

## BRAKE FLUID BLEEDING

BR1XV-01

### 1. BLEED BRAKE LINE (W/O VSC, STANDARD CAB/ACCESS CAB)

#### HINT:

If any work is done on the brake system or if air is suspected in the brake lines, bleed the air from the system.

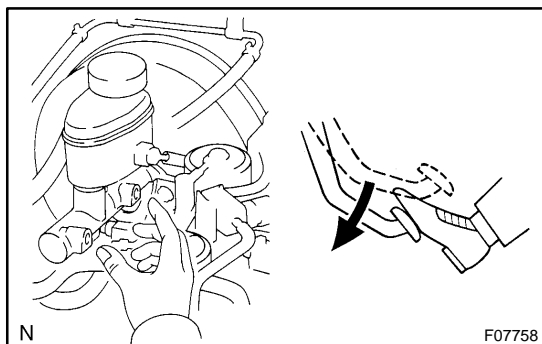
#### NOTICE:

**Do not let brake fluid remain on a painted surface. Wash it off immediately.**

- (a) Fill reservoir with brake fluid.

Check the fluid level in the reservoir after bleeding each wheel. Add fluid, if necessary.

**Fluid: SAE J1703 or FMVSS No. 116 DOT3**

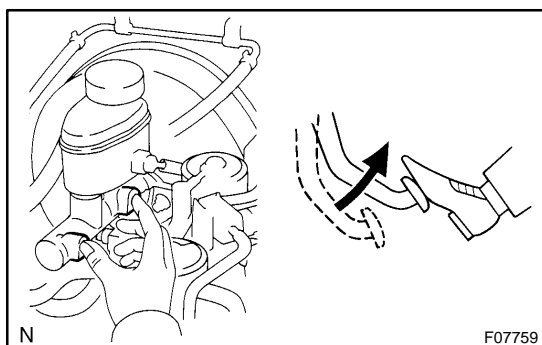


- (b) Bleed master cylinder.

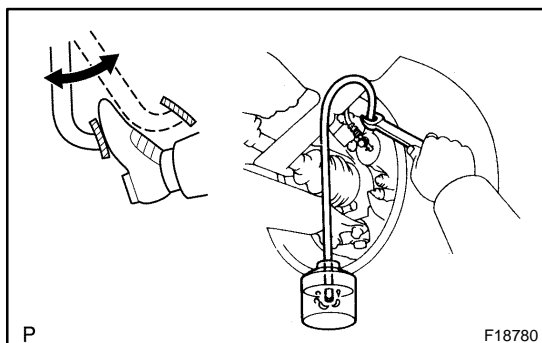
#### HINT:

If the master cylinder was disassembled or if the reservoir becomes empty, bleed the air from the master cylinder.

- (1) Disconnect the brake lines from the master cylinder.  
SST 09023-00101
- (2) Slowly depress the brake pedal and hold it.



- (3) Block off the outlet plug with your finger, and release the brake pedal.
- (4) Repeat (2) and (3) 3 or 4 times.



- (c) Bleed brake line.

- (1) Connect the vinyl tube to the caliper.
- (2) Depress the brake pedal several times, then loosen the bleeder plug with the pedal held down.
- (3) At the point when fluid stops coming out, tighten the bleeder plug, then release the brake pedal.
- (4) Repeat (2) and (3) until all the air in the fluid has been bled out.

**Torque: (Bleeder plug) 11 N·m (110 kgf·cm, 8 ft·lbf)**

- (5) Repeat the above procedure for each wheel to bleed the air out of the brake line.
- (d) Check fluid level in reservoir.  
Check the fluid level and add fluid if necessary.

**Fluid: SAE J1703 or FMVSS No. 116 DOT3**

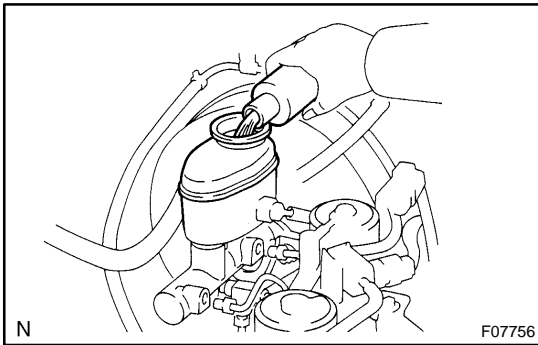
## 2. BLEED BRAKE LINE (W/O VSC, DOUBLE CAB)

**HINT:**

If any work is done on the brake system or if air is suspected in the brake lines, bleed the air from the system.

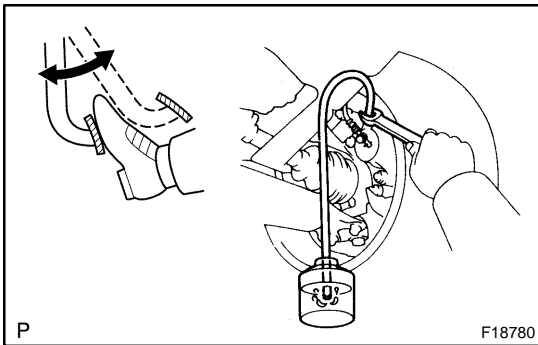
**NOTICE:**

- **Bleed air from the chassis, 3rd chamber, and chassis in order.**
- **When the air is bled from the 3rd chamber, be sure to run the engine.**
- **If the brake fluid attaches to any painted surfaces, wash it off immediately.**



- (a) Fill reservoir with brake fluid.  
Check the fluid level in the reservoir after bleeding each wheel. Add fluid, if necessary.

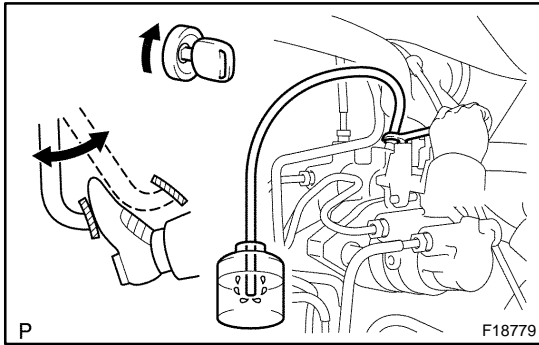
**Fluid: SAE J1703 or FMVSS No. 116 DOT3**



- (b) Bleed brake line.
  - (1) Connect the vinyl tube to the brake caliper bleeder plug.
  - (2) Depress the brake pedal several times, then loosen the bleeder plug with the pedal held down.
  - (3) At the point when the fluid stops coming out, tighten the bleeder plug, then release the brake pedal.
  - (4) Repeat (2) and (3) until all the air in the fluid has been bled out.

**Torque: (Bleeder plug) 11 N·m (110 kgf-cm, 8 ft-lbf)**

- (5) Repeat the above procedures for each wheel to bleed the air out of the brake line.



(c) Bleed master cylinder.

**NOTICE:**

**When the air is bled from the master cylinder (3rd chamber), be sure to run the engine.**

**HINT:**

After disassembling the master cylinder, or if the reservoir becomes empty, bleed the air from the master cylinder.

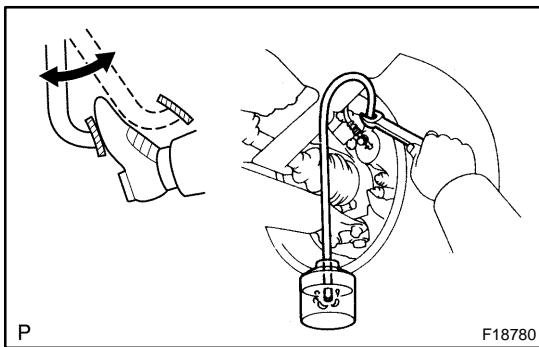
- (1) Run the engine at idle.
- (2) Connect the vinyl tube to the master cylinder and the brake caliper or wheel cylinder bleeder plug.
- (3) Open the brake caliper bleed plug or wheel cylinder bleeder plug.
- (4) Depress the brake pedal several times, then loosen the master cylinder (3rd chamber) bleeder plug with the pedal held down.
- (5) When the fluid stops coming out, tighten the master cylinder (3rd chamber) bleeder plug, then release the brake pedal.
- (6) Repeat (4) and (5) until all the air in the fluid has been bled out.
- (7) Tighten the master cylinder (3rd chamber) bleeder plug.

**Torque: 11 N·m (110 kgf·cm, 8 ft·lbf)**

- (8) Tighten the brake caliper bleeder plug or wheel cylinder bleeder plug.

**Torque: 11 N·m (110 kgf·cm, 8 ft·lbf)**

- (9) Stop the engine.

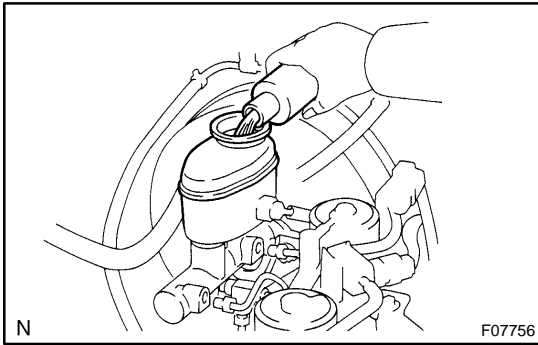


(d) Bleed brake line.

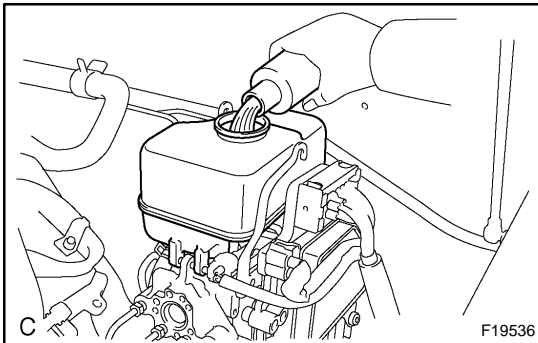
- (1) Connect the vinyl tube to the brake caliper.
- (2) Depress the brake pedal several times, then loosen the bleeder plug with the pedal held down.
- (3) When the fluid stops coming out, tighten the bleeder plug, then release the brake pedal.
- (4) Repeat (2) and (3) until all the air in the fluid has been bled out.

**Torque: (Bleeder plug) 11 N·m (110 kgf·cm, 8 ft·lbf)**

- (5) Repeat the above procedures for each wheel to bleed the air out of the brake line.



- (e) Check fluid level in reservoir.  
Check the fluid level and add fluid if necessary.  
**Fluid: SAE J1703 or FMVSS No. 116 DOT3**



### 3. BLEED BRAKE LINE (W/VSC)

- (a) Fill reservoir with brake fluid.  
Check the fluid level in the reservoir after bleeding each wheel. Add fluid, if necessary.  
**Fluid: SAE J1703 or FMVSS No.116 DOT3**
- (b) Bleed hydraulic brake booster.
- (1) Turn the ignition switch to the ON position and wait until the pump motor has stopped.

#### HINT:

Pump operating sound can be heard.

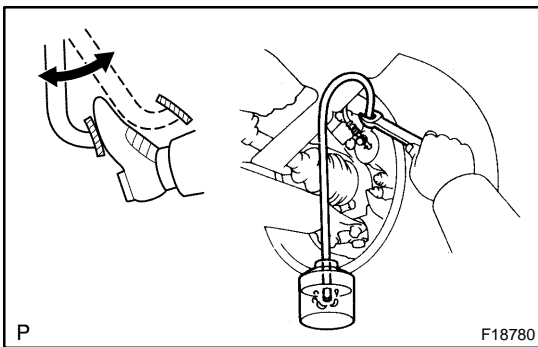
- (2) Turn the ignition switch off and depress the brake pedal more than 20 times.

#### HINT:

When pressure in the accumulator is released, reaction force becomes light and stroke becomes longer.

- (3) Repeat (1) and (2) 5 times.
- (4) Make sure that the interval between pump start and pump stop is 8 to 14 seconds.

If it takes 14 seconds or more, repeat (3).



- (c) Bleed front brake line.
- (1) Turn the ignition switch to the ON position and wait until the pump motor has stopped.

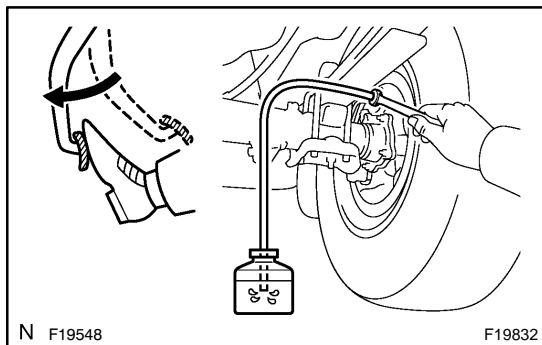
#### HINT:

Pump operating sound can be heard.

- (2) Connect the vinyl tube to the brake caliper.
- (3) Depress the brake pedal several times, then loosen the bleeder plug with the pedal held down.
- (4) When the fluid stops coming out, tighten the bleeder plug, then release the brake pedal.
- (5) Repeat (3) and (4) until all the air in the fluid has been bled out.

**Torque: (Bleeder plug) 11 N·m (110 kgf·cm, 8 ft·lbf)**

- (6) Repeat the above procedures for each wheel to bleed the air out of the brake line.



(d) Bleed rear brake line.

- (1) Turn the ignition switch to the ON position and wait until the pump motor has stopped.

HINT:

Pump operating sound can be heard.

- (2) Connect the vinyl tube to the wheel cylinder.
- (3) Depress the brake pedal, hold it, and then loosen the bleeder plug.

HINT:

Brake fluid is pumped out automatically.

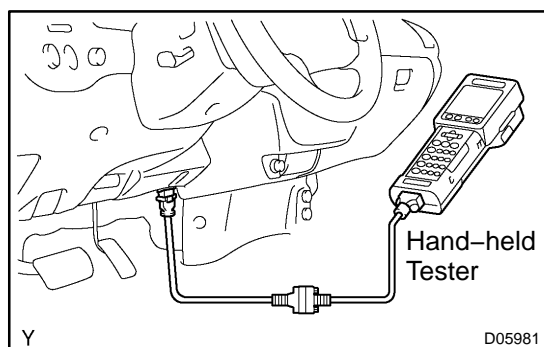
**NOTICE:**

**Keep brake fluid in the reservoir tank above the MIN line during the above procedures.**

- (4) When air does not come out with brake fluid anymore, tighten the bleeder plug and release the brake pedal.

**Torque: (Bleeder plug) 11 N·m (110 kgf·cm, 8 ft·lbf)**

- (5) Repeat the above procedures for each wheel to bleed the air out of the brake line .



(e) Hydraulic brake booster disassembly:  
Bleed hydraulic brake booster.

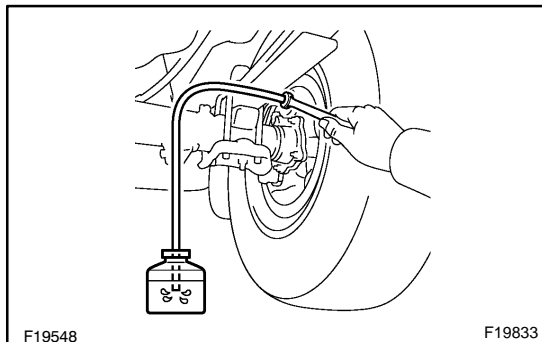
**NOTICE:**

**When disassembling the hydraulic brake booster, bleed the air from the hydraulic brake booster by following the procedures below.**

- (1) Connect the hand-held tester to the DLC3.
- (2) Turn the ignition switch to the ON position.

HINT:

- Pump operating sound can be heard.
- Please refer to the hand-held tester operator's manual for further details.
- (3) Select "ACTIVE TEST" mode on the hand-held tester.



- (4) Connect the vinyl tube to the rear wheel cylinder.
- (5) Loosen the bleeder plug
- (6) Select "SRMF & SRMR" on the "ACTIVE TEST" of the hand-held tester to drive solenoids.

**NOTICE:**

- **Do not depress the brake pedal.**
- **Keep brake fluid in the reservoir tank above the MIN line during the above procedures.**

## HINT:

- Pump operating sound can be heard.
- Brake fluid is pumped out automatically.
- To protect the solenoids, the hand-held tester turns OFF automatically 2 sec. after every solenoid has been turned ON.

(7) Repeat (6) until the air is completely bled out of brake fluid.

(8) When air does not come out with brake fluid, tighten the bleeder plug.

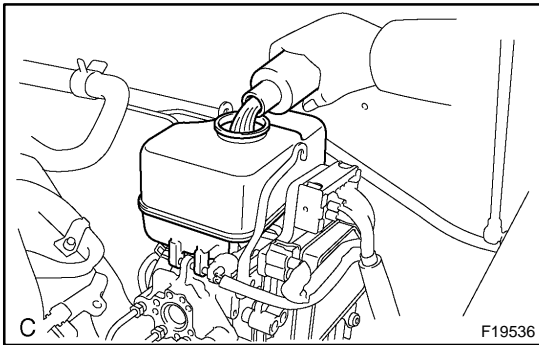
**Torque: (Bleeder plug) 11 N·m (110 kgf·cm, 8 ft·lbf)**

(9) Repeat the above procedures for each wheel to bleed the air out of the brake line .

(10) Turn the ignition switch off.

(11) Turn the ignition switch on again.

(12) Clear DTCs (see page [DI-1397](#) or [DI-1497](#)).



(f) Check fluid level in reservoir.

(1) Turn the ignition switch off and depress the brake pedal more than 20 times.

## HINT:

When pressure in the accumulator is released, reaction force becomes light and stroke becomes longer.

(2) Add brake fluid up to the MAX line of the reservoir tank.

**Fluid: SAE J1703 or FMVSS No.116 DOT3**

## HINT:

When the ignition switch is turned to the ON position, brake fluid is sent to the accumulator. The brake fluid level drops by 5 mm when the ignition switch is off, which is normal.