

# **BRAKE SYSTEM BLEEDING**

## **Article Text**

1991 Volkswagen Passat  
For Volkswagen Technical Site  
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Wednesday, August 25, 1999 07:53PM

### **ARTICLE BEGINNING**

#### **GENERAL INFORMATION**

##### **Hydraulic Brake Bleeding**

All Models

### **DESCRIPTION**

Hydraulic system bleeding is necessary any time air has been introduced into the system. Bleeding may be done manually or by using pressure bleeding equipment. Bleed brakes at all 4 wheels if master cylinder has run dry, been replaced or if hydraulic system has been overhauled.

**NOTE:** For vehicles equipped with Anti-Lock Brakes Systems (ABS), also see appropriate ANTI-LOCK BRAKE System article in the BRAKES Section.

### **BLEEDING PRECAUTIONS**

1) On all models equipped with diagonal split hydraulic system, bleed either rear wheel first, then opposite front wheel. Repeat procedure on other side (circuit).

2) On all models equipped with load sensing proportioning valve, bleed valve before bleeding brakes. If master cylinder is equipped with bleed screw, bleed master cylinder first.

### **MANUAL BLEEDING**

1) On Isuzu and Jaguar models, start engine and run at idle. On all other models, exhaust vacuum from power unit by depressing brake pedal several times.

2) Fill master cylinder. Install clear vinyl bleeder hose onto first bleeder valve to be serviced. See BRAKE LINE BLEEDING SEQUENCE table. Place other end of hose in clean transparent container.

3) Partially fill container with clean brake fluid so end of hose is submerged in fluid. Open bleeder valve 1-2 turns. Slowly depress brake pedal through its full travel.

4) Close bleeder valve and release pedal. Pump pedal several times to push air toward wheel cylinders. Repeat procedure until flow of brake fluid is clear and shows no signs of air bubbles. Proceed to next bleeder valve.

**NOTE:** Check fluid level in master cylinder frequently during the bleeding sequence.

### **PRESSURE TANK BLEEDING**

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1) On Isuzu and Jaguar models, start engine and run at idle. On all other modes, exhaust all vacuum from power unit by depressing brake pedal several times.

2) Clean the master cylinder cap and surrounding area, then remove cap. With pressure tank at least 1/2 full, connect tank to the master cylinder using proper adapter(s).

3) Attach bleeder hose to first bleeder valve to be serviced. See BRAKE LINE BLEEDING SEQUENCE table. Place other end of hose in clean transparent container. Partially fill container with clean brake fluid until end of hose is submerged in fluid.

4) Open release valve on pressure bleeder. Open bleeder valve 1-2 turns, noting fluid flow. When fluid flowing into container is clear and free of bubbles, close bleeder valve securely.

5) Finish bleeding system in the same manner using correct sequence. Remove pressure tank from master cylinder and check fluid level of master cylinder reservoir.

### BRAKE LINE BLEEDING SEQUENCE TABLE

AA

Application	Sequence
Acura & Honda .....	LF, RR, RF, LR
Audi & Volkswagen (1) .....	RR, LR, RF, LF
BMW (2) .....	RR, LF, RF, LF
Chrysler Motors	
Colt & Colt Vista .....	LR, RF, RR, LF
All Others .....	RR, LR, RF, LF
Daihatsu .....	RR, LR, RF, LF
Eagle	
Summit .....	LR, RF, RR, LF
Ford Motor Co.	
Festiva .....	LF, RR, RF, LR
General Motors/Geo	
LeMans .....	RR, LF, LR, RF
Metro .....	RR, LF, LR, RF
Prizm .....	RR, LR, RF, LF
Storm .....	RR, LR, RF, LF
Tracker .....	Longest Line First
Hyundai .....	LR, RF, RR, LF
Infiniti .....	LR, RR, LF, RF
Isuzu	
Except Impulse .....	LR, RR, LF, RF
Impulse .....	LF, RR, RF, LR
Jaguar (3) .....	LR, RR, RF, LF
Lexus .....	Longest Line First
Mazda	
RX7 (4) .....	RF, LF, RR, LR
All Others .....	Longest Line First
Mercedes-Benz .....	Longest Line First
Mitsubishi	
Precis .....	LR, RF, RR, LF
All Others .....	RR, LR, RF, LF

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Nissan .....	LR, RR, RF, LF
Porsche (5) .....	LR, RR, RF, LF
Saab .....	LR, RF, RR, LF
Subaru	
Justy .....	Longest Line First
Legacy .....	RF, LR, LF, RR
All Others .....	FR, RF, RR, LF
Suzuki .....	LR, RF, RR, LF
Toyota .....	Longest Line First
Volvo (6)	
240 .....	LF, RF, LR, RR
All Others .....	RR, LR, RF, LF

- (1) - Push brake pressure regulator in direction of rear axle. Bleed regulator first.
- (2) - Bleed calipers with brake pedal depressed. Release pedal after each caliper is bled.
- (3) - Engine running at idle speed.
- (4) - If rear caliper has not been disassembled, open upper bleed valve only.
- (5) - If equipped with inner and outer caliper bleeder valves, bleed outer valves first.
- (6) - On calipers with 3 bleeder valves, open all valves simultaneously.

AA

END OF ARTICLE