FluidXchange Operating Instructions

Key Features and Benefits:

- No moving parts. Uses Shop Air to extract or inject coolant from the vehicle.
- Easy to operate Control Manifold to create vacuum or pressure to the Tank.
- Automatic Shut-Off Valve to prevent injecting air into the cooling system.

Photo Legend:

- A – In-Hose Shut-Off Valve
- B – Control Manifold (Vacuum or Pressure)
- C – Gauge (Vacuum or Pressure)
- D – Pressure By-Pass Shut-Off Valve
- E – End-of-Hose Q/D Coupling
- F – Retro-Fit Kit Stopper Handle
- G – End-of-Hose Hand Valve Assembly

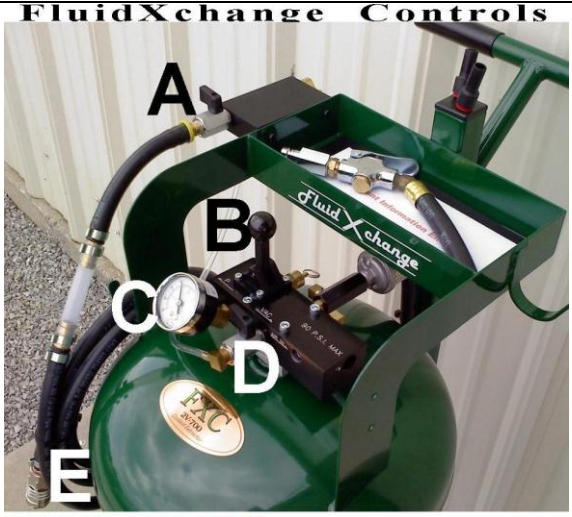
Extract Coolant

1) Remove Vehicle Surge-Tank Cap
2) Connect shop air (regulated to 90 psi max) to manifold
3) Close in-hose ball-valve (A)
4) Place control manifold in vacuum mode (B)
5) Connect hose to cooling system Q/D Fitting (E)
6) Open in-hose ball-valve (A) to extract coolant
7) Amt of vacuum can be seen on gauge (C)
8) Close in-hose ball-valve (A) when extraction is complete
9) Disconnect hose from cooling system Q/D Fitting (E)

Inject Coolant

1) Remove Vehicle Surge-Tank Cap
2) Connect shop air (regulated to 90 psi max) to manifold
3) Close in-hose ball-valve (A)
4) Place control manifold in pressure mode (C) up to 25 psi
5) Connect hose to cooling system Q/D Fitting (E)
6) Open in-hose ball-valve (A) to inject coolant
7) Add pressure to tank as needed to continue to inject coolant
8) Tank will shut-off when completely empty to avoid injecting air into the cooling system
9) Do not over-flow cooling system surge-tank
10) Close in-hose ball-valve (A) when injection is complete
11) Disconnect hose from cooling system Q/D Fitting (E)

FluidXchange Controls



F - Retro-Fit Stopper Handle

G - Hand Valve

Eliminate Trapped Air

1) As part of the Injection step, take these additional steps
2) Stop injecting coolant when a few inches of coolant reaches the Surge Tank. Close in-hose ball-valve (A)
3) Disconnect hose from cooling system Q/D Fitting (E)
4) Attach Retro-Fit Stopper Handle to hose (F to E)
5) Clamp off any vent hoses/connections to the Vehicle Cooling System
6) Place control manifold in vacuum mode (C)
7) Seal Retro-Fit Stopper over Vehicle Surge-Tank opening
8) Open in-hose ball-valve (A) to apply vacuum
9) Amt of vacuum can be seen on gauge (C)
10) Watch air bubble in the Surge Tank as trapped air is removed from the cooling system
11) When air bubbles stop, close in-hose ball-valve (A)
12) Relieve vacuum on surge-tank and remove retro-fit stopper
13) Replace Retro-Fit Stopper Handle with Hand Valve (G to E)
14) Place control manifold in pressure mode (B) up to 25 psi
15) Open in-hose ball-valve (A)
16) Complete filling the Surge Tank using Hand Valve

A Business Unit of Dunn & Bybee Tool Company
635 Industrial Drive
Sparta, Tennessee 38583
Phone: 931-738-3611
www.FLUIDXCHANGE.com

FluidXchange Testing Instructions

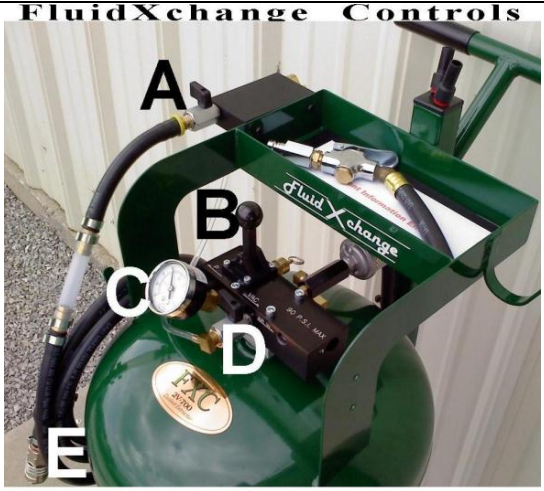
Photo Legend:

- A – In-Hose Shut-Off Valve
- B – Control Manifold (Vacuum or Pressure)
- C – Gauge (Vacuum or Pressure)
- D – Pressure By-Pass Shut-Off Valve
- E – End-of-Hose Q/D Coupling
- F – Retro-Fit Kit Stopper Handle
- G – End-of-Hose Hand Valve Assembly

Replace Quick-Disconnect Fitting (or other Cooling System Component)

1) Determine correct Q/D Fitting size for the application, wrap threads with sealant, and have ready to install on vehicle
2) Remove Vehicle Surge-Tank Cap
3) Close in-hose ball-valve (A)
4) Connect shop air (regulated to 90 psi max) to manifold
5) Attach Retro-Fit Stopper Handle to hose (F to E)
6) Clamp off any vent hoses/connections to the Vehicle Cooling System
7) Place control manifold in vacuum mode (B) to -20 Hg vacuum on gauge (C)
8) Seal Retro-Fit Stopper over Vehicle Surge-Tank opening
9) Open in-hose ball-valve (A) to apply vacuum
10) After vacuum on cooling system is established, loosen & remove drain plug and quickly replace with Q/D Fitting
11) Tighten Q/D Fitting for complete seal
12) Relieve vacuum on surge-tank by placing control manifold (B) in pressure mode until vacuum gauge (C) reads zero.
13) Remove Retro-Fit Stopper and if needed, complete system fill using hose (E) or hand valve (G).
14) Close in-hose ball-valve (A) when retro-fit is complete

FluidXchange Controls



F - Retro-Fit Stopper Handle

G - Hand Valve

Vacuum Test the Cooling System

1) Have the Vehicle Surge-Tank Cap in place
2) Connect shop air (regulated to 90 psi max) to manifold
3) Close in-hose ball-valve (A)
4) Connect hose to cooling system Q/D Fitting (E)
5) Place control manifold in vacuum mode (B) up to your system's specification
6) Open in-hose ball-valve (A) to start vacuum test
7) After tank & cooling system reach your desired vacuum, place control manifold in Off position and let sit
8) Listen for air leaks or loss of vacuum on gauge
9) When vacuum test is complete, relieve vacuum on the Cooling System by placing control manifold (B) in pressure mode until vacuum gauge (C) reads zero.
10) Remove Vehicle Surge-Tank Cap & complete system fill using hose (E) or hand valve (G).
11) Close in-hose ball-valve (A) & Pressure By-Pass Valve (D), and disconnect hose from cooling system Q/D Fitting (E).
12) Replace Vehicle Surge-Tank Cap.

Pressure Test the Cooling System

1) Have the Vehicle Surge-Tank Cap in place
2) Connect shop air (regulated to 90 psi max) to manifold
3) Close in-hose ball-valve (A)
4) Connect hose to cooling system Q/D Fitting (E)
5) Place control manifold in pressure mode (B) up to your system's specification
6) Open in-hose ball-valve (A) to start pressure test
   a. If a small qty of coolant is still in the bottom of Tank, pressure test can proceed (step 7).
   b. If not, the shut-off valve in the tank will be engaged and block pressure to the Cooling system, so proceed with opening the Pressure By-Pass Valve (D).
7) After tank & cooling system reach your desired pressure, place control manifold in Off position and let sit.
8) Listen/look for air/fluid leaks or loss of pressure on gauge
9) When pressure test is complete, relieve pressure on the Cooling System by placing control manifold (B) in vacuum mode until pressure gauge (C) reads zero.
10) Remove Vehicle Surge-Tank Cap & complete system fill.
11) Close in-hose ball-valve (A) & Pressure By-Pass Valve (D), and disconnect hose from cooling system Q/D Fitting (E).
12) Replace Vehicle Surge-Tank Cap.

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