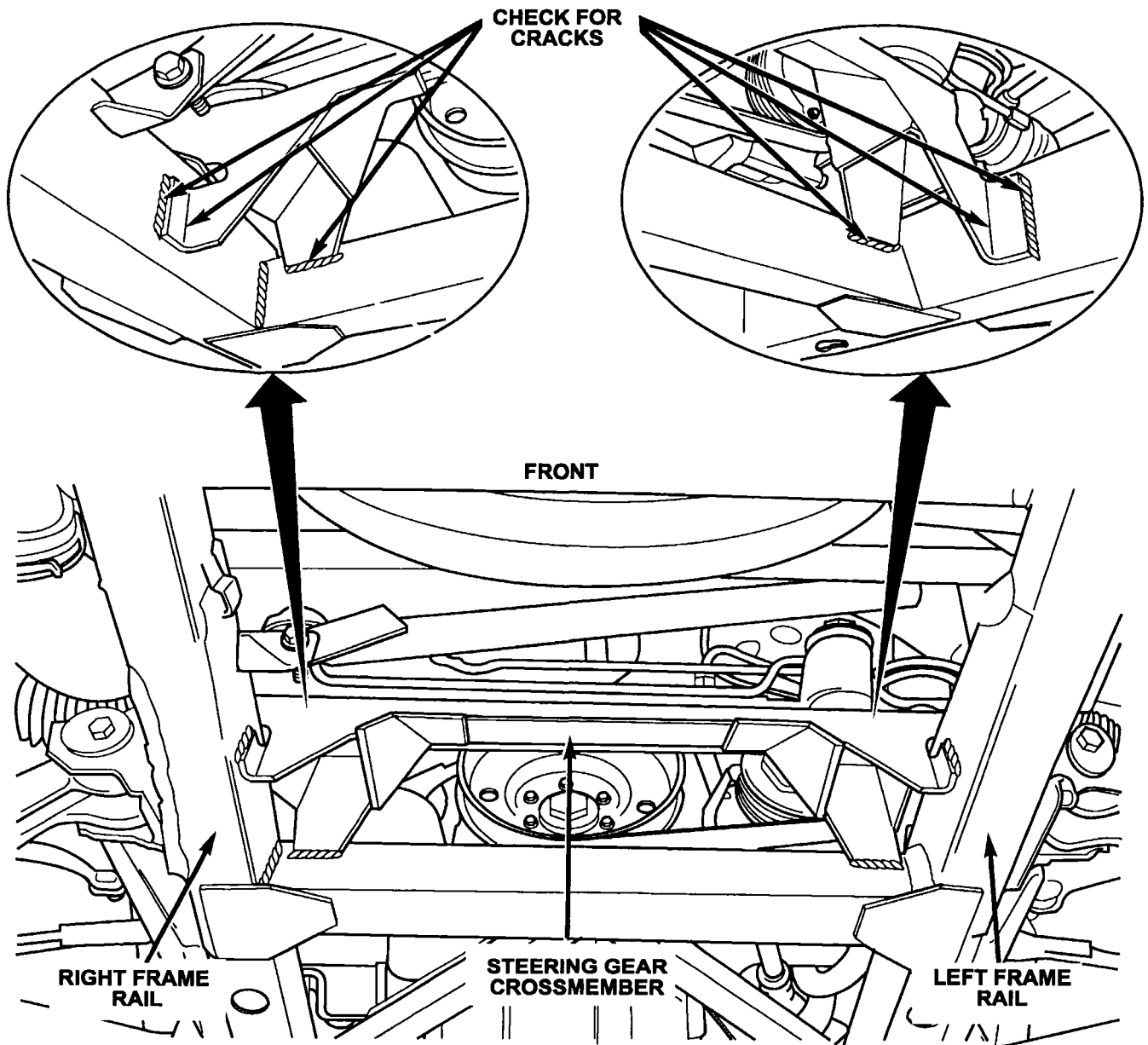


Figure 1 – Under-Car View

Service Procedure (Continued)

B. Replace Steering Gear Crossmember

NOTE: Steering gear crossmember replacement requires the use of P/N CAAM9983.

1. Remove both rear tire and wheel assemblies.
2. Remove the fasteners that attach the battery access panel (Figure 2) and remove the panel.
3. Disconnect and isolate the negative battery cable at the battery.

NOTE: To enhance customer satisfaction, remember to record all radio settings before disconnecting the battery and to reset all electronic memory (clock, radio settings, etc.) when you have completed the service procedure.

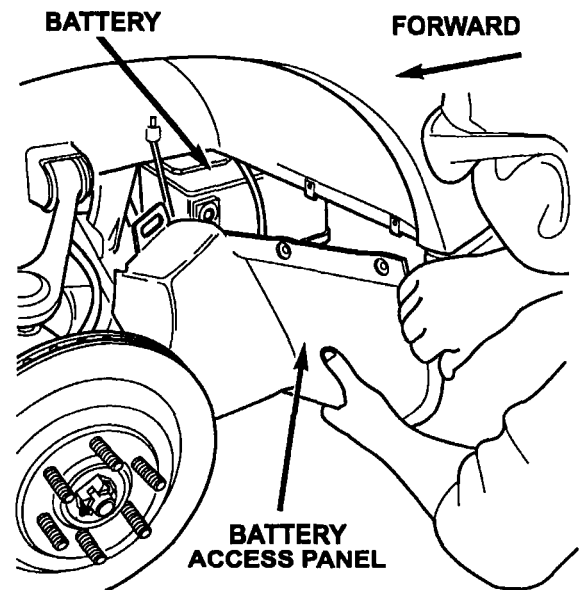


Figure 2

4. Disconnect and isolate the positive battery cable at the battery.

CAUTION: Failure to isolate both the positive and negative battery cables from the battery may cause Powertrain Control Module (PCM) and/or battery damage during welding.

Service Procedure (Continued)

B. Replace Steering Gear Crossmember (Continued)

5. Using a 6-inch steel ruler, measure the distance from the inside rear edge of the steering gear crossmember to the lower edge of the frame crossmember. Perform this measurement procedure on the right and left side of the steering crossmember (Figure 3). Record these measurements for future reference.

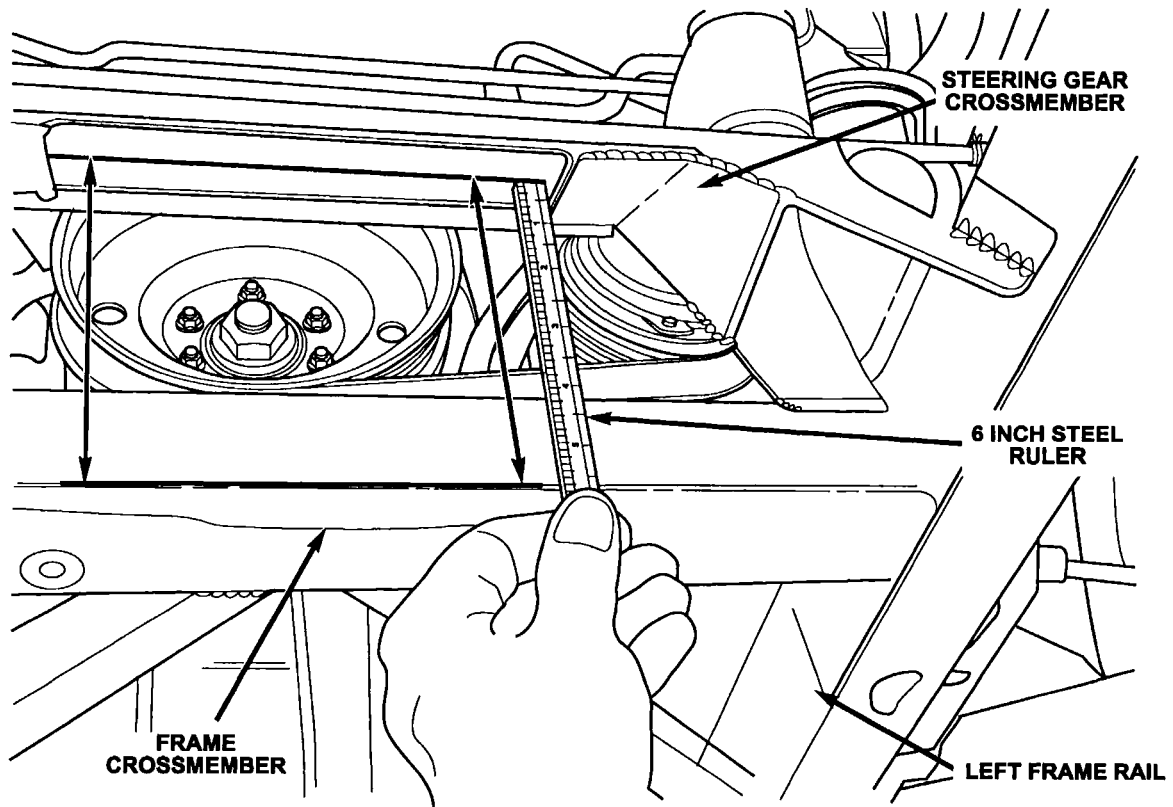


Figure 3

Service Procedure (Continued)

B. Replace Steering Gear Crossmember (Continued)

6. Using Special Tool #6632, remove the two steering gear mounting bolts (Figure 4).

CAUTION: There are selective toe pattern shims located between the steering gear mounting bushings and the steering gear crossmember (Figure 5). Using a grease pencil, mark the shims (right or left side) so that they can be reinstalled into their original position.

NOTE: The right side steering gear mounting bolt has a tapping plate nut located on the bottom side of the steering gear crossmember (Figure 5). The tapping plate nut must be saved.

7. Using plastic tie straps or equivalent, temporarily secure the steering gear tie rod arms to the stabilizer bar. This will keep the steering gear suspended above the steering gear crossmember.
8. Using a cut off wheel, grind off all of the welds that hold the steering gear crossmember to the frame.

CAUTION: Do not use plasma arc cutting equipment or cutting torch to remove the steering gear crossmember.

9. Once the steering gear crossmember has been removed, grind all areas where the new steering crossmember is to be welded. All old weld material and paint must be removed.

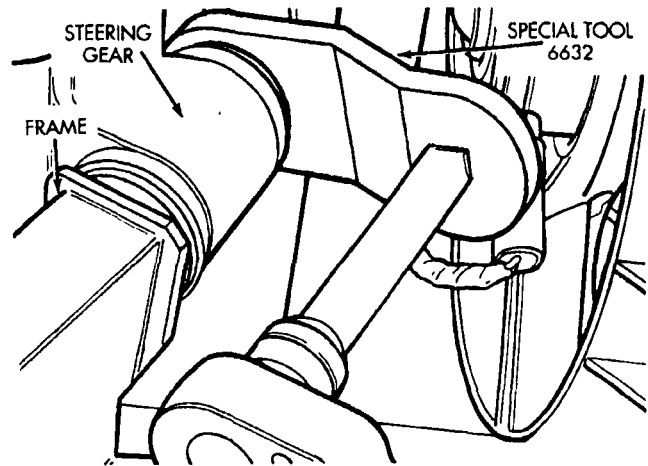


Figure 4

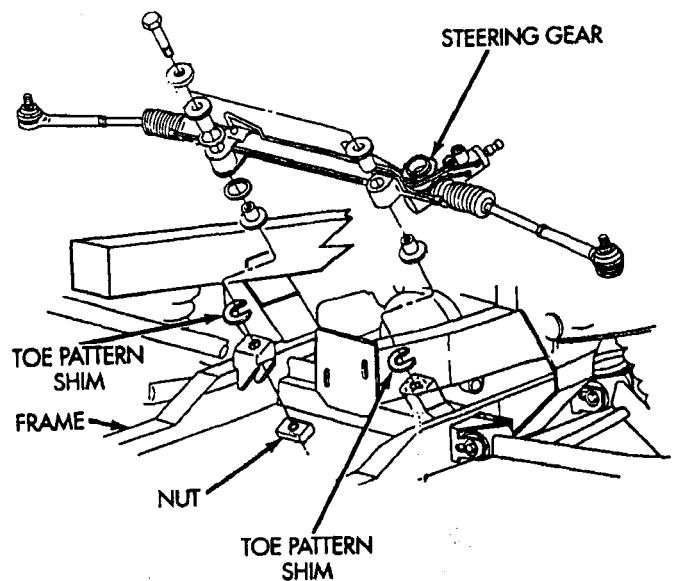


Figure 5

Service Procedure (Continued)

B. Replace Steering Gear Crossmember (Continued)

10. Using two "C" clamps, carefully clamp the new steering gear crossmember into position. Center the steering gear crossmember between the frame rails and use the measurements recorded in Step 5 to set new steering gear crossmember to the correct height (Figure 6).

NOTE: Place the "C" clamps at the bottom edge of the crossmember mounting tab.

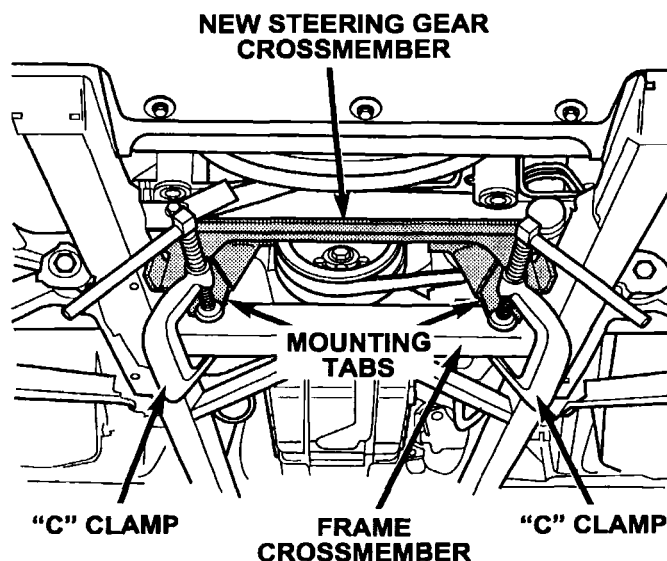


Figure 6

11. Shield the surrounding area and components from exposure to welding heat and spatter.
12. Tack weld the rear crossmember mounting tabs into position. Remove the "C" clamps and check the position of the crossmember. Adjust the location if necessary.

WARNING: Only use the specified welding wire (Lincoln Electric Co. NR-211 MP). Do not substitute with other types or thickness welding wire.

IMPORTANT: All welding must be performed by a qualified welder.

NOTE: Refer to the Welding Procedure Specifications Chart on page 32 of this document for all welder set-up information.

CAUTION: Attach the welder ground lead directly to the frame as close to the weld area as possible.

13. Weld the rear crossmember tabs into position (Figure 8). Do not weld the front tabs at this time.
14. Using "C" clamps, clamp the right and left side steering crossmember front tabs to the frame rails (Figure 7).

NOTE: Both front tabs must be clamped into place before welding.

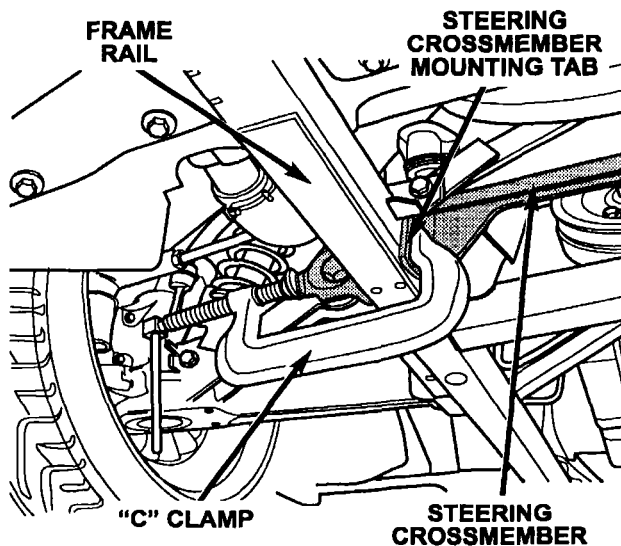


Figure 7 – Right Side Shown

Service Procedure (Continued)

B. Replace Steering Gear Crossmember (Continued)

15. Tack weld the front steering gear crossmember mounting tabs to the side of the frame rails and then remove the “C” clamps (Figure 8).
16. Recheck the steering gear crossmember positioning and adjust if required.
17. Weld the steering gear crossmember mounting tabs to the side of the frame rails (Figure 8).
18. Remove the weld splatter shielding installed in Step 11.

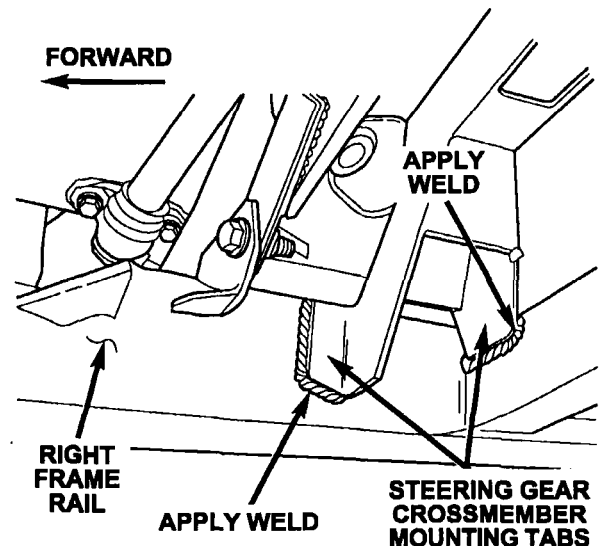


Figure 8 – Right Side Shown

19. Remove the tie straps and position the steering gear onto the steering gear crossmember.
20. Lift the left side of the steering gear slightly and place the left side selective toe pattern shims under the steering gear mounting bushing (Figure 5). Then install the mounting bolt. Do not tighten the mounting bolt at this time.
21. Lift the right side of the steering gear slightly and place the right side selective toe pattern shims under the steering gear mounting bushing (Figure 5). Then install the mounting bolt and tapping plate nut.
22. Using Special Tool #6632 and a torque wrench, tighten both mounting bolts to 150 ft. lbs. (203 N·m).
23. Continue with Step 5 of Section “C – Install Steering Gear Crossmember Reinforcement Bracket.”

Service Procedure (Continued)

C. Install Steering Gear Crossmember Reinforcement Bracket

NOTE: Steering gear crossmember reinforcement repair requires the use of P/N CAAM9981 repair package.

NOTE: For vehicles that have had a steering gear crossmember installed (Section “B”), proceed to step 5.

1. Remove both rear tire and wheel assemblies.
2. Remove the fasteners that attach the battery access panel (Figure 2) and remove the panel.
3. Disconnect and isolate the negative battery cable at the battery.

NOTE: To enhance customer satisfaction, remember to record all radio settings before disconnecting the battery and to reset all electronic memory (clock, radio settings, etc.) when you have completed the service procedure.

4. Disconnect and isolate the positive battery cable at the battery.

CAUTION: Failure to isolate both the positive and negative battery cables from the battery may cause Powertrain Control Module (PCM) and/or battery damage during welding.

Service Procedure (Continued)

C. Install Steering Gear Crossmember Reinforcement Bracket
(Continued)

5. Place the steering gear reinforcement bracket into position, just in front of the steering gear crossmember and on top of the frame rails (Figure 9). The reinforcement bracket must be centered between the frame rails.

NOTE: The reinforcement bracket must be positioned flush against the steering gear crossmember. Minor grinding of the existing steering gear crossmember welds may be required.

6. Mark all of the locations on the steering gear crossmember, frame rails and reinforcement bracket where welding will be performed with a grease pencil (Figure 9).

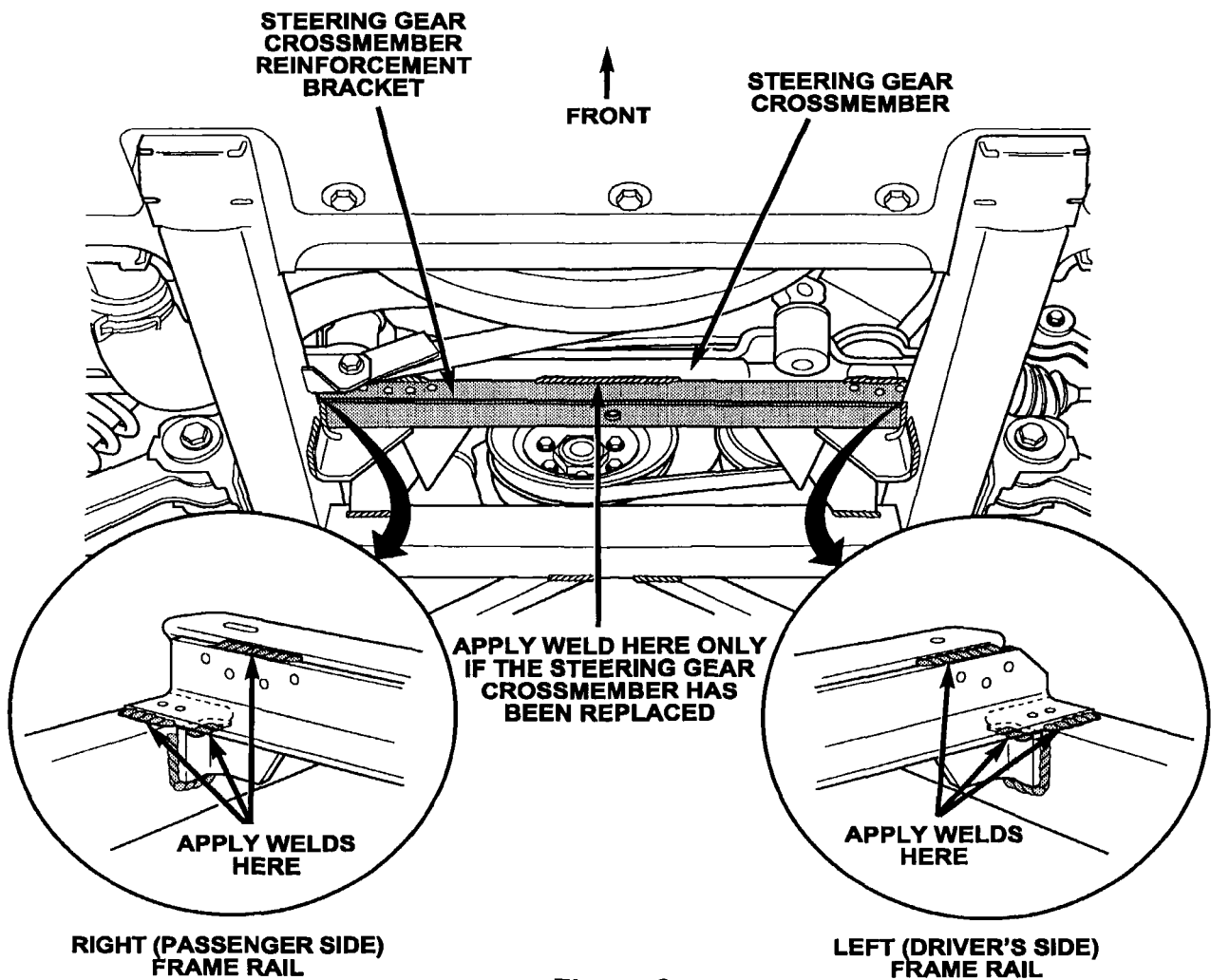


Figure 9

Service Procedure (Continued)

C. Install Steering Gear Crossmember Reinforcement Bracket
(Continued)

7. Remove the reinforcement bracket from the vehicle.
8. Using a grinding wheel, remove all E-coat from the reinforcement bracket, steering gear crossmember and frame rails within 1 inch of the weld areas marked in Step 6.
9. Place the reinforcement bracket back into position and clamp it into place.
10. Tack weld each side of the reinforcement bracket to the frame rail.

WARNING: Only use the specified welding wire (Lincoln Electric Co. NR-211 MP). Do not substitute with other types or thickness welding wire.

IMPORTANT: All welding must be performed by a qualified welder.

NOTE: Refer to the Welding Procedure Specifications Chart on page 32 of this document for all welder set-up information.

CAUTION: Attach the welder ground lead directly to the frame as close to the weld area as possible.

11. Remove the clamps and verify that the reinforcement bracket is properly positioned. Adjust the reinforcement bracket position if necessary.
12. Weld the reinforcement bracket to the frame rails and steering gear crossmember as shown in Figure 9.

NOTE: Vehicles that have had a new steering gear crossmember installed must have an extra weld applied as shown in Figure 9.

13. Clean all weld areas and apply zinc rich primer (P/N CAAM9987) to all new welds and bare metal.
14. After the zinc rich primer is dry, apply black spray paint (P/N CAAM9988) to cover the zinc rich primer applied in Step 13.
15. Continue with Section “D – Install Frame Gussets.”

Service Procedure (Continued)

D. Install Frame Gussets

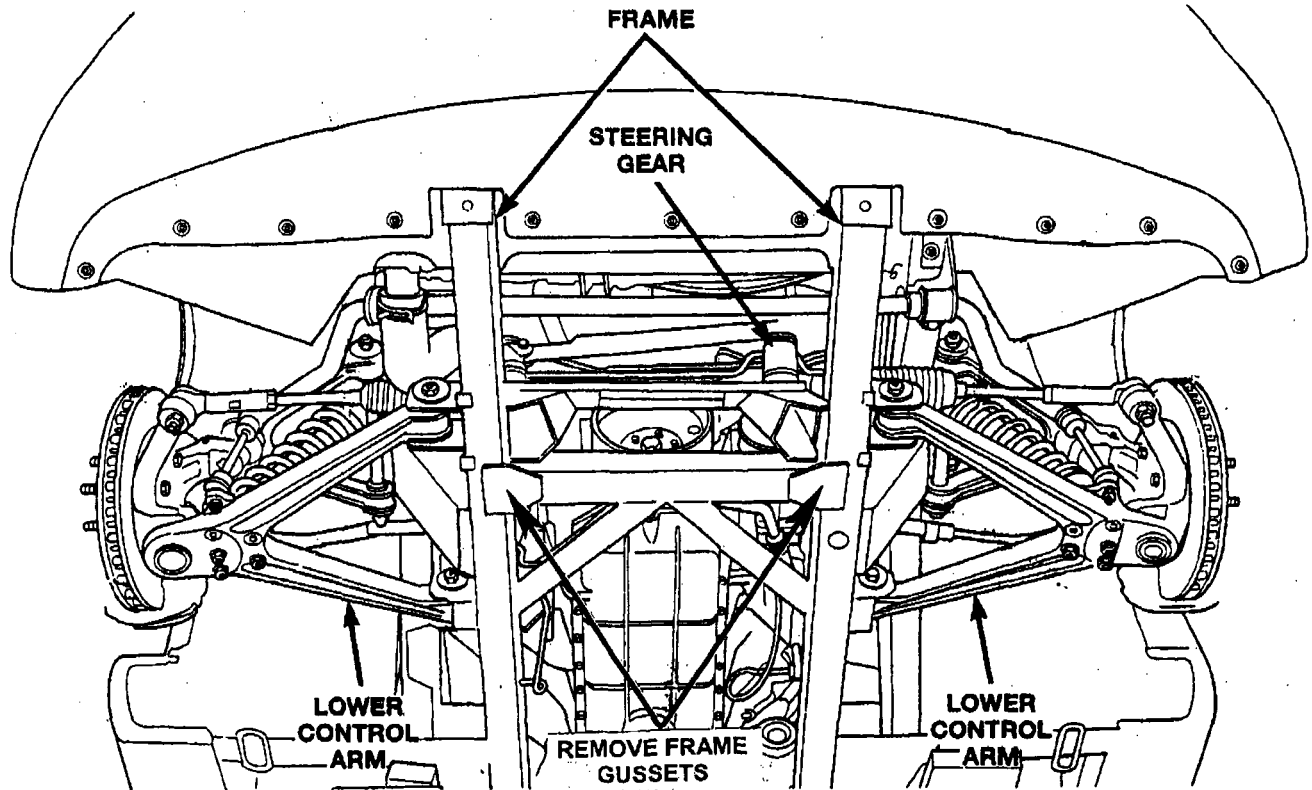


Figure 10 – Bottom View

1. Using a cut off wheel or grinder, grind off the welds that hold the left and right side frame rail gussets to the frame rails (Figure 10).

CAUTION: Do not use plasma arc cutting equipment or a cutting torch to remove the frame rail gussets.

2. If required, use a chisel to remove the old gussets after welds are ground off.
3. After the old gussets have been removed, grind off any remaining weld from the frame rail areas.
4. Thoroughly clean and degrease the frame rail. Then apply zinc rich primer to all bare metal.

Service Procedure (Continued)

D. Install Frame Gussets (Continued)

5. After the zinc rich primer is dry, apply black spray paint to cover the zinc rich primer applied in Step 4.
6. Position and clamp the new left side gusset into place (Figure 11).

NOTE: Right and left side gussets are not interchangeable. Make sure that the correct gusset is being installed.

7. Using the new gusset as a template, drill eleven 1/4 inch (6.35 mm) holes into the frame rail.
8. Brush zinc primer into holes drilled in Step 7 to prevent corrosion.
9. Using power rivet gun (P/N W-AK175ACH) or equivalent, rivet the new gusset into place using the provided structural rivets.
10. Remove clamps from the gusset.
11. Apply a coat of black spray paint over the rivet heads.
12. Repeat steps 6 through 11 to install the new gusset on the right side frame rail gusset.
13. ➤ If the vehicle had the steering gear crossmember replaced, continue with Section “E – Wheel Alignment.”
 - If the vehicle did not have the steering gear crossmember replaced, wheel alignment is not required. No further action is necessary. Return the vehicle to the customer.

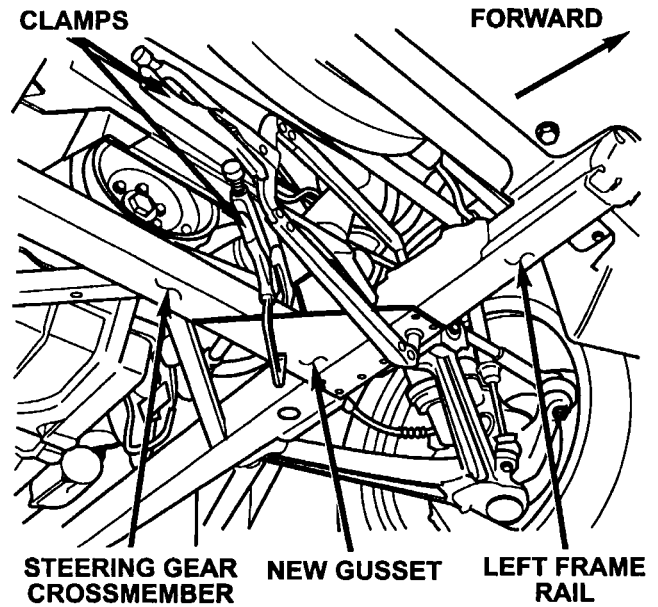


Figure 11 – Left Side Shown

Service Procedure (Continued)

E. Wheel Alignment

NOTE: The following alignment procedure is only required on vehicles that have had the steering gear crossmember replaced.

1. Before beginning the wheel alignment on the vehicle, the following pre-alignment inspection must be completed.

- a. Check and adjust the tire pressure. Refer to the placard on the vehicle for pressure specification.
- b. Verify correct tire size and equal tread wear.
- c. Inspect each tire/wheel assembly for evidence of an unbalance condition.
- d. Inspect the wheels for excessive radial and/or lateral runout.
- e. Inspect the front and rear wheel hub and bearing assemblies for looseness.
- f. Inspect ball studs and linkage pivot points and the steering gear for looseness, roughness, binding or a sticking condition.
- g. Inspect all suspension components for wear.
- h. Inspect the front and rear shock absorber assemblies for leaks or signs of damage.
- i. Inspect the front and rear coil springs on the shock absorbers for signs of damage.
- j. Verify that the front suspension upper control arm sport shims have not been removed (Figure 12). Correct camber angles can not be set if the sport shims have been removed.

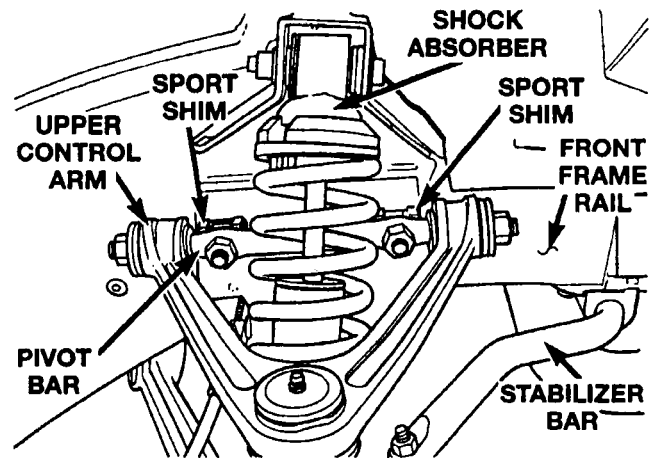


Figure 12 – Right Side Shown

CAUTION: The vehicle's suspension geometry and alignment settings change rapidly as the vehicle changes height. For this reason, it is extremely important that all suspension specifications be checked and adjusted with the vehicle at the correct curb height. Alignment specifications must be checked with the vehicle at curb height, the fuel tank full, fluids at the correct fill level, and all factory supplied equipment (top, removable windows, spare tire etc.) must be in the vehicle.

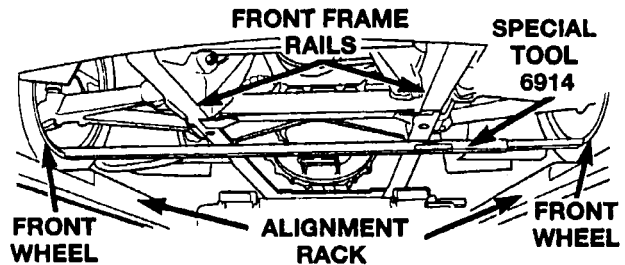
NOTE: Any additional repairs discovered during the pre-alignment inspection are the vehicle owner's responsibility.

Service Procedure (Continued)

E. Wheel Alignment (Continued)

2. Place the vehicle on an alignment machine.

NOTE: The alignment machine being used must have the capability of performing a four-wheel alignment.



3. Check and set the **curb height** of the vehicle using the procedure below.

NOTE: Curb height is the height that the vehicle is at when it has a full tank of fuel, all fluids are filled to their proper levels, and no passengers or additional weight is added to the vehicle. All factory supplied equipment (top, removable windows, spare tire etc.) must be in the vehicle.

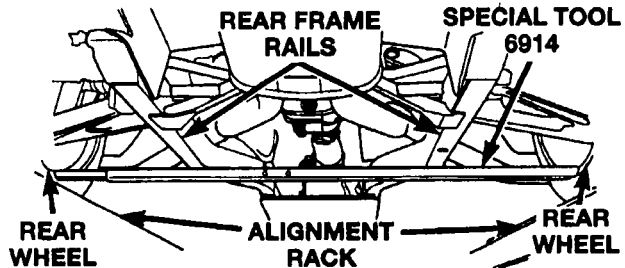


Figure 13

- a. Install front and rear Vehicle Height Checking Fixture (Special Tool #6914) at the base of both inner flanges of the front and rear wheels as shown in Figure 13.

NOTE: Vehicles equipped with the ACR package and/or BBS racing wheels must have Special Tool #8396-1 adapters installed onto Special Tool #6914 checking fixture before installing on the front and rear wheels.

Service Procedure (Continued)

E. Wheel Alignment (Continued)

b. Check the distance from the bottom of each of the **front** frame rails to the top surface of the Vehicle Height Checking Fixture (Special Tool #6914) (Figure 14). The distance should be:

➤ **1996 and 1997 model year:**

1 ½ inches \pm ¼ inch
(38 mm \pm 6 mm).

➤ **1998 and 1999 model year:**

2 inches \pm ¼ inch
(50 mm \pm 6 mm).

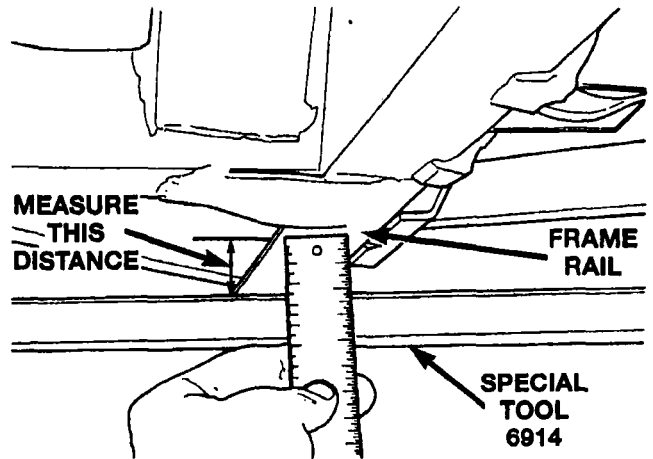


Figure 14

c. Check the distance from the bottom of each of the **rear** frame rails to the top surface of the Vehicle Height Checking Fixture (Special Tool #6914) (Figure 15). The distance should be:

➤ **1996 and 1997 model year:**

2 inches \pm ¼ inch (50 mm \pm 6 mm).

➤ **1998 and 1999 model year:**

2 ½ inches \pm ¼ inch (64 mm \pm 6 mm).

d. If the vehicle does not meet curb height specifications, continue with **Section "F - Setting the Vehicle Design Height"** before continuing with this procedure. If the curb height is within specifications, continue with Step 4 of this procedure.

NOTE: Vehicle curb height can be affected if the rubber bushings used in the vehicle's suspension are not tightened with the vehicle at Design Height. This is due to the extreme stiffness of the rubber used in the suspension component bushings.

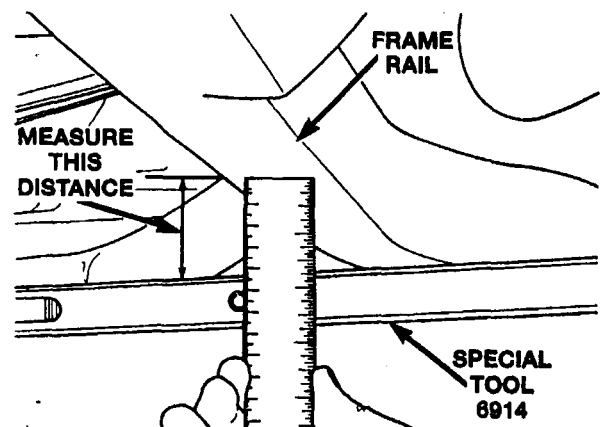


Figure 15

Service Procedure (Continued)

E. Wheel Alignment (Continued)

4. Install the wheel alignment equipment onto the vehicle per alignment equipment manufacturer's instructions.

NOTE: The vehicle is equipped with flangeless style wheels, thus any alignment equipment used must be capable of attaching to the outside edge of the wheel rim lip.

CAUTION: Both front and rear caster angle on the vehicle must be read directly off the front and rear knuckle through the use of inclinometer sensors attached to the DRB III scan tool. Do not use the alignment machine's sweep method to measure caster angle.

NOTE: All necessary adapters, cables, switch box and inclinometers are available in Viper Essential Tool Kit #6990.

5. Use the following procedure to connect and calibrate the DRB III and inclinometers.

NOTE: The DRB III must have a Super Card 2 installed to perform caster measurements.

- a. Plug the cable from the switch box (Special Tool #6996) into the PEP module connector on the DRB III marked "INCL" (Figure 16).
- b. Plug the power cable (supplied with the DRB III kit) into the DRB III power connector marked "VEHICLE" (Figure 16).

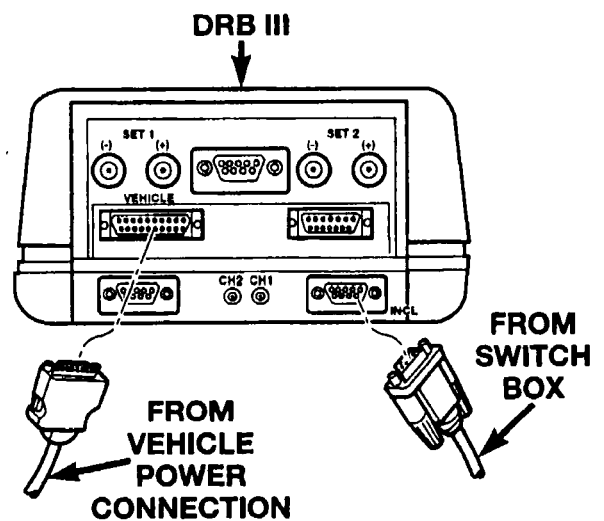


Figure 16

Service Procedure (Continued)

E. Wheel Alignment (Continued)

- c. Attach the two inclinometers (Special Tool #6989) to the switch box (Special Tool #6996) (Figure 17).

NOTE: Only two inclinometers are supplied and should be used as a pair to measure either rear caster or front caster, one at a time.

- d. Attach the power cable from the DRB III to the vehicle data connector.
- e. Select the **PEP Module Tools (#4)** option from the main menu screen.
- f. Select the **Inclinometer/Viper Alignment (#4) option** from the Stand Alone Main Menu.
- g. Select the **Read/Display Angle (#1) option** from Inclinometer Main Menu. This option is used to calibrate the inclinometers before being used on the vehicle.

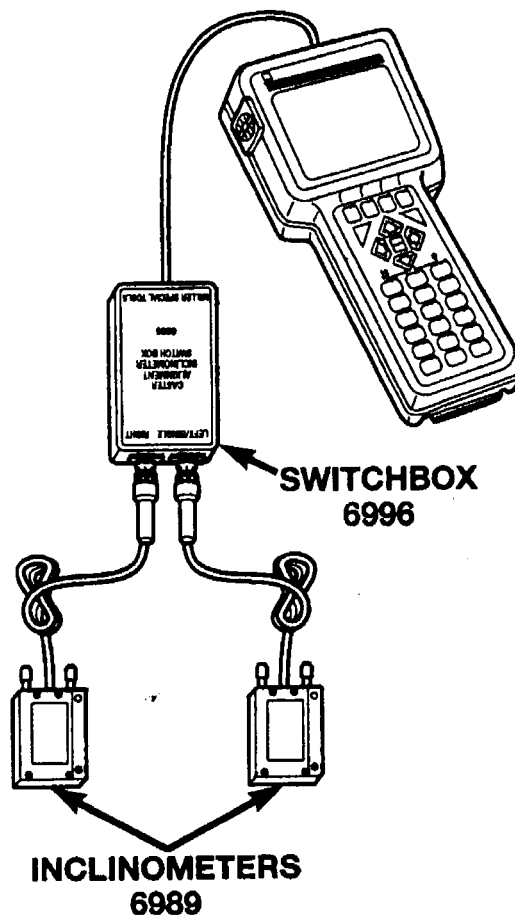


Figure 17

CAUTION: The inclinometer (Special Tool #6989) must be calibrated prior to each time it will be used to read the caster angle on the vehicle.

- h. Press **F2** on the DRB III key pad to show both inclinometers.

Service Procedure (Continued)

E. Wheel Alignment (Continued)

- i. Place both inclinometers together on a known flat level surface such as the alignment rack, with the knurled ends of the fastening screws facing upward (Figure 18).
- j. Press enter to continue.
- k. Rotate the inclinometers 180 degrees in place, then **press enter again** to calibrate both inclinometers in the other direction. The inclinometers are now ready to be installed on the vehicle (Figure 18).

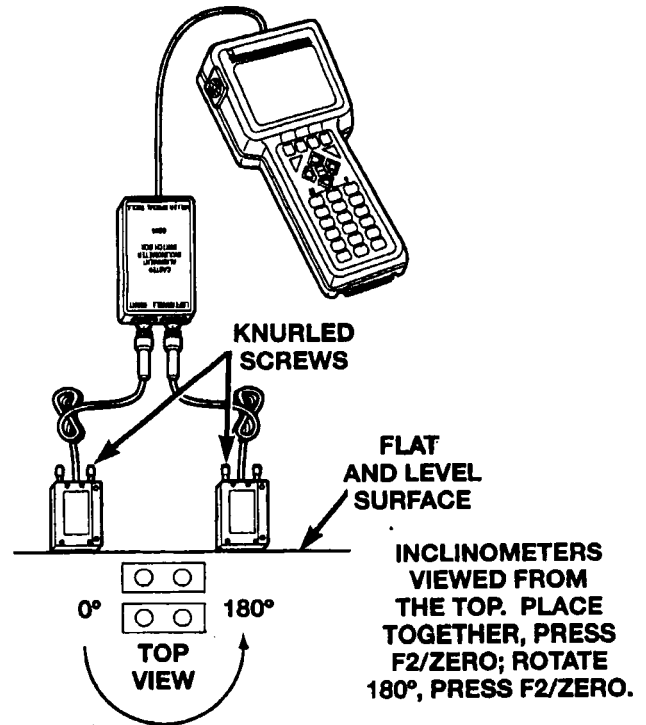


Figure 18

- 6. Mount the inclinometers to the rear Caster Angle Fixtures (Special Tool #6916) (Figure 19).

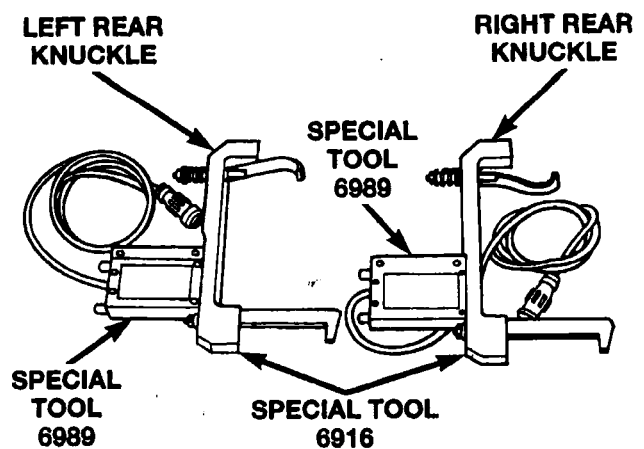


Figure 19

Service Procedure (Continued)

E. Wheel Alignment (Continued)

7. Once the inclinometers are attached to the rear Caster Angle Fixtures, they can be mounted on the rear knuckle caster angle pads as shown in Figures 20.

CAUTION: The caster pads are located on the rear edge of the rear knuckle. Be sure that the caster pads are thoroughly cleaned before mounting the caster inclinometers on the knuckles. The caster inclinometers must sit flat on the caster pads to obtain accurate caster readings.

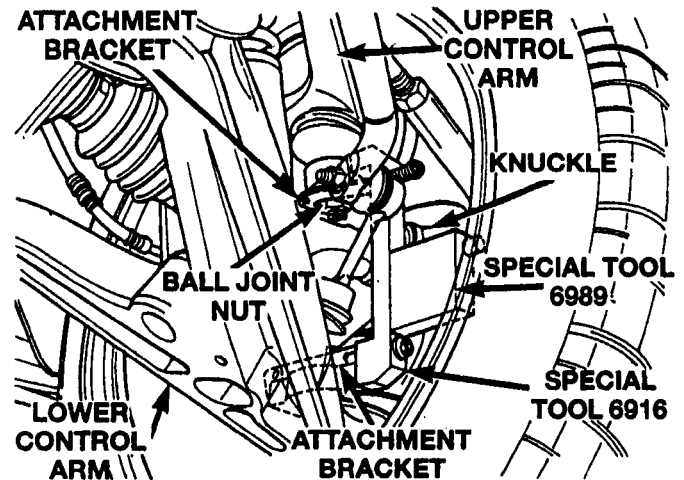


Figure 20 – Right Side Shown

8. Adjust the rear caster angle using the measurements viewed on the DRB III screen, and the camber angle using the measurements viewed on the alignment equipment. Camber and caster angles are adjusted by turning the cam bolts on the lower control arm bushings (Figure 21). Refer to the Alignment Specifications Chart on page 33 of this document.

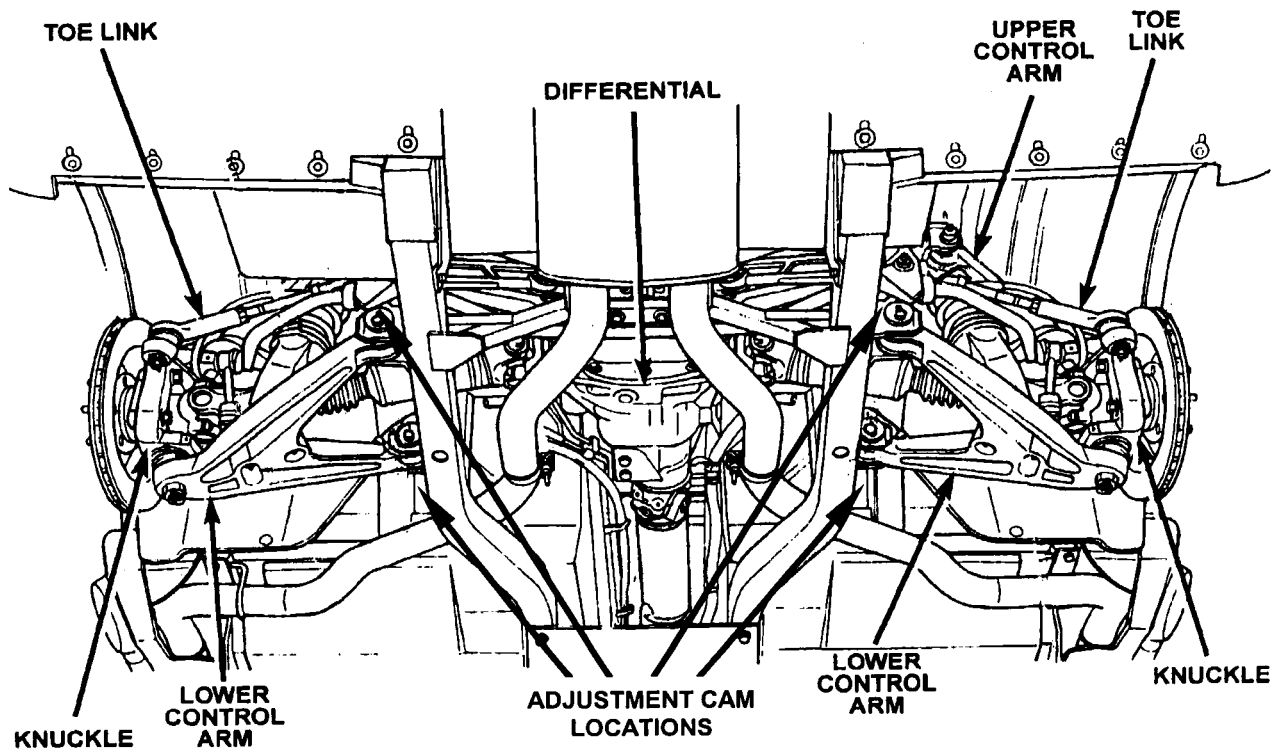


Figure 21

Service Procedure (Continued)

E. Wheel Alignment (Continued)

9. Transfer the inclinometers to the front Caster Angle Fixtures (Special Tool #6915) (Figure 22).

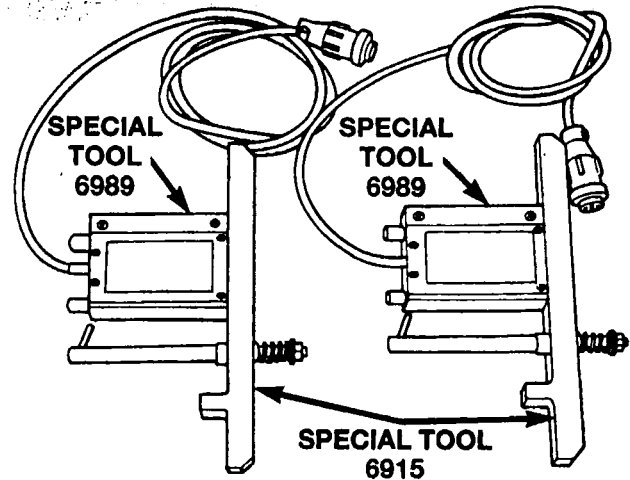


Figure 22

10. Once the inclinometers are attached to the front Caster Angle Fixtures, the fixtures can be mounted on the front knuckle caster pads as shown in Figures 23.

CAUTION: The caster pads are located on the front edge of the front steering knuckle. Be sure that the caster pads are thoroughly cleaned before mounting the caster inclinometers on the front steering knuckles. The caster inclinometers must sit flat on the caster pads to obtain accurate caster readings.

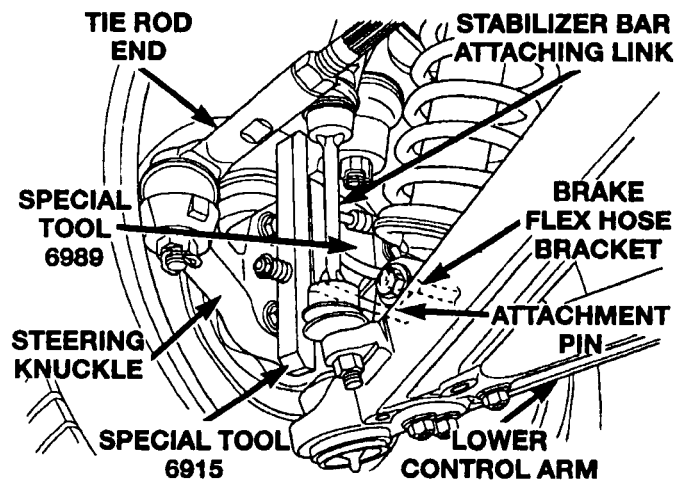


Figure 23 – Right Side Shown

Service Procedure (Continued)

E. Wheel Alignment (Continued)

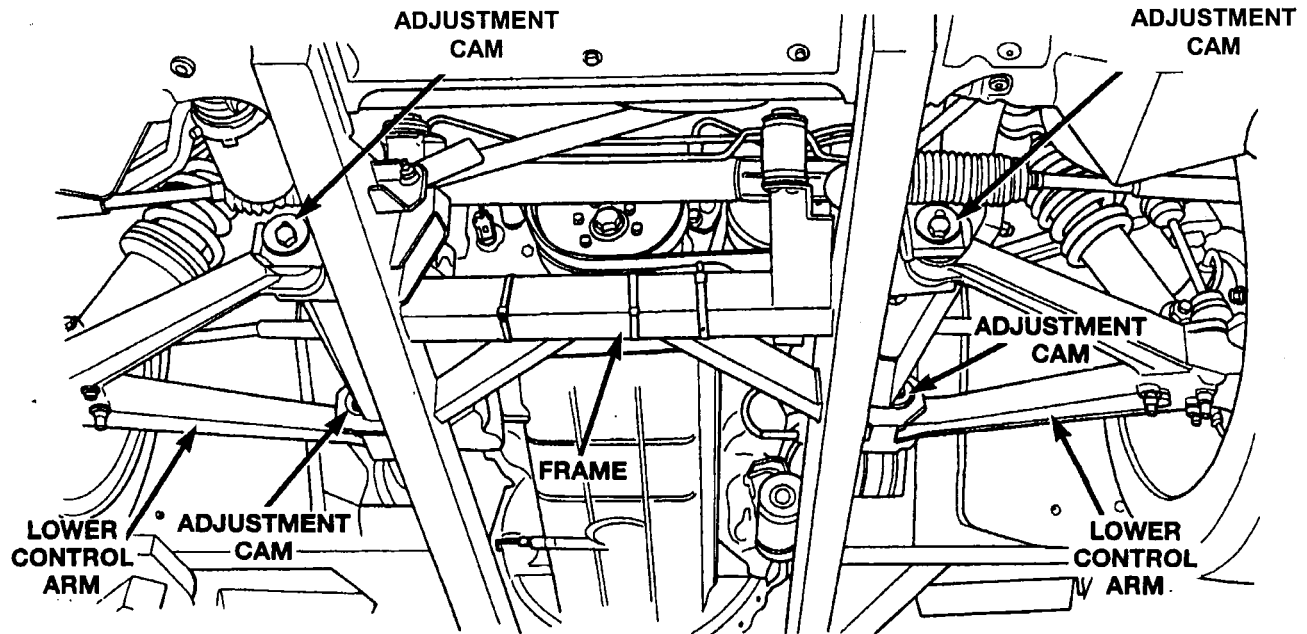


Figure 24

11. Adjust the front caster angle using the measurements viewed on the DRB III screen, and the camber angle using the measurements viewed on the alignment equipment. Camber and caster angles are adjusted by turning the cam bolts on the lower control arm bushings (Figure 24). Refer to the Alignment Specifications Chart on page 33 of this document.

12. Set the front and rear static wheel toe using the following procedure.

NOTE: The engine should be running during the front wheel toe setting procedure.

- a. Start the engine and turn the wheels both ways before straightening and centering the steering wheel. Center the steering wheel and retain the steering wheel position with a steering wheel clamp.
- b. Loosen the front outer tie rod end jam nut (Figure 25).
- c. Remove the clamp from the front inner tie rod boot (Figure 25).

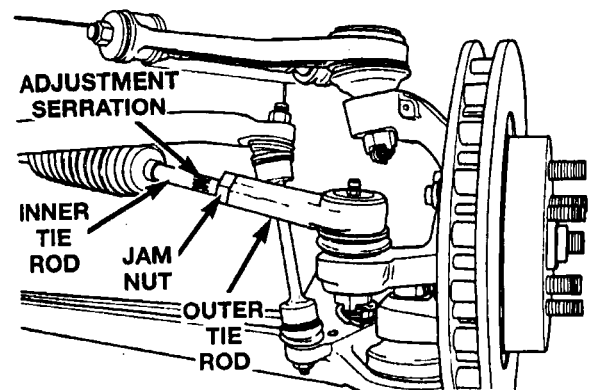


Figure 25 – Left Side Shown

Service Procedure (Continued)

E. Wheel Alignment (Continued)

d. Remove the clamp from the rear flex joint boot and loosen the tie rod jam nut (Figure 26).

e. To adjust the rear wheel toe, rotate the right and/or left toe link in the direction required to obtain the specified individual wheel toe position. Refer to the Alignment Specifications Chart on page 33 of this document.

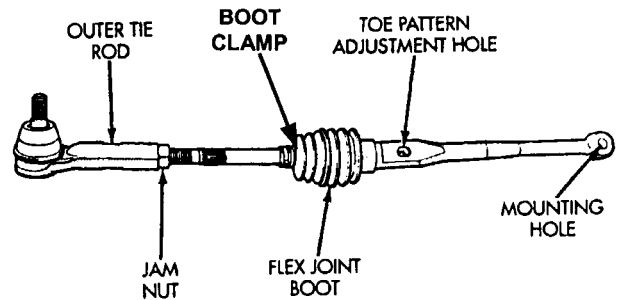


Figure 26 – Left Rear Shown

f. To adjust the front wheel toe, grasp and rotate the right and/or left inner tie rod at the adjustment serration in the direction required to obtain the specified individual wheel toe position. Refer to the Alignment Specifications Chart on page 33 of this document.

g. Once the individual wheel toe is set to specifications, tighten all of the jam nuts to 55 ft. lbs. (75 N·m).

h. Straighten both front tie rod boots at the inner tie rod so that the boots are not twisted. Then install both inner tie rod boot clamps.

i. Straighten both rear flex joint boots so that the boots are not twisted (Figure 26). Then install both boot clamps.

j. Remove the steering wheel clamp.

13. Remove the alignment equipment from the vehicle.

14. Remove the caster angle inclinometers from the front knuckles.

15. Remove the vehicle from the alignment rack and return it to the customer.

Service Procedure (Continued)

F. Setting the Vehicle Design Height

NOTE: The following procedure is only required on vehicles that have incorrect design height as determined by Section “E – Wheel Alignment.”

1. Loosen the mounting bolts for the suspension components listed below. The bolts must be loosened enough to allow the suspension to move without loading (twisting) the rubber isolator bushings.

- Front and rear lower control arm-to-frame bracket mounting bolts.
- Front and rear upper control arm-to-frame bracket mounting bolts.
- Front upper control arm-to-pivot bar end nuts.
- Front and rear shock absorber-to-frame bracket mounting bolts.
- Front and rear shock absorber-to-lower control arm mounting bolts.

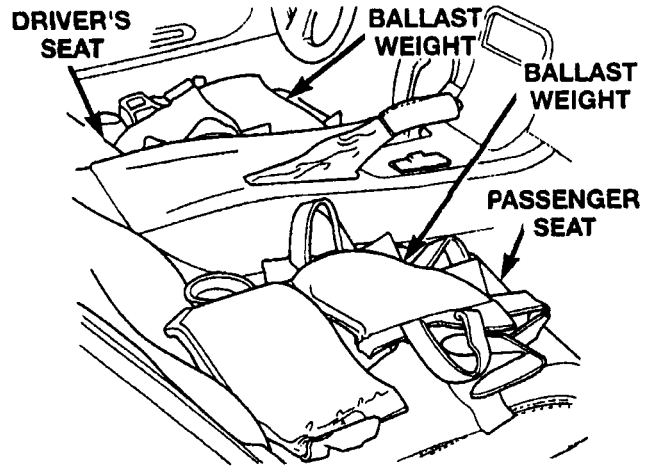


Figure 27

2. Add ballast weight as required to the passenger compartment of the vehicle to lower the front of the vehicle to the specified design height (Figure 27).

CAUTION: Do not over ballast the vehicle. If the vehicle is over ballasted, the design height will be incorrect and the special tool can be bent.

NOTE: When lowering the vehicle to its specified design height do not add all the ballast (weight) to the vehicle at one time. Add ballast slowly until the correct distance between the Vehicle Height Checking Fixtures (Special Tool #6914) and the frame of the vehicle is achieved.

The approximate total weight needed to lower the vehicle to its design height is 400 lbs. (180 Kg). The weight distribution in the vehicle is about 330 lbs. (150 Kg) in the passenger compartment (165 lbs. (75 Kg) per seat) and 70 lbs. (30 Kg) in the trunk (Figure 27 and 28).

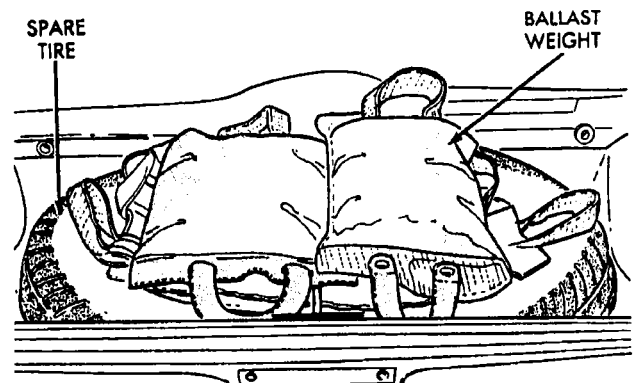


Figure 28

NOTE: Vehicles equipped with the ACR package will require significantly more weight to achieve design height.

Service Procedure (Continued)

F. Setting the Vehicle Design Height (Continued)

3. Check the vehicle's front design height by measuring between the Height Checking Fixture (Special Tool #6914) and the frame rail crossmember (Figure 14). The **front design height** with added weight should be:

- **1996 and 1997 model years:** 11/16 inch \pm 1/4 (18 mm \pm 6 mm).
- **1998 and 1999 model years:** 1-13/64 inch \pm 1/4 (30 mm \pm 6 mm)

NOTE: Vehicles equipped with the ACR package and/or BBS racing wheels must have Special Tool #8396-1 adapters installed onto Special Tool #6914 checking fixture before installing on the front and rear wheels.

4. Check the vehicle's rear design height by measuring between the Height Checking Fixture (Special Tool #6914) and the frame rail crossmember (Figure 15). The **rear design height** with added weight should be:

- **1996 and 1997 model years:** 1/2 inch \pm 1/4 (13 mm \pm 6 mm).
- **1998 and 1999 model years:** 1 inch \pm 1/4 (25 mm \pm 6 mm).

NOTE: After ballasting the rear of the vehicle, recheck the front design height to see if the front of the vehicle lifted when the rear was ballasted.

5. With the vehicle properly ballasted, tighten the mounting bolts of the following suspension components:

- Front and rear lower control arm to frame bracket cam adjusting bolts and nuts to 75 ft. lbs. (101 N·m).
- Rear upper control arm to frame bracket pivot bolts to 70 ft. lbs. (95 N·m).
- Front upper control arm to pivot bar mounting end nuts to 100 ft. lbs. (136 N·m).
- Front and rear shock absorber to frame bracket mounting bolts to 100 ft. lbs. (136 N·m).
- Front shock absorber to lower control arm mounting bolts to 100 ft. lbs. (136 N·m).
- Rear shock absorber to lower control arm mounting bolts to 140 ft. lbs. (190 N·m).

6. Remove the ballast from the trunk and passenger compartment of the vehicle.

Service Procedure (Continued)

F. Setting the Vehicle Design Height (Continued)

7. Lightly jounce the front and rear suspension of the vehicle to ensure that the vehicle is settled at curb height.

NOTE: When jouncing the vehicle, the vehicle must be released at the bottom of the jounce cycle. This will ensure the vehicle's suspension will raise the vehicle to the correct curb height at the top of the jounce cycle.

8. Check vehicle's **front curb height** by measuring the distance from the front frame rail to the top of the Vehicle Height Checking Fixture (Figure 14).
 - **1996 and 1997 model year:** 1 ½ inches ± ¼ inch (38 mm ± 6 mm).
 - **1998 and 1999 model year:** 2 inches ± ¼ inch (51 mm ± 6 mm).
9. Check vehicle's **rear curb height** by measuring the distance from the rear frame rail to the top of the Vehicle Height Checking Fixture (Figure 15).
 - **1996 and 1997 model year:** 2 inches ± ¼ inch (51 mm ± 6 mm).
 - **1998 and 1999 model year:** 2 ½ inches ± ¼ inch (64 mm ± 6 mm).
10. If the curb height is within specifications continue with **Step 4 of Section "E - Wheel Alignment."** If the vehicle does not meet vehicle curb height specification after setting the design height, inspect the following suspension components of the vehicle for conditions that may cause the vehicle to not meet vehicle curb height specifications:
 - Shock absorber assembly mounting bushings.
 - Upper and lower control arm mounting bushings.
 - Shock absorber springs.
 - Frame damage to the vehicle which affects mounting location of a suspension component.
 - Front and rear sway bar.
 - Inspect all suspension components for signs of damage.
11. If the component inspection does not determine why the vehicle is not meeting front and/or rear curb height specification, the coil springs on the shock absorber assemblies can be shimmed, or have a reduced height spring seat installed to correct the curb height on standard suspension vehicles. Vehicles with ACR suspension have adjustable spring seats. Continue with **Section "G – Coil Spring Preload Adjustment"** or **Section "H – Coil Spring Preload Adjustment (ACR Suspension).**

Service Procedure (Continued)

G. Coil Spring Preload Adjustment

NOTE: The following procedure is only required on vehicles that have incorrect design height as determined by Section “F – Setting the Vehicle Design Height.”

CAUTION: If the shock absorber/coil spring assembly on the front or rear of the vehicle requires shimming or reduced height upper spring seats, both sides (front or rear) must have the same shims or reduced height spring seat installed.

1. Remove both front and/or rear shock absorber/coil spring assemblies from the vehicle.
2. Securely hold the shock absorber in a vise by clamping the lower bushing.

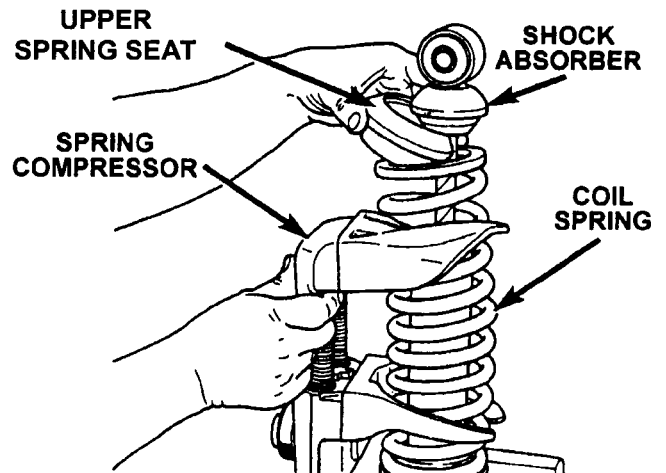


Figure 29

CAUTION: Do not clamp the shock absorber in a vise that is not equipped with protective caps on the vise jaws. Failure to use protective caps will result in damage to the bushing and clevis of the shock absorber.

3. Compress the shock absorber coil spring using Professional Service Equipment Spring Compressor GP-2020-C3.5 or equivalent (Figure 29). The spring compressor must be equipped with an A-20 spring shoe on the top and bottom.

Service Procedure (Continued)

G. Coil Spring Preload Adjustment (Continued)

4. Compress the coil spring enough to allow the coil spring upper seat to be removed (Figure 30).

- If the vehicle was lower than curb height specification, add one spring shim under the upper spring seat (P/N 04709321).
- If the vehicle was higher than curb height specification, remove the original upper spring seat and replace it with a reduced height spring seat (P/N 04763943).

CAUTION: When installing the upper spring seat, be sure the end of the last coil of the coil spring is not positioned at the cut-out notch in the spring shim or upper spring seat (Figure 30).

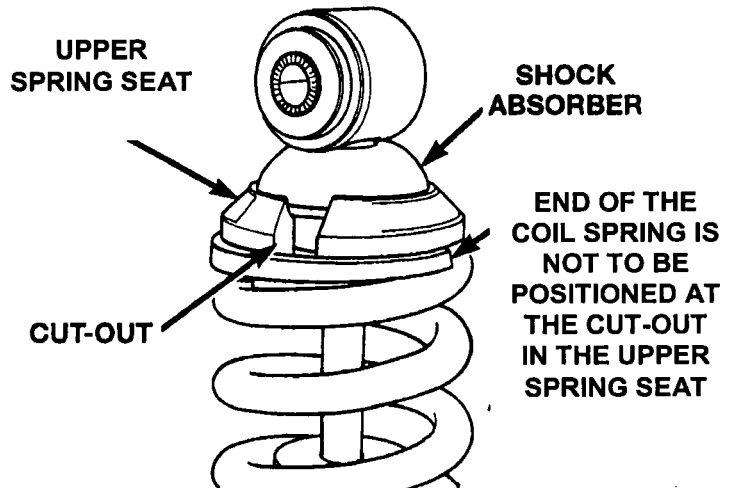


Figure 30

5. Release the spring compressor tension on the coil spring and remove the spring compressor from the coil spring.
6. Remove the shock absorber/coil spring assembly from the vise.
7. Repeat steps 2 through 6 for the other shock absorber/coil spring as necessary.
8. Install both front and/or rear shock absorber/coil spring assemblies onto the vehicle.

CAUTION: When installing shock absorber/coil spring assemblies, the vehicle must be at design height before tightening the upper and lower mounting bolts to specifications.

9. Continue with Section “F – Setting the Vehicle Design Height.”

Service Procedure (Continued)

H. Coil Spring Preload Adjustment - ACR Suspension

NOTE: The following procedure is only required on vehicles that have incorrect design height as determined by Section “F – Setting the Vehicle Design Height.”

1. Remove the front and/or rear shock absorber assemblies from the vehicle (Figure 31).
2. Securely hold the shock absorber in a vise by clamping the lower bushing or clevis.

CAUTION: Do not clamp the shock absorber in a vise that is not equipped with protective caps on the vise jaws. Failure to use protective caps will result in damage to the bushing and clevis of the shock absorber.

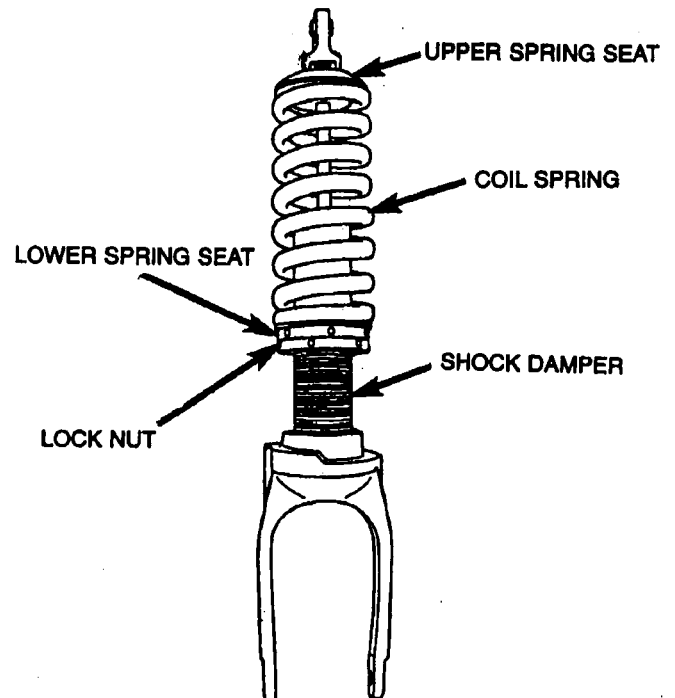


Figure 31 – Rear Shock Assembly Shown

3. Using two adjustable pin spanner wrenches (Snap-on P/N APS357B, OTC P/N JHW-0-472 or equivalent), one on the lower spring seat and the other on the lock nut below it, loosen and back off the lock nut (Figures 31 and 32).
4. Using one of the adjustable pin spanner wrenches, rotate the lower spring seat in the direction needed.

NOTE: If the vehicle was lower than curb height specification, rotate the spring seat upward. If the vehicle was higher than curb height specification, rotate the spring seat downward.

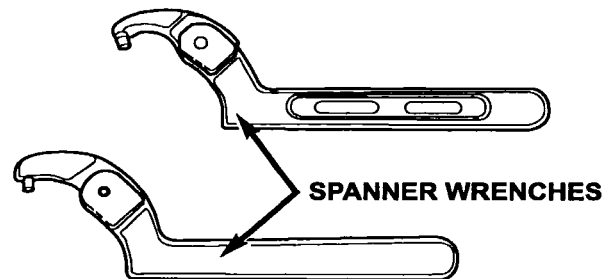


Figure 32

Service Procedure (Continued)

H. Coil Spring Preload Adjustment - ACR Suspension (Continued)

5. Once preferred spring height is achieved, thread the lock nut up against the bottom of the lower spring seat.
6. Place an adjustable pin spanner wrench on the lower spring seat to hold it in place, then tighten the lock nut up against the lower spring seat.
7. Remove the shock absorber/coil spring assembly from the vise.
8. Repeat steps 2 through 7 for the other shock absorber/coil spring as necessary.
9. Install front and/or rear shock absorber/coil spring assemblies onto the vehicle.

CAUTION: When installing shock absorber/coil spring assemblies, the vehicle must be at design height before tightening the upper and lower mounting bolts to specifications.

10. Continue with Section “F – Setting the Vehicle Design Height.”

Service Procedure (Continued)

WELDING PROCEDURE SPECIFICATIONS

WELDING PROCESS	*FLUX CORED ARC
Electrode Type	Lincoln Electric Co Product No: NR-211 MP (Do Not Substitute)
Electrode Size Inches	.045 (1.2 mm) Tubular
Electrode Stick Out	3/8" – 1/2" (10 – 13 mm)
Polarity	Electrode - Work Piece +
Shielding Gas	Self-Shielded
Gas Flow rate	N/A
Wire Feed Speed (inches per min.)	90 - 110 (38 – 46.5 mm per second)
Approx. Welding Amperage (All Positions)	130 – 140
Voltage	15.5 - 16.5
Direction of Welding: Vertical Position Flat Position Overhead	Vertical - down Flat- Push or drag Overhead-Push or drag

* Flux Cored Arc is the only approved Welding Method

WARNING: Only use the specified welding wire (Lincoln Electric Co. NR-211 MP). Do not substitute with other types or thickness welding wire.

NOTE: Flux Cored Arc Welding is a welding process that uses a special type of welding wire in a standard wire feed (MIG) welder. Flux Cored welding wire is a hollow wire (tubular) with a flux center. When an arc is created during the welding process, the flux located in the center of the welding wire burns and creates its own shielding gas. No additional shielding gas (CO₂/Ar) is required when using this grade of Flux Cored welding wire.

Service Procedure (Continued)

WHEEL ALIGNMENT SPECIFICATIONS

WHEEL ALIGNMENT ADJUSTMENT***	FRONT SUSPENSION*	REAR SUSPENSION*
Vehicle Curb Height (1996 and 1997 Models)	1 ½ inches ± ¼ inch (38 mm ± 6 mm)	2 inches ± ¼ inch (50 mm ± 6 mm)
Vehicle Curb Height (1998 and 1999 Models)	2 inches ± ¼ inch (50 mm ± 6 mm)	2 ½ inches ± ¼ inch (64 mm ± 6 mm)
Vehicle Design Height (1996 and 1997 Models)	11/16 inches ± ¼ inch (18 mm ± 6 mm)	½ inch ± ¼ inch (13 mm ± 6 mm)
Vehicle Design Height (1998 and 1999 Models)	1-13/64 inches ± ¼ inch (30 mm ± 6 mm)	1 inch ± ¼ inch (25 mm ± 6 mm)
CAMBER	- 0.20° ± 0.20°	- 0.50° ± 0.20°
CASTER	+ 6.0° ± 0.50°	+ 1.0° ± 0.20°
TOE** (Per Wheel)	+ 0.05° ± 0.04°	+ 0.10° ± 0.04°
* The vehicle must be at specified curb height before performing alignment. ** Positive (+) is toe in; Negative (-) is toe out. *** Maximum left to right alignment specification differential is: Caster 0.50° Toe 0.04°		

CAUTION: The suspension geometry is such that the vehicle alignment settings change rapidly as the vehicle changes height. For this reason, it is extremely important that all suspension specifications be checked and adjusted with the vehicle at the correct curb height. Alignment specifications must be checked with the vehicle at curb height, the fuel tank full, fluids at the correct fill level, and all factory supplied equipment (top, removable windows, spare tire etc.) must be in the vehicle.

NOTE: Vehicle curb height is the difference in height between the outer end of the front and rear lower control arms and the frame of the vehicle. All alignment adjustments must be made with the vehicle set to its required curb height specification.

NOTE: Vehicle design height is the height specification the vehicle must be at when tightening fasteners for the vehicle's suspension components that are mounted using rubber isolator bushings.

Completion Reporting and Reimbursement

Claims for vehicles that have been serviced must be submitted on the DIAL System. Claims submitted will be used by DaimlerChrysler to record recall service completions and provide dealer payments.

Use the following labor operation number and the related operation as necessary. The related operation must be included in the same condition as the primary repair labor operation.

	<u>Labor Operation Number</u>	<u>Time Allowance</u>
Inspect Steering Gear Crossmember for Cracks. Install Steering Gear Crossmember Reinforcement and Frame Gussets.	13-99-91-82	2.6 hours

Related Operation:

Replace Steering Gear Crossmember and Four Wheel Alignment (Includes Setting Design Height and Curb Height)	13-99-91-50	5.3 hours
-------------------------------------------------------------------------------------------------------------	-------------	-----------

Add the cost of the recall parts package(s) plus applicable dealer allowance to your claim.

NOTE: See the Warranty Administration Manual, Recall Claim Processing Section, for complete recall claim processing instructions.

Parts Return

Not required.

Dealer Notification and Vehicle List

All dealers will receive a copy of this dealer recall notification letter by first class mail. Two additional copies will be sent through the DCMMS, and the MDS2 will be updated to include this recall in the near future. **Each dealer to whom involved vehicles were invoiced will receive a list of their involved vehicles.** The vehicle list is arranged in Vehicle Identification Number (VIN) sequence. Owners known to DaimlerChrysler are also listed. The lists are for dealer reference in arranging for service of involved vehicles.

DIAL System Functions 53 and VIP

All involved vehicles have been entered to DIAL System Functions 53 and VIP for dealer inquiry as needed.

Function 53 provides involved dealers with an updated VIN list of their incomplete vehicles. The customer name, address and phone number are listed if known. Completed vehicles are removed from Function 53 within several days of repair claim submission. To use this system, type "53" at the "ENTER FUNCTION" prompt, then type "ORD999".

Owner Notification and Service Scheduling

All involved vehicle owners known to DaimlerChrysler are being notified of the service requirement by first class mail. They are requested to schedule appointments for this service with their dealers. A copy of the owner letter is attached.

Enclosed with each owner letter is an Owner Notification Form. The involved vehicle and recall are identified on the form for owner or dealer reference as needed.

Vehicle Not Available

If a vehicle is not available for service, let us know by filling out the pre-addressed Owner Notification Form or describe the reason on a postcard and mail to:

DaimlerChrysler Corporation
CIMS 482-00-85
800 Chrysler Drive East
Auburn Hills, Michigan 48326-2757

Additional Information

If you have any questions or need assistance in completing this action, please contact your Zone Service Office.

Customer Services Field Operations
DaimlerChrysler Corporation

DAIMLERCHRYSLER

SAFETY RECALL TO REINFORCE YOUR VEHICLE'S STEERING GEAR CROSSMEMBER

Dear Dodge Viper Owner:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

DaimlerChrysler Corporation has determined that a defect, which relates to motor vehicle safety, exists in some **1999 and 2000 model year Dodge Viper vehicles**.

The problem is... **Aggressive driving, such as racing, may lead to cracking and separation of the steering gear crossmember from the frame. This can cause unexpected steering looseness and lag which could result in an accident without warning.**

What DaimlerChrysler and your dealer will do... **DaimlerChrysler will repair your vehicle (identified in the enclosed form) free of charge (parts and labor). To do this, your dealer will inspect your vehicle's steering gear crossmember and install a reinforcement bracket. The repair will take about 3 hours to complete. If cracks are found in the steering gear crossmember, a new crossmember will be installed which will require an additional 6 hours to complete. However additional time may also be necessary depending on how dealer appointments are scheduled and processed.**

What you must do to ensure your safety...

- **Simply contact your dealer** right away to schedule a service appointment. Ask the dealer to hold the parts for your vehicle or to order them before your appointment.
- **Bring the enclosed form with you to your dealer.** It identifies the required service to the dealer.

If you need help... If you have questions or concerns which the dealer is unable to resolve, please contact the DaimlerChrysler Customer Assistance Center at 1-800-853-1403. A representative will assist you.

If you have already experienced the problem described above and have paid to have it repaired, you may send your original receipts and/or other adequate proof of payment to the following address for reimbursement: DaimlerChrysler Customer Assistance Center, P.O. Box 1040, St. Charles, MO 63302-1040, Attention: Reimbursement.

If your dealer fails or is unable to remedy this defect without charge and within a reasonable time, you may submit a written complaint to the Administrator, National Highway Traffic Safety Administration, 400 Seventh Street, S.W., Washington, DC 20590, or call the toll-free Auto Safety Hotline at 1-888-327-4236.

We're sorry for any inconvenience, but we are sincerely concerned about your safety. Thank you for your attention to this important matter.

*Buckle up
for Safety*

Customer Services Field Operations
DaimlerChrysler Corporation
999