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Model Year Start: 2014	Model: Highlander HV	Prod Date Range: [02/2014 -]
Title: BRAKE SYSTEM (OTHER): BRAKE FLUID: BLEEDING; 2014 - 2018 MY Highlander HV [02/2014 -]		

BLEEDING

CAUTION / NOTICE / HINT

CAUTION:

The Techstream must be used for air bleeding. If not used, the air bleeding will be incomplete, which is hazardous and may lead to an accident.

NOTICE:

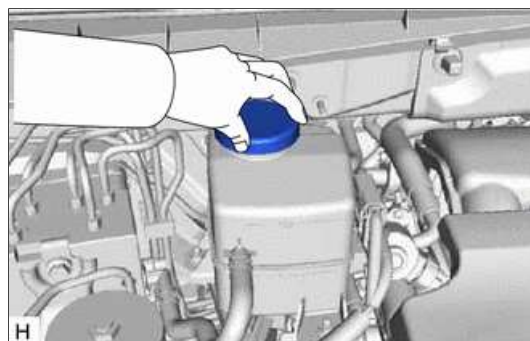
- Adjust the brake fluid level so that the brake fluid level is at the MAX line with the power switch on (IG).
- Perform air bleeding with the shift lever in P and the parking brake applied.
- As brake fluid may overflow when bleeding, do not place the brake fluid can on the brake master cylinder reservoir assembly filler opening.
- Perform air bleeding while maintaining the brake fluid level between the MAX and MIN lines on the brake master cylinder reservoir assembly.
- Air bleeding will be difficult if the following occurs:
 - a. The No. 2 brake actuator hose (the hose between the brake booster pump assembly and brake master cylinder reservoir assembly) is higher than the brake fluid level and air enters the No. 2 brake actuator hose.
 - b. During the bleeding procedure, air enters the brake booster pump assembly while it is operating.
- With the auxiliary battery connected, the brake control system operates when a door courtesy switch or brake pedal is operated even with the power switch off. Therefore, if performing any work where it is possible for air to become trapped inside the brake actuator hose, disconnect the 2 brake booster pump connectors before work.
- While performing air bleeding, the accumulator pressure drop may cause a buzzer to sound. As there is no problem, continue with air bleeding.
- During air bleeding, DTCs for pressure sensor malfunctions, etc. may be stored. After air bleeding and if instructed in the procedures, clear the DTCs.
- Do not allow brake fluid on any painted vehicle body surface. If brake fluid leaks onto any painted surface, immediately wash it off.
- When bleeding air, select the suitable procedure according to the table below.

REPLACED/INSTALLED ITEM	WORK PROCEDURE
Flexible hose (front/rear)	Bleed brake line
Disc brake cylinder assembly (front/rear)	
Brake actuator assembly	Bleed brake system
Brake master cylinder reservoir assembly	
Brake master cylinder sub-assembly	Bleed brake master cylinder
Brake stroke simulator cylinder sub-assembly	

PROCEDURE

1. BLEED BRAKE LINE

- (a) Remove the brake master cylinder reservoir filler cap assembly.



- (b) Add brake fluid to the brake master cylinder reservoir assembly until the brake fluid level is between the MAX and MIN lines on the brake master cylinder reservoir assembly.

Brake Fluid:

SAE J1703 or FMVSS No. 116 DOT3

NOTICE:

- Make sure that there is sufficient brake fluid in the brake master cylinder reservoir assembly.

- Do not remove the filter from the brake master cylinder reservoir assembly and be sure to fill the brake master cylinder reservoir assembly with new brake fluid to avoid any potential contamination of the brake system. Contamination, for example by dirt particles or mineral oil, could lead to functional brake problems.

(c) Connect the Techstream to the DLC3 and turn the power switch on (IG).

(d) Turn the Techstream on and enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Air Bleeding.

Chassis > ABS/VSC/TRAC > Utility



(e) Select "Usual air bleeding / All Line" and bleed the brake line by following the instructions on the Techstream.

(f) After air bleeding, tighten each bleeder plug.

Torque:

Front Brake :

8.3 N·m {85 kgf·cm, 73 in·lbf}

Rear Brake :

10.8 N·m {110 kgf·cm, 8 ft·lbf}

(g) Clear the DTCs.

Click here [INFO](#)

(h) Turn the Techstream off and turn the power switch off.

(i) Disconnect the Techstream from the DLC3.

(j) Inspect for brake fluid leaks.

(k) Inspect and adjust the brake fluid level in the brake master cylinder reservoir assembly.

Click here [INFO](#)

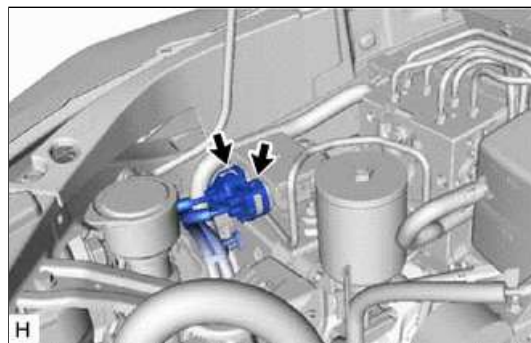
(l) Install the brake master cylinder reservoir filler cap.

2. BLEED BRAKE SYSTEM

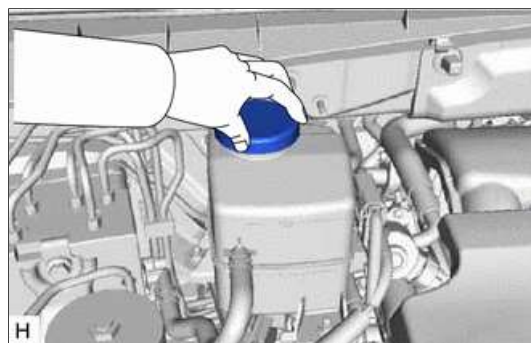
(a) With the power switch off, disconnect the 2 brake booster pump connectors.

HINT:

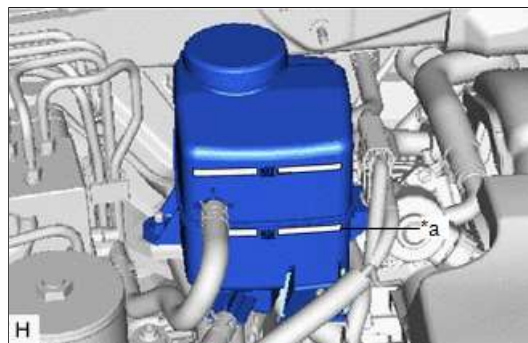
If the 2 brake booster pump connectors are already disconnected, this procedure is unnecessary.



(b) Remove the brake master cylinder reservoir filler cap assembly.



(c) Drain the brake fluid in the brake master cylinder reservoir assembly to near the MIN line.

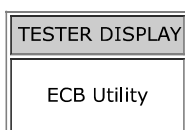


*a	MIN Line
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(d) Connect the Techstream to the DLC3 and turn the power switch on (IG).

(e) Turn the Techstream on and enter the following menus: Chassis / ABS/VSC/TRAC / Utility / ECB (Electronically Controlled Brake System) Utility / Zero Down.

Chassis > ABS/VSC/TRAC > Utility



HINT:

Using the Techstream to perform zero down causes the pressurized brake fluid in the accumulator to be returned to the brake master cylinder reservoir assembly.

(f) When the buzzer sounds, turn the power switch off.

(g) Add brake fluid to the brake master cylinder reservoir assembly until the brake fluid level is between the MAX and MIN lines on the brake master cylinder reservoir assembly.

Brake Fluid:

SAE J1703 or FMVSS No. 116 DOT3

NOTICE:

- Make sure that there is sufficient brake fluid in the brake master cylinder reservoir assembly.
- Do not remove the filter from the brake master cylinder reservoir assembly and be sure to fill the brake master cylinder reservoir assembly with new brake fluid to avoid any potential contamination of the brake system. Contamination, for example by dirt particles or mineral oil, could lead to functional brake problems.

(h) Turn the power switch on (IG).

(i) Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Air Bleeding.

Chassis > ABS/VSC/TRAC > Utility



(j) Select "Actuator has been removed" and bleed the brake system by following the instructions on the Techstream.

(k) After air bleeding, tighten each bleeder plug.

Torque:

Front Brake :

8.3 N·m {85 kgf·cm, 73 in·lbf}

Rear Brake :

10.8 N·m {110 kgf·cm, 8 ft·lbf}

(l) Clear the DTCs.

Click here [INFO](#)

(m) Turn the Techstream off and turn the power switch off.

(n) Disconnect the Techstream from the DLC3.

(o) Inspect for brake fluid leaks.

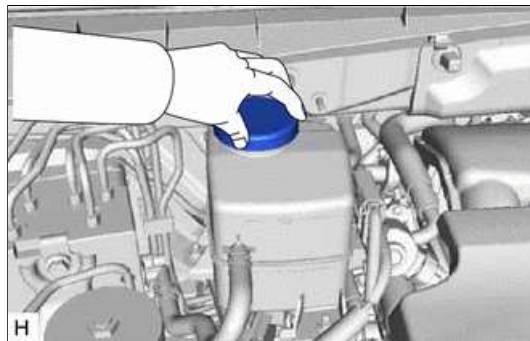
(p) Inspect and adjust the brake fluid level in the brake master cylinder reservoir assembly.

Click here [INFO](#)

(q) Install the brake master cylinder reservoir filler cap assembly.

3. BLEED BRAKE MASTER CYLINDER

(a) Remove the brake master cylinder reservoir filler cap assembly.



(b) Add brake fluid to the brake master cylinder reservoir assembly until the brake fluid level is between the MAX and MIN lines on the brake master cylinder reservoir assembly.

Brake Fluid:

SAE J1703 or FMVSS No. 116 DOT3

NOTICE:

- Make sure that there is sufficient brake fluid in the brake master cylinder reservoir assembly.
- Do not remove the filter from the brake master cylinder reservoir assembly and be sure to fill the brake master cylinder reservoir assembly with new brake fluid to avoid any potential contamination of the brake system. Contamination, for example by dirt particles or mineral oil, could lead to functional brake problems.

(c) Connect the Techstream to the DLC3 and turn the power switch on (IG).

(d) Turn the Techstream on and enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Air Bleeding.

Chassis > ABS/VSC/TRAC > Utility



(e) Select "Master Cylinder or Stroke Simulator has been removed" and bleed the brake master cylinder by following the instructions on the Techstream.

(f) After air bleeding, tighten each bleeder plug.

Torque:

Front Brake :

8.3 N·m {85 kgf·cm, 73 in·lbf}

Rear Brake :

10.8 N·m {110 kgf·cm, 8 ft·lbf}

(g) Clear the DTCs.

Click here [INFO](#)

(h) Turn the Techstream off and turn the power switch off.

(i) Disconnect the Techstream from the DLC3.

(j) Inspect for brake fluid leaks.

(k) Inspect and adjust the brake fluid level in the brake master cylinder reservoir assembly.

Click here [INFO](#)

(l) Install the brake master cylinder reservoir filler cap.