

SECTION 206-07: Power Brake Actuation
DESCRIPTION AND OPERATION

2014 F-150 Workshop Manual
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Brake Booster

The power brake actuation system consists of the following components:

- Brake booster
- Brake booster check valve
- Brake booster vacuum sensor
- Brake booster vacuum supply hose
- Brake booster vacuum pump (3.5L GTDI engine only)

The brake booster uses vacuum from the intake manifold (3.7L and 5.0L) or an engine mounted vacuum pump (3.5L GTDI) to create a partial vacuum inside the vacuum booster on both sides of the diaphragm. When the brake pedal is pressed, the booster rod opens a valve, allowing air to enter the booster on one side of the diaphragm while sealing off the opposite side. This increases pressure on that side of the diaphragm so that it helps push the rod, which in turn pushes the piston in the master cylinder. As the brake pedal is released, the valve seals off the outside air supply while opening the vacuum valve. This restores vacuum to both sides of the diaphragm, allowing everything to return to its original position. The ABS module uses the signals produced by the vacuum sensor to verify the vacuum is maintained in the brake booster.

Brake Booster Vacuum Pump

Vehicles equipped with a 3.5L GTDI engine are also equipped with an engine mounted/cam-driven brake booster vacuum pump. The brake vacuum pump is located on the backside of the RH cylinder head. Refer to [Brake Vacuum Pump](#).

- For vacuum sensor and vacuum pump diagnosis, refer to [Section 206-09](#).
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