

# Installation Instructions

## 2001-2002 Dodge Viper®



### Front & Rear Stainless Steel Brake Line Kit



# **2001-2002 Viper Front & Rear Stainless Steel Front Brake Line Kit**

## **Safety Notice**

Improper handling of a vehicle, especially while raised and supported by jack stands or other mechanical means can cause serious bodily injury or even death. It is strongly recommended that a trained, experienced technical mechanic, with proper equipment, install the Brake Line Kit as supplied by StopTech LLC. StopTech LLC assumes no liability, expressed or implied, for the improper installation or use of this product or its components.

## **Tools and Equipment Required**

StopTech makes every effort to correctly identify the tools needed. Occasionally, a manufacturer may use a substitute fastener. Be sure each tool properly fits the fastener before loosening or tightening.

### **Front Line Kit**

11/16" Wrench  
15mm socket or wrench  
14mm socket or wrench  
13mm socket or wrench  
10mm wrench (line wrench preferable, but not necessary)  
Diagonal cutters

### **Rear Line Kit**

17mm Wrench  
14mm wrench or socket  
13mm socket or wrench  
7/16" socket or wrench  
10mm wrench (line wrench preferable but not necessary)  
Diagonal cutters

## **Additional Items Needed**

-DOT 3 or 4 Brake Fluid, or fluid to match what is in your system. Check manufacturer's recommendation for compatibility. StopTech recommends flushing brake fluid every one-to-two years. If not done recently, the installation of a brake line kit provides an excellent opportunity to refresh your brake fluid.  
-Several rags or a drip tray

## **2001-2002 Viper Front & Rear Stainless Steel Front Brake Line Kit (Cont'd.)**

***Note: It is important to read and understand this ENTIRE installation manual, including the break-in procedures, before starting the installation.***

### **Front Kit Contents**

- 1 pair of stainless brake lines with pre-installed chassis brackets marked L (left) and R (right)**
- 1 pair of chassis line mounting brackets marked L and R**
- 1 pair of "C" clips**
- 1 pair of rubber end caps**
- 8 sections of rubber hose**
- 8 high-temperature tie wraps**
- 1 pair of banjo bolts**
- 2 pair of copper crush washers**

### **Rear Kit Contents**

- 1 pair of stainless brake lines with pre-installed chassis brackets marked L and R**
- 1 pair of rubber end caps**
- 1 pair of banjo bolts**
- 2 pair of copper crush washers**
- 2 pair of tie wraps (one pair thick, and one pair thin)**

# Front Line Installation

***Note: All photographs show a left-hand side installation, unless otherwise noted.***

## **Step 1**

### **Raise Vehicle, and Remove Wheels**

A level, stable and clean surface, suitable for supporting the vehicle on jack-stands, should be used for the installation.

***Warning: Never leave any vehicle supported with only a jack. Always use jack-stands.***

Using a small screwdriver, or the factory pry tool that is included with the owner's manual, gently pry away and remove the center wheel cover.

Break loose the lug nuts on both rear wheels, using a 3/4" socket, before jacking up the vehicle. For a rear kit installation, block the front wheels, and release the parking brake.

Refer to the owner's manual to identify the correct location of the jack for raising the vehicle. Jack up the vehicle, and secure it on a pair of jack stands, again referring to the owner's manual for jack location joints.

After securing the vehicle at a convenient height, remove the rear wheels.

## **Step 1 (Cont'd.)**

### **Raise Vehicle, and Remove Wheels**

Follow the suggested method for jacking up the Viper front end:

Secure the Viper spare jack in the factory-recommended location, to lift one front wheel just off of the ground.

This will raise the nose of the vehicle enough to secure a floor jack - from the front of the vehicle - directly under the front cross-member (below the crank pulley).

Using the floor jack, raise the vehicle enough to safely place a pair of jack stands under the main frame rails.

After the vehicle's front end is off of the ground, remove the front wheel(s).



**Cross Member**

## **Step 2** **Remove Stock Brake Line**

***Warning: Brake fluid will damage most painted surfaces. Immediately clean spilled brake fluid from any painted surface. Take care to ensure that the cap is securely installed on the master cylinder. If the cap is loose or removed, it is likely that more fluid will drip during brake installation.***

Carefully remove the ABS line from the connectors attaching it to the brake line and the brake line bracket. The attachment clips should stay attached to the brake line.

Gently pry the ABS line from the brake line bracket.



Carefully detach the ABS line from the brake line clips.

Place a drip tray or several rags directly below the inboard brake line connection. If the area around the brake line connection to the chassis is dirty, clean it using brake cleaner or an appropriate cleaning agent.

Loosen the hard line fitting from the stock brake line, using a 10mm wrench.

Remove the hard line fitting, and place one of the rubber caps over the end of it, to control fluid loss during the installation.

## **Step 2 (Cont'd.)**

### **Remove Stock Brake Line**

Remove the spindle bolt holding the brake line bracket to the upright, using a 15mm wrench or socket.

Remove the banjo fitting attaching the stock brake line to the caliper, using a 14mm wrench or socket.

***Note: There may be some leakage from the open end of the brake line.***

Remove the stock brake line and bracket from the vehicle.

Reinstall the spindle bolt that held the brake line bracket and torque to 50-60 lb-ft.

### **Step 3**

#### **Remove and Replace Chassis Bracket**

Remove the bolt which holds the brake line bracket to the chassis, using a 13mm wrench or socket. Take care to retain the bolt.

Install the new bracket on the appropriate side of the car, using the stock bolt.

***Note: On some vehicles, it may be necessary to slightly bend the bracket's locating tab downward, to align it with the locating hole in the chassis. Do this by placing the bracket on a hard stable surface, and tapping it with a hammer.***

## **Step 4** **Install Stainless Steel Brake Line and Bracket**

Remove the two upper spindle bolts, using a 15mm wrench or socket.

Attach the brake line "Y" bracket, as shown, using the two stock bolts. Torque the bolts to **50-60 lb-ft**.

Adel Clamp



***Note: Do not change to position of the Adel clamp, and do not bend or flex the "Y" bracket. The proper position is with the mounting tabs facing downward, and the Adel clamp positioned on the top side of the bracket.***

Install the caliper end of the stainless steel brake line by first placing a copper crush washer on either side of the banjo bolt, then inserting the bolt into the caliper's inlet port.

While holding the line in position, parallel to the bottom of the car, tighten the banjo bolt to **approximately 14 lb-ft**, using a 14mm wrench or socket.

***Note: Do not use a torque wrench, as over-tightening the bolt can strip the aluminum threads, causing irreparable damage to the caliper.***

## **Step 4 (Cont'd.)**

### **Install Stainless Steel Brake Line and Bracket**

Insert the inboard end of the stainless brake line through the chassis bracket, then remove the rubber cap from the hard line, and screw the inboard end of the stainless steel brake line onto the hard line fitting by hand for a few turns.

Use a 17mm line wrench to hold the stainless brake line fitting, while using an 10mm line wrench to tighten the hard line fitting.



Reinstall the stock line-retaining spring clip, taking care to ensure that the prongs on the clip are seated in the recesses on the brake line fitting. Use a mallet to gently tap the clip into place.

***Note: It may take a few tries to get the inboard end of the stainless brake line properly aligned, as it is a tight area to work in, and brake fluid may be dripping. If you're having difficulty, it may be helpful to slightly loosen the bracket bolt to ease alignment.***

## **Step 5** **Attach ABS Line to Brake Line**

The ABS line is held onto the new brake line by tie wraps, using small rubber tubing sections as insulators. Do not attach the ABS line directly to the brake line, as signal interference may occur. This installation uses four attachment points per side. The first attachment is located adjacent to the stock rubber connector that secured the ABS line to the stock brake line bracket.

Slide the silver heat insulator on the ABS line a few inches toward the chassis.

Slide a tie wrap through a section of rubber tubing.



Place the rubber tubing segment between the brake line and the ABS line.

Loop the long end of the tie wrap around the brake line, then back through the tubing segment.



**Step 5 (Cont'd.)**  
**Attach ABS Line to Brake Line**

Insert the loose end of the tie wrap into the locking end, but do not tighten it until the tube is positioned toward the large end of the rubber retainer on the ABS line.



Position the first tubing assembly as shown, then tighten the tie wrap.

Cut the end off of the tie wrap, and reposition the rubber retainer under the ball joint.



Slide the silver heat insulator back into place.

**Step 5 (Cont'd.)**  
**Attach ABS Line to Brake Line**

Following the same procedure, install the second rubber tubing assembly adjacent to the end of the silver heat insulator.



Position the final two rubber tubing assemblies as shown, then cut the ends off of the tie wraps.

After securing the brake line, turn the wheels lock-to-lock, to ensure that the brake line is not binding in any way, nor interfering with any suspension component, including the CV boot and axle/drive shaft.

Adjust the line, if necessary, by loosening the banjo bolt on the caliper, and realigning the brake line, or by loosening the inboard end of the line, and slightly re-clocking the fitting.

## **Step 6** **Bleed Brakes, and Reinstall Wheels**

Complete the installation on both sides of the vehicle before bleeding the system.

***Warning: Double-check that the stainless steel brake lines you've just installed are not binding in any way, nor interfering with any suspension component, including the CV boot and the axle/drive shaft. Adjust each line, if necessary, by loosening the banjo bolt, and realigning the brake line, or by loosening the inboard end of the line, and slightly re-clocking the fitting.***

***Note: The calipers and lines will need to fill with fluid, quickly draining the master cylinder reservoir. Keep a close watch on the fluid level when initially bleeding the system. Do not allow the master cylinder reservoir to run dry, and to draw in air. Doing so may result in the brake system needing to be serviced by a certified brake technician.***

Bleed the brake system, using an 11mm box wrench, to loosen the bleed screws. The sequence for bleeding the brakes should be:

1. Right outboard bleed screw
2. Right inboard bleed screw
3. Left outboard bleed screw
4. Left inboard bleed screw

Though a torque wrench is not typically used on bleed screws, as a reference, the torque for bleed screws should be **approximately 100-140 lb-INCH**.

After initially bleeding the system, gently tap the caliper body with a mallet to dislodge any small air bubbles, then re-bleed the brakes.

After bleeding, apply constant pressure to the brake pedal, and check all connections - including bleed screws, and both ends of the brake line - for leaks.

***Warning: Brake fluid will damage most painted surfaces. Immediately clean spilled brake fluid from any painted surface, including the caliper. Though caliper paint is designed to resist harsh chemicals, prolonged exposure will damage the finish.***

Reinstall the wheels, and torque the lug nuts to **90 lb-ft** (stock Viper wheels). If aftermarket wheels are used, check the manufacturer's torque recommendation.

Carefully test-drive the vehicle in a safe area, at low speed, to ensure that all components are working correctly.

# Rear Line Installation

***Note: All photographs show a left-hand side installation, unless otherwise noted.***

## **Step 1**

### **Raise Vehicle, and Remove Wheels**

A level, stable and clean surface, suitable for supporting the vehicle on jack-stands, should be used for the installation.

***Warning: Never leave any vehicle supported with only a jack. Always use jack-stands.***

Using a small screwdriver, or the factory pry tool that is included with the owner's manual, gently pry away and remove the center wheel cover.

Break loose the lug nuts on both rear wheels, using a 3/4" socket, before jacking up the vehicle. For a rear kit installation, block the front wheels, and release the parking brake.

Refer to the owner's manual to identify the correct location of the jack for raising the vehicle. Jack up the vehicle, and secure it on a pair of jack stands, again referring to the owner's manual for jack location joints.

After securing the vehicle at a convenient height, remove the rear wheels.

## **Step 2**

### **Remove Inboard Line Fitting and Bracket**

Place a drip tray or several rags directly below the inboard brake line connection. If the area around the brake line connection to the chassis is dirty, clean it using brake cleaner or an appropriate cleaning agent.

Loosen the hard line fitting from the stock brake line, using a 10mm line wrench.



Remove the hard line fitting, and place one of the rubber caps over the end of it, to control fluid loss during the installation.

Using a 13mm socket or wrench, remove the bolt holding the inboard end of the stock brake line to the chassis (a socket with extension works well for this operation). Retain the bolt for later use.



Remove the banjo fitting attaching the stock brake line to the caliper, using a 7/16" wrench.

***Note: There may be some leakage from the open end of the brake line. Allow the line to drain into a rag or a drip tray.***

### **Step 3**

## **Install Stainless Steel Brake Line and Bracket**

Install the caliper end of the stainless steel brake line by first placing a copper crush washer on either side of the banjo bolt, then inserting the bolt into the caliper's inlet port. Tighten the banjo bolt to **approximately 14 lb-ft**, using a 14mm wrench or socket.

**Note:** *Do not use a torque wrench, as over-tightening the bolt can strip the aluminum threads, causing irreparable damage.*



**Banjo fitting pointing straight down**

**Brake line passing over the top of the parking brake cable**

Remove the rubber cap from the hard line, and screw the inboard end of the stainless steel brake line onto the hard line fitting by hand for a few turns.

Use a 17mm line wrench to hold the stainless brake line fitting, while using an 10mm line wrench to tighten the hard line fitting.

Install the inboard bracket, which is pre-assembled onto the line, on the chassis, using the stock bracket bolt. The tab on the bracket should fit into the same hole as the stock brake line bracket.

**Note:** *The line is routed straight down the front side of the caliper, then it loops around the bottom of the caliper, and up the back side. It then passes over the top of the parking brake cable and is routed directly to the original inboard location.*



**Step 4**  
**Dress New Brake Line with Tie Wraps**

Apply tie wraps in the exact orientation shown in the photo to the right. The large tie wrap loops around the parking brake cable, and the small tie wrap loops around brake line, then through the large tie wrap.



Small tie wrap

Large tie wrap



Screwdriver blade

Diagonal cutter

The large tie wrap must be very tight around the parking brake cable. A good method for tightening it is to grip the end of the tie wrap, close to the locking tab, using a pair of diagonal cutters, and pry the cutters away with the blade of a screwdriver.

After tightening the tie wraps, trim their ends.

Note the location of the brake line as it crosses the parking brake cable. It should pass one-to-two inches behind the end of the metal fitting which is on the caliper end of the parking brake cable.



## **Step 5** **Bleed Brakes, and Reinstall Wheels**

Complete the installation on both sides of the vehicle before bleeding the system.

***Warning: Double-check that the stainless steel brake lines you've just installed are not binding in any way, nor interfering with any suspension component, including the CV boot and the axle/drive shaft. Adjust each line, if necessary, by loosening the banjo bolt, and realigning the brake line, or by loosening the inboard end of the line, and slightly re-clocking the fitting.***

***Note: The calipers and lines will need to fill with fluid, quickly draining the master cylinder reservoir. Keep a close watch on the fluid level when initially bleeding the system. Do not allow the master cylinder reservoir to run dry, and to draw in air. Doing so may result in the brake system needing to be serviced by a certified brake technician.***

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