second distribution node **216**, and solenoid valve **204**. This fluid is evacuated through solenoid valves **206**, **208**, **210**, **212** and the first distribution node **202** and sent to the waste container **230** through solenoid valve **214**.

If the second pump is powered on during the alternate cross bleed procedure, a vacuum is applied to the master cylinder through the third distribution node **222**. The fluid extracted from the master cylinder will be sent to the first distribution node **202** where it is combined with the fluid arriving through solenoid valves **206**, **208**, **210**, **212** and sent to the waste container **230** through the solenoid valve **214**.

An optional fourth distribution node **240** is shown in the illustration of *Figure* **17**. Here, the bleed/flush lines are connected from the common ports **204***b*, **206***b*, **208***b*, **210***b*, **212***b* to the fourth distribution node **240** and the priming procedure of the fourteenth row of the table of FIG. **16** is implemented to prime the fluid-distribution system **200** and the bleed/flush lines **22** with new fluid. Solenoid **218** is not energized and the first pump **226** is activated, drawing new brake fluid from the new fluid container **224** into the third distribution node **222**. A hose **242** connects the third distribution node **222** to the fourth distribution node **240**, allowing the new fluid to flow to the bleed/flush lines **22**, through the solenoids **204**, **206**, **208**, **210**, **212**, through the first distribution node **202**, through solenoid **214**, to the waste container **230**. A valve prevents outflow through the bleed/flush line for the waste cylinder.

All of these procedures may be facilitated by either removing the check valves **36** or using an improved check valve **36**. While a traditional check valve maybe used to prevent fluid from flowing from the line as it is removed from the wheel and dropped to the floor, a specialized check valve may prevent reverse fluid flow only when under low pressure. For example, this improved check valve may prevent reverse flow until pressure reaches 1 or 2 psi and then becomes unseated, allowing reverse fluid flow.

Those skilled in the art of making fluid-distribution system may develop other embodiments of the present invention. However, the terms and expressions which have been employed in the foregoing specification are used therein as terms of description and not of limitation, and there is no intention in the use of such terms and expressions of excluding equivalents of the features shown and described or portions thereof, it being recognized that the scope of the invention is defined and limited only by the claims which follow.

I claim:

1. A fluid-distribution system for a brake-flush machine, comprising:

a first manifold, a second manifold, and a third manifold;

a plurality of first lines adapted for coupling to discrete fluid-flow elements;

a plurality of first valves for alternatively placing each of said plurality of first lines in fluid communication with the first manifold or the second manifold, wherein the valves are soleniod valves coupled with the manifolds;

a first pump connecting a source of fluid to the third manifold;

a second line connecting the second and first manifolds;

a third line for coupling the third manifold to an additional discrete fluid-flow element;

a computing device configured to independently control said solenoid valves;

a memory device; and

a graphical user interface operably connected to said computing device and that is configured to provide a scan tool interface with said brake flush machine.

2. The system of claim **1**, further including an additional first line connecting the system to a waste disposal unit.

3. The system of claim **2**, further including an additional first valve for alternatively placing said additional first line in fluid communication with the first manifold or the second manifold.

4. The system of claim **2**, wherein said discrete fluid-flow elements include bleeder valves and an anti-lock valve of a vehicle's brake system, and said additional discrete fluid-flow element is the vehicle's master cylinder.

5. The system of claim **1**, further including a second valve coupled to said second line for alternatively placing the second manifold or the third manifold in fluid communication with the first manifold.

6. The system of claim **5**, further including a second pump in said second line, said second pump being adapted to pressurize the first manifold.

7. The system of claim **1**, further including a third valve coupled to said first pump for alternatively placing the first pump in fluid communication with the second or third manifold.

8. The system of claim **1**, wherein said discrete fluid-flow elements include bleeder valves and an anti-lock valve of a vehicle's brake system, and said additional discrete fluid-flow element is the vehicle's master cylinder.

9. The system of claim **1**, further including a second pump in said second line, said second pump being adapted to pressurize the first manifold.

10. The system of claim **1**, further including an additional valve in said second line, said additional valve being adapted to expel fluid from the system.

11. The system of claim **1**, wherein said first, second and third manifolds are part of an integral structure.

12. The system of claim **1**, further including a fourth manifold adapted for fluid coupling to at least some of said first plurality of lines and to said third manifold.

13. The system of claim **1**, further including an additional first valve for alternatively placing an additional first line in fluid communication with the first manifold or the second manifold; a second valve coupled to said second line for alternatively placing the second manifold or the third manifold in fluid communication with the first manifold; a third valve coupled to said third line for alternatively placing the first pump in fluid communication with the second or third manifold; a second pump in said second line, said second pump being adapted to pressurize the first manifold; and an additional valve in said second line, said additional valve being adapted to expel fluid from the system; wherein said first, second and third manifolds are part of an integral structure.

14. The system of claim **13**, further including a fourth manifold adapted for fluid coupling to at least some of said first plurality of lines and to said third manifold.

15. A method of flushing a vehicle's brake system comprising the following steps:

providing a brake-flush machine that includes

a first manifold, a second manifold, and a third manifold;

a plurality of first lines adapted for coupling to bleeder valves of a vehicle's brake system;

a plurality of first valves for alternatively placing said plurality of first lines in fluid communication with the first manifold or the second manifold, wherein the valves are solenoid valves coupled with the manifolds;

a first pump connecting a source of fluid to the third manifold;

a second line connecting the second and first manifolds;

a third line for coupling the third manifold to a master cylinder of the vehicle's brake system;