

MotorVac CarbonClean System

CARBURETOR QUICK REFERENCE GUIDE

Read Operator's Manual and safety precautions before performing these procedures.

Carburetor Setup Procedures:

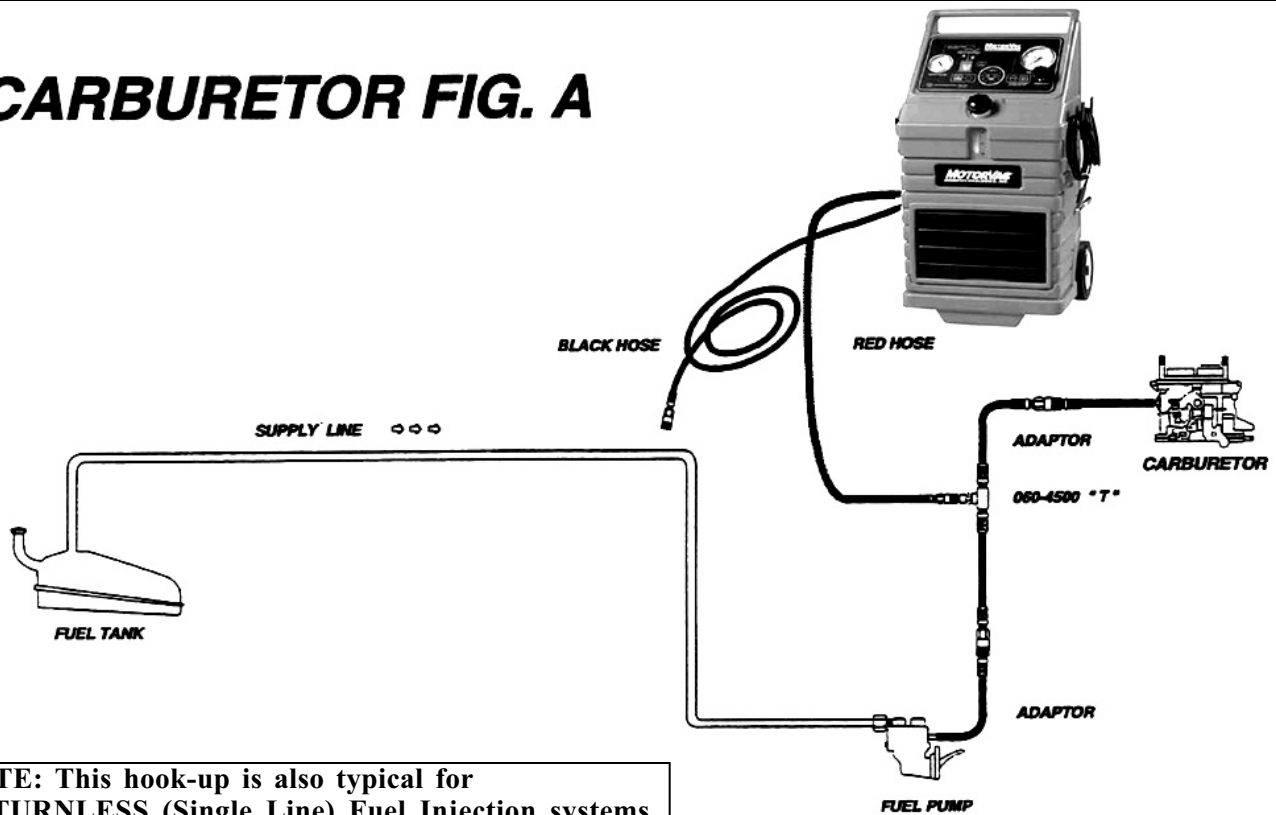
1. Locate the vehicle's fuel inlet line going into the Carburetor. Remove the vehicle's gas cap to relieve the fuel tank pressure. **NOTE:** The vehicle should be at operating temperature.
2. Attach the **MotorVac CarbonClean System** to the vehicle's battery by connecting the **red** battery clip to the positive (+) battery terminal and the **black** battery clip to a solid ground point as far from the battery as possible. If the REVERSE POLARITY LED comes on, make sure the connections to the vehicle's battery are correct.
3. Turn the PRESSURE ADJUST Regulator counterclockwise until the regulator is completely open.
4. Disconnect the vehicle's fuel line at the carburetor inlet.
5. Install the proper adaptors onto the fuel lines. Attach the "T" adaptor (060-4500) to both adaptors as shown in FIGURE A on the back of this page. Attach the unit's OUTPUT (red) hose to the "T" adaptor.
6. Add 8 oz. of detergent to the unit's reservoir (fuel to be added during TEST 2).
7. **TEST 1 - FUEL PRESSURE TEST** - Start the vehicle and check connections for leaks. Turn the GATE VALVE on the "T" adaptor counterclockwise to open it. Observe the FUEL PRESSURE gauge. This is running pressure.
8. **TEST 2 - FUEL VOLUME TEST** - With engine running, press and hold FILL/PURGE button and the fuel reservoir will begin to fill. For most vehicles, an increase of 1/4 tank on the FUEL LEVEL WINDOW within 20 seconds indicates sufficient fuel volume. (Check manufacturer's specification). **NOTE:** When filling the reservoir, add 8 oz. of detergent for every 1/4 tank of fuel.
9. Turn off the vehicle's engine. Press the FILL/PURGE button for five seconds to relieve the pressure in the OUTPUT (red) hose. Close the GATE VALVE.
10. Disconnect the "T" adaptor from the pressure line and the unit's red output hose.
11. As shown in FIGURE B on the back of this page, connect one end of the "T" adaptor to the pressure line coming from the vehicle's fuel pump. Connect the other end of the "T" adaptor to the GATE VALVE end of the "T" adaptor.
12. Connect the OUTPUT (red) hose to the adaptor on the vehicle's pressure line going to carburetor inlet. The RETURN (black) hose is not used at this time (for most vehicles).

Carburetor Cleaning Procedure:

1. Verify that Carburetor Setup Steps 1-12 above have been completed before continuing.
 - **Refer to appropriate Intake System Cleaning Procedure section for system cleaning at this point, and Vacuum gauge connections.**
2. Press and hold the START button.
3. Turn the PRESSURE ADJUST regulator clockwise until the FUEL PRESSURE gauge displays at least 4 PSI or, the **Up Arrow** LED stays illuminated without flashing. Release the START Button. Continue to adjust the pressure until it reaches the equivalent of the manufacturer's recommended pressure or as noted in STEP 7 in the above setup instructions.
4. Press the **+** button to increase the time, or the **-** button to decrease the time until the **Time** LED displays 30 minutes. (Run time may be adjusted depending on the condition of the vehicle's fuel system.)
5. Start the vehicle to begin the fuel system cleaning process.
6. When the cleaning process is half way complete (check TIME LED display), step on the vehicle's accelerator quickly three or four times. Then, maintain RPM at 1500-2000 for 30 seconds.
7. When the run time expires, the unit will automatically shut off and purge the system for five seconds. This will illuminate the CYCLE COMPLETE LED and sounding the alarm. Turn OFF the vehicle's engine.
8. Turn the PRESSURE ADJUST regulator counterclockwise to open it. Press and hold the FILL/PURGE button for five seconds to relieve pressure in the OUTPUT (red) hose.
9. Disconnect the battery leads, hoses, and adaptors. Reconnect all of the vehicle's fuel lines. Re-install the vehicle's gas cap.
10. Start the vehicle and verify that there are no fuel leaks.
11. Always test drive the vehicle for three miles following the cleaning service to flush all detergent from the vehicle's fuel and exhaust systems.

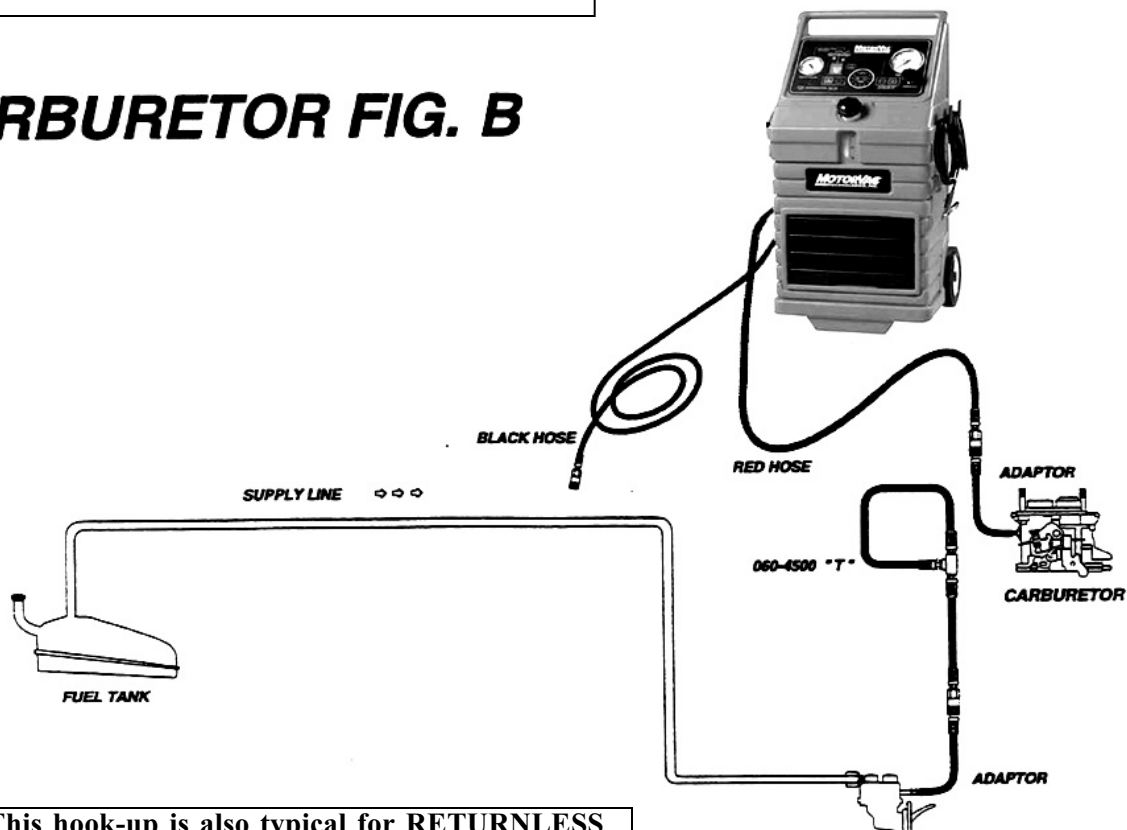
MotorVac CarbonClean System CARBURETOR QUICK REFERENCE GUIDE

CARBURETOR FIG. A



NOTE: This hook-up is also typical for RETURNLESS (Single Line) Fuel Injection systems.

CARBURETOR FIG. B



NOTE: This hook-up is also typical for RETURNLESS (Single Line) Fuel Injection systems.

MotorVac CarbonClean System

CONTINUOUS INJECTION SYSTEM (CIS) QUICK REFERENCE GUIDE

Read Operator's Manual and safety precautions before performing these procedures.

Continuous Injection (CIS) Setup Procedures:

1. Locate the vehicle's pressure and return fuel lines. Remove the vehicle's gas cap to relieve the fuel tank pressure.
NOTE: The vehicle should be at operating temperature.
2. Attach the **MotorVac CarbonClean System** to the vehicle's battery by connecting the **red** battery clip to the positive (+) battery terminal and the **black** battery clip to a solid ground point as far from the battery as possible. If the REVERSE POLARITY LED comes on, make sure the connections to the vehicle's battery are correct.
3. Turn the PRESSURE ADJUST Regulator counterclockwise until the regulator is completely open.
4. Disconnect the vehicle's fuel lines from the fuel distributor or use a more convenient location.
5. Install the proper adaptors onto the fuel lines. Attach the "T" adaptor (060-4500) and the "LOOP" adaptor (060-2501) as shown in FIGURE A on the back of this page. Attach the unit's OUTPUT (red) hose to the "T" adaptor.
6. Add 8 oz. of detergent to the unit's reservoir (fuel to be added during TEST 3).
7. **TEST 1 - FUEL PRESSURE TEST** - Start the vehicle and check connections for leaks. Turn the GATE VALVE on the "T" adaptor counterclockwise to open it. Observe the FUEL PRESSURE gauge. This is running pressure.
NOTE: A deadhead test is not recommended for CIS vehicles.
8. **TEST 2 - FUEL VOLUME** - With engine running, press and hold FILL/PURGE button. The fuel reservoir will begin to fill. For most vehicles, an increase of 1/4 tank on the FUEL LEVEL WINDOW within 20 seconds indicates sufficient fuel volume.
NOTE: If the vehicle stalls, turn the GATE VALVE on the "T" adaptor 3/4 turn clockwise (closed). Re-start the vehicle and hold FILL/PURGE button again while slowly turning the GATE VALVE counterclockwise (open) until the engine begins to stumble slightly. **NOTE:** When filling the reservoir, add 8 oz. of detergent for every 1/4 tank of fuel.
9. **TEST 3 - LEAKDOWN** - Turn off the vehicle. Observe the FUEL PRESSURE gauge. The pressure should drop to a point (see manufactures specifications for this amount) then be maintained or increased due to heat expansion. If pressure drops further, refer to "Vehicle Diagnostics" in the Operator's Manual.
10. Press the FILL/PURGE button for five seconds to relieve the pressure in the OUTPUT (red) hose. Close GATE VALVE.
11. Carefully disconnect the "LOOP" adaptor from the return line. Disconnect and remove the "T" adaptor.
12. As shown in FIGURE B on the back of this page, connect one end of the "LOOP" adaptor to the pressure line coming from the vehicle's fuel tank. Connect the other end of the "LOOP" adaptor to the return line going back to the fuel tank. This forms a tank-to-tank loop making it unnecessary to disable the fuel pump.
13. Connect the OUTPUT (red) hose from the unit to the adaptor on the vehicle's pressure line going to the fuel distributor and connect the RETURN (black) hose to the adaptor going to the return line coming from the pressure regulator.

Continuous Injection (CIS) Cleaning Procedure:

1. Verify that CIS Setup Steps 1-13 above have been completed before continuing.
2. Press and hold the START button.
3. Turn the PRESSURE ADJUST regulator clockwise until the FUEL PRESSURE gauge displays at least 4 PSI or **Up Arrow** LED stays illuminated without flashing. Release the START Button. Continue to turn PRESSURE ADJUST regulator clockwise until it is closed, this should be approximately the same as running pressure.
4. Press the **+** button to increase the time, or the **-** button to decrease the time until the **Time** LED displays 10 minutes.
 - Refer to appropriate Intake System Cleaning Procedure section for proper intake tract cleaning at this point.
 - ♦ Do not open or move sensor plate / air door on the engine when the fuel distributor is pressurized.
5. After the 10 minutes has expired on the **Time** LED display, press the **Start** button until the pressure rises again.
6. Press the **+** button to increase the time, or the **-** button to decrease the time until the **Time** LED display indicates 30 minutes. (Run time may be adjusted depending on the condition of the vehicle's fuel system.)
7. Start the vehicle to begin the engine cleaning process.
8. When the cleaning process is half way complete (check TIME LED display), step on the vehicle's accelerator quickly three or four times. Then, maintain RPM at 1500-2000 for 30 seconds.
9. When the time expires, the unit will automatically shut off and purge the system for five seconds, shutting off the engine and illuminating the CYCLE COMPLETE LED and sounding the alarm. Turn OFF the vehicle's ignition, before the time expires.
10. Turn the PRESSURE ADJUST regulator counterclockwise to open it. Press and hold the FILL/PURGE button for five seconds to relieve pressure in the OUTPUT (red) hose.
11. Disconnect the battery leads, hoses, and adaptors. Reconnect all of the vehicle's fuel lines. Re-install the vehicle's gas cap.

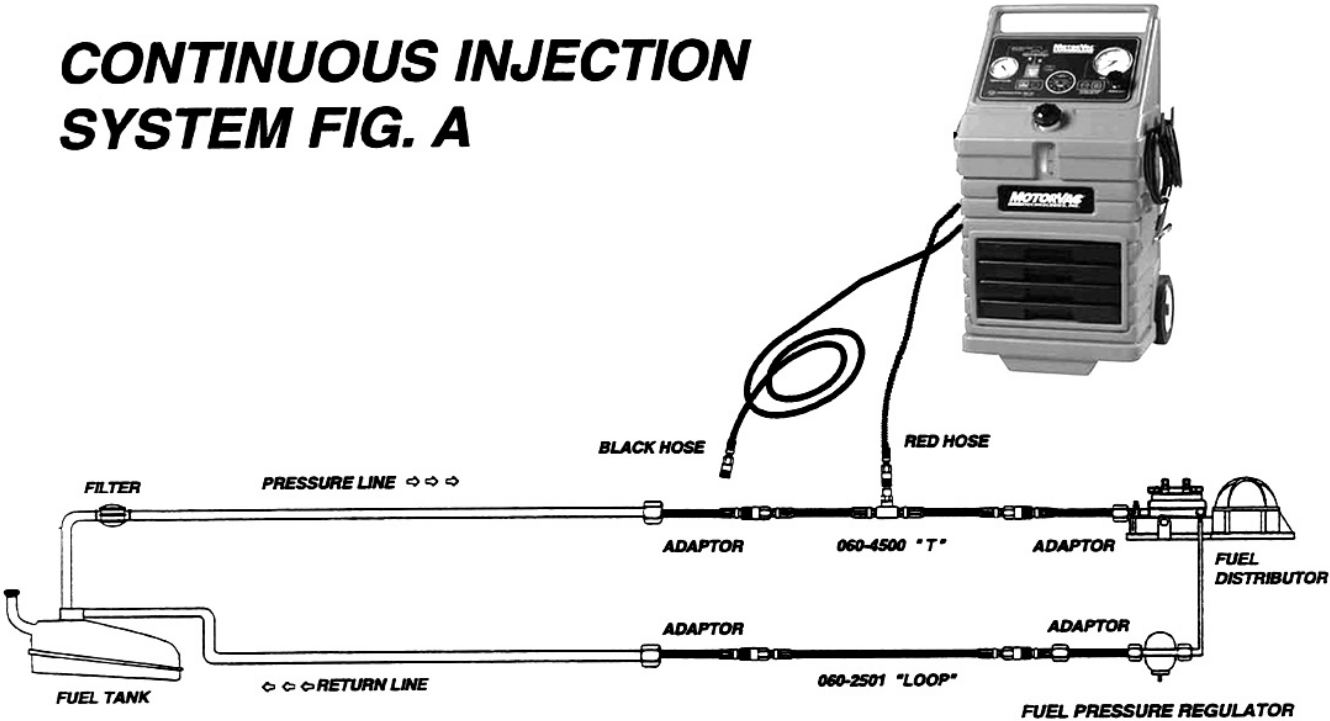
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CONTINUOUS INJECTION SYSTEM (CIS) QUICK REFERENCE GUIDE

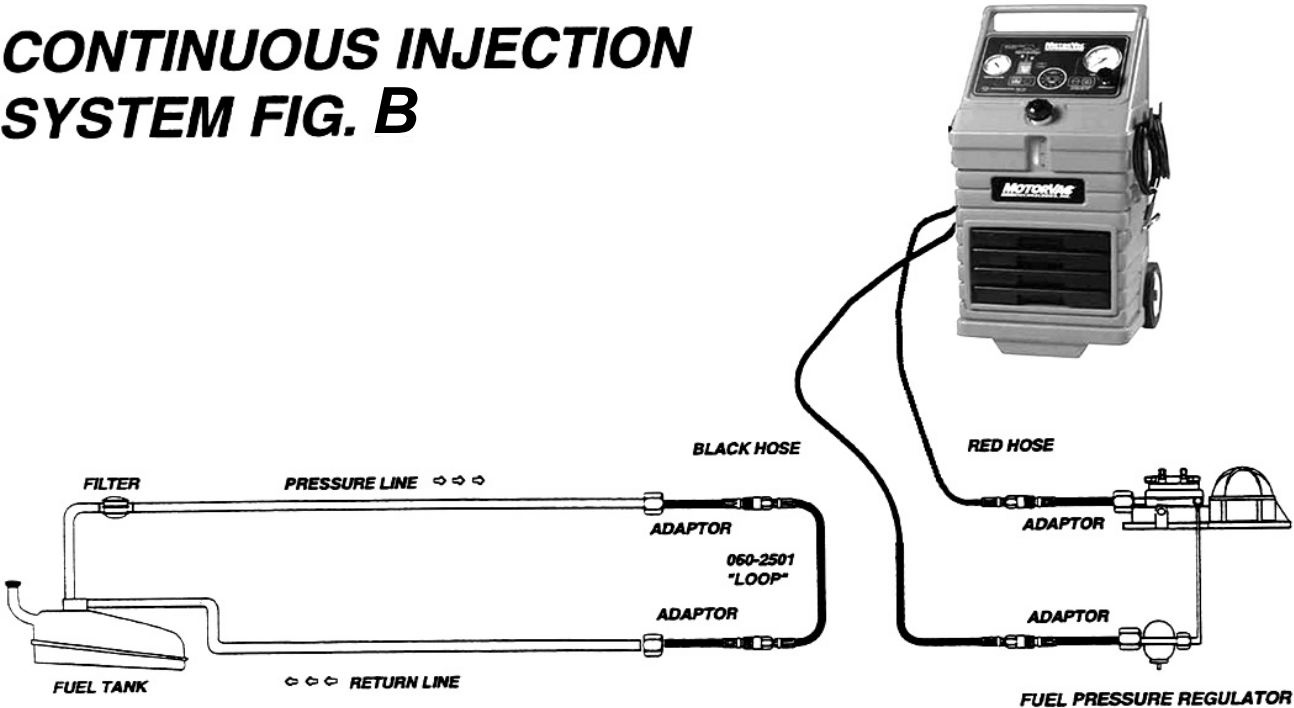
12. Start the vehicle and verify that there are no fuel leaks. Always test drive the vehicle for three miles following the cleaning service to flush all detergent from the vehicle's fuel and \exhaust systems.

**MotorVac CarbonClean System
CONTINUOUS INJECTION SYSTEM (CIS) QUICK REFERENCE GUIDE**

**CONTINUOUS INJECTION
SYSTEM FIG. A**



**CONTINUOUS INJECTION
SYSTEM FIG. B**



MotorVac CarbonClean System

PORT FUEL INJECTION (PFI) QUICK REFERENCE GUIDE

Read Operator's Manual and safety precautions before performing these procedures.

Port Fuel Injection (PFI) Setup Procedures:

1. Locate the vehicle's pressure and return fuel lines. Remove the vehicle's gas cap to relieve the fuel tank pressure.
NOTE: The vehicle should be at operating temperature.
2. Attach the **MotorVac CarbonClean System** to the vehicle's battery by connecting the **red** battery clip to the positive (+) battery terminal and the **black** battery clip to a solid ground point as far from the battery as possible. If the REVERSE POLARITY LED comes on, make sure the connections to the vehicle's battery are correct.
3. Turn the PRESSURE ADJUST Regulator counterclockwise until the regulator is completely open.
4. Disconnect the vehicle's fuel lines from the fuel rail or use a more convenient location.
5. Install the proper adaptors onto the fuel lines. Attach the "T" adaptor (060-4500) and the "LOOP" adaptor (060-2501) as shown in FIGURE A on the back of this page. Attach the unit's OUTPUT (red) hose to the "T" adaptor.
6. Add 8 oz. of detergent to the unit's reservoir (fuel to be added during TEST 3).
7. **TEST 1 - FUEL PRESSURE TEST** - Start the vehicle and check connections for leaks. Turn the GATE VALVE on the "T" adaptor counterclockwise to open it. Observe the FUEL PRESSURE gauge. This is running pressure.
8. **TEST 2 - DEADHEAD TEST** - With engine running, very quickly (one second) restrict and release the "LOOP" adaptor and observe FUEL PRESSURE gauge. **NOTE:** Pressure should increase 50% or more immediately.
9. **TEST 3 - FUEL VOLUME** - With engine running, press and hold FILL/PURGE button and the fuel reservoir will begin to fill. For most vehicles, an increase of 1/4 tank on the FUEL LEVEL WINDOW within 20 seconds indicates sufficient fuel volume. **NOTE:** If the vehicle stalls, turn the GATE VALVE on the "T" adaptor 3/4 turn clockwise (closed). Re-start the vehicle and hold FILL/PURGE button again while slowly turning the GATE VALVE counterclockwise (open) until the engine begins to stumble slightly. **NOTE:** When filling the reservoir, add 8 oz. of detergent for every 1/4 tank of fuel.
10. **TEST 4 - LEAKDOWN** - Turn off the vehicle. Observe the FUEL PRESSURE gauge. The pressure should be maintained or increased due to heat expansion. If pressure drops, refer to "Vehicle Diagnostics" in the Operator's Manual.
11. Press the FILL/PURGE button for five seconds to relieve the pressure in the OUTPUT (red) hose. Close GATE VALVE.
12. Carefully disconnect the "LOOP" adaptor from the return line. Disconnect and remove the "T" adaptor.
13. As shown in FIGURE B on the back of this page, connect one end of the "LOOP" adaptor to the pressure line coming from the vehicle's fuel tank. Connect the other end of the "LOOP" adaptor to the return line going back to the fuel tank. This forms a tank-to-tank loop making it unnecessary to disable the fuel pump.
14. Connect the OUTPUT (red) hose from the unit to the adaptor on the vehicle's pressure line going to the fuel rail and connect the RETURN (black) hose to the adaptor going to the return line coming from the pressure regulator.

Port Fuel Injection (PFI) Cleaning Procedure:

1. Verify that PFI Setup Steps 1-14 above have been completed before continuing.
2. Press and hold the START button.
3. Turn the PRESSURE ADJUST regulator clockwise until the FUEL PRESSURE gauge displays at least 4 PSI or **Up Arrow** LED stays illuminated without flashing. Release the START Button. Continue to turn PRESSURE ADJUST regulator clockwise until it is closed, this should be approximately the same as running pressure.
4. Press the **+** button to increases the time, or the **-** button to decreases the time until the **Time** LED displays 10 minutes.
• **Refer to appropriate Intake System Cleaning Procedure section for proper intake tract cleaning at this point.**
5. After the time has expired on the rail cleaning process, press the **Start** button until the pressure rises again.
6. Press the **+** button to increases the time, or the **-** button to decreases the time until the **Time** LED display indicates 30 minutes.
(Run time may be adjusted depending on the condition of the vehicle's fuel system.)
7. Start the vehicle to begin the engine cleaning process.
8. When time expires, the unit will automatically shut off and purge the system for five seconds, shutting off the engine and illuminating the CYCLE COMPLETE LED and sounding the alarm. Turn OFF the vehicle's ignition.
9. Turn the PRESSURE ADJUST regulator counterclockwise to open it. Press and hold the FILL/PURGE button for five seconds to relieve pressure in the OUTPUT (red) hose.
10. Disconnect the battery leads, hoses, and adaptors. Reconnect all of the vehicle's fuel lines. Re-install the vehicle's gas cap.
11. Start the vehicle and verify that there are no fuel leaks.

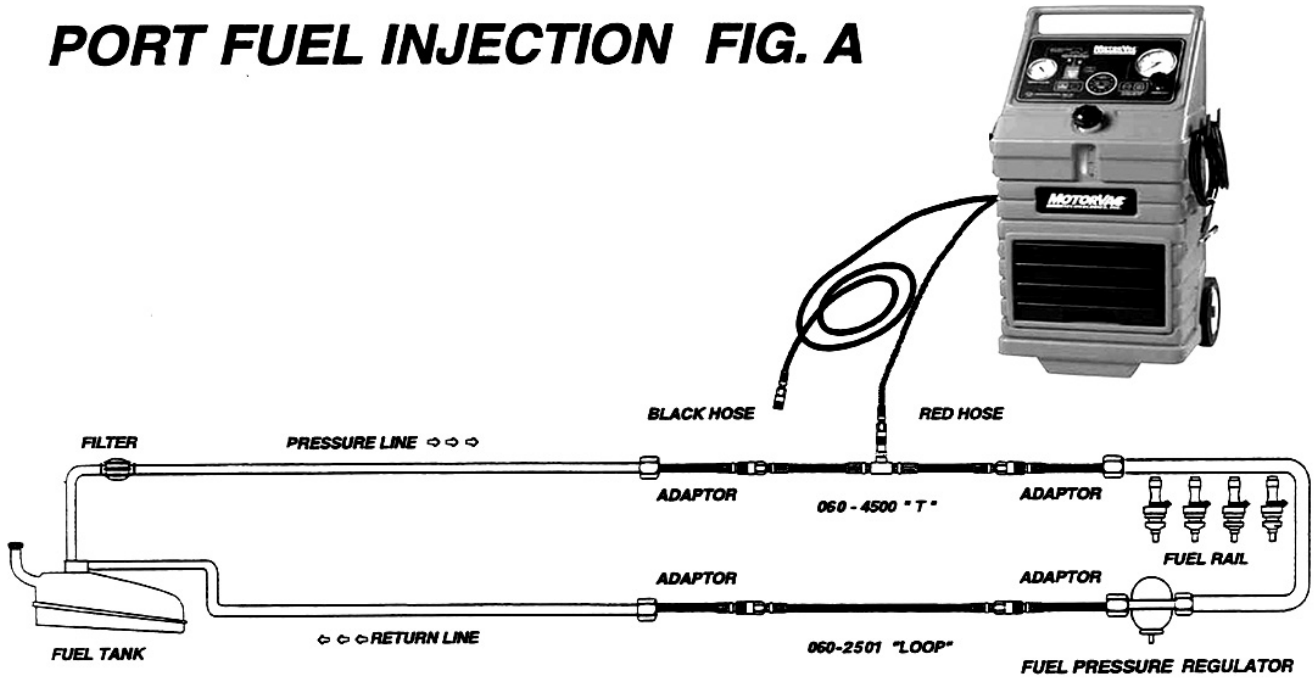
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PORT FUEL INJECTION (PFI) QUICK REFERENCE GUIDE

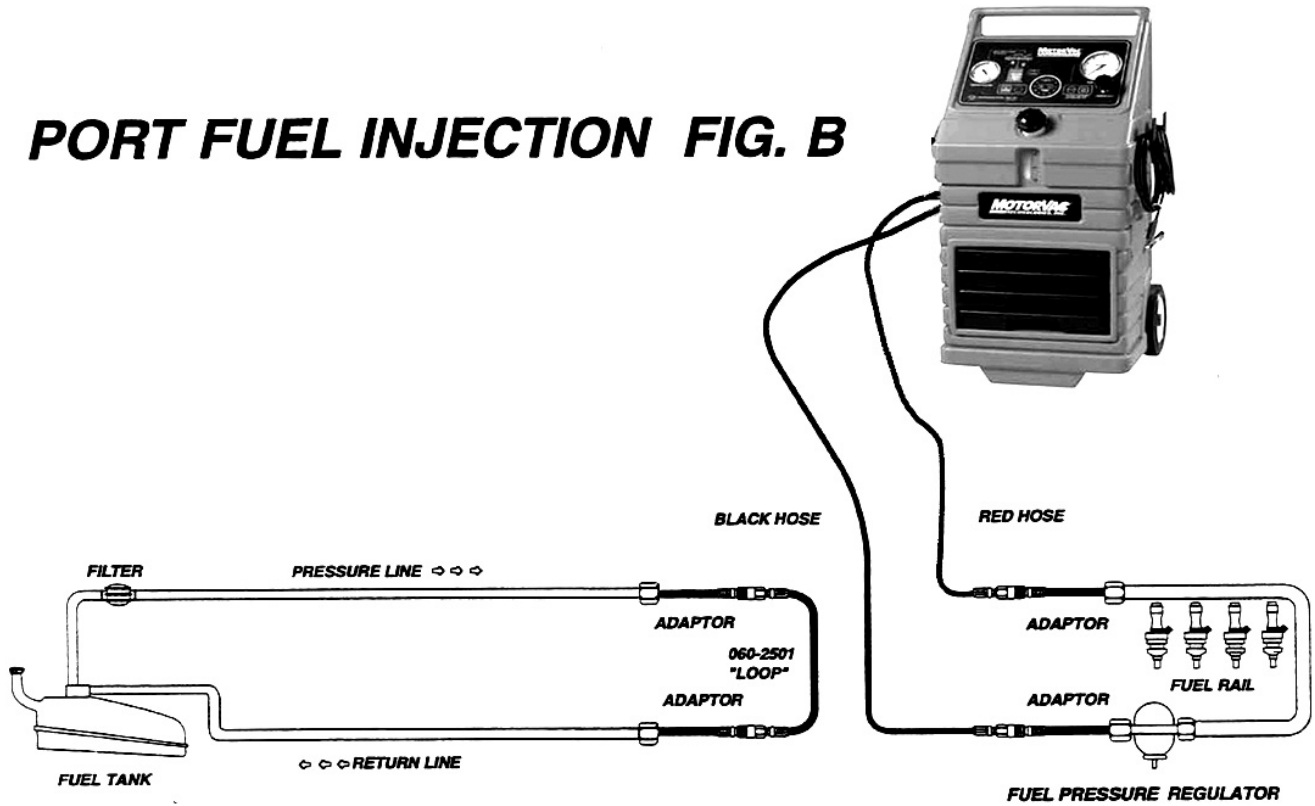
12. Always test drive the vehicle for three miles following the cleaning service to flush all detergent from the vehicle's fuel and exhaust systems.

MotorVac CarbonClean System PORT FUEL INJECTION (PFI) QUICK REFERENCE GUIDE

PORT FUEL INJECTION FIG. A



PORT FUEL INJECTION FIG. B



MotorVac CarbonClean System

THROTTLE BODY INJECTION (TBI) QUICK REFERENCE GUIDE

Read Operator's Manual and safety precautions before performing these procedures.

Throttle Body Fuel Injection (TBI) Setup Procedures:

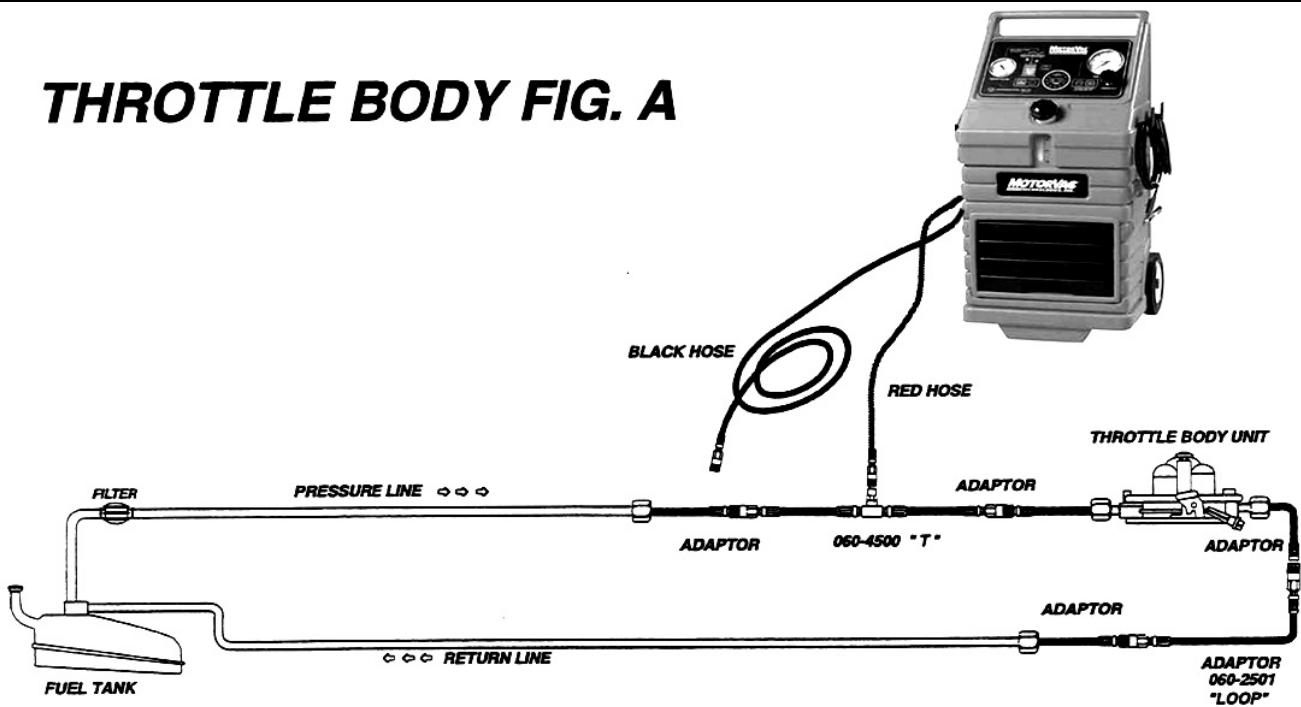
1. Locate the vehicle's pressure and return fuel lines. Remove the vehicle's gas cap to relieve the fuel tank pressure.
NOTE: The vehicle should be at operating temperature.
2. Attach the **MotorVac CarbonClean System** to the vehicle's battery by connecting the **red** battery clip to the positive (+) battery terminal and the **black** battery clip to a solid ground point as far from the battery as possible. If the REVERSE POLARITY LED comes on, make sure the connections to the vehicle's battery are correct.
3. Turn the PRESSURE ADJUST Regulator counterclockwise until the regulator is completely open.
4. Disconnect the vehicle's fuel lines from the throttle body or use a more convenient location.
5. Install the proper adaptors onto the fuel lines. Attach the "T" adaptor (060-4500) and the "LOOP" adaptor (060-2501) as shown in FIGURE A on the back of this page. Attach the unit's OUTPUT (red) hose to the "T" adaptor.
6. Add 8 oz. of detergent to the unit's reservoir (fuel to be added during TEST 3).
7. **TEST 1 - FUEL PRESSURE TEST** - Start the vehicle and check connections for leaks. Turn the GATE VALVE on the "T" adaptor counterclockwise to open it. Observe the FUEL PRESSURE gauge. This is running pressure.
8. **TEST 2 - DEADHEAD TEST** - With engine running, very quickly (one second) restrict and release the "LOOP" adaptor and observe FUEL PRESSURE gauge. **NOTE:** Pressure should increase 50% or more immediately.
9. **TEST 3 - FUEL VOLUME** - With engine running, press and hold FILL/PURGE button. The fuel reservoir will begin to fill. For most vehicles, an increase of 1/4 tank on the FUEL LEVEL WINDOW within 20 seconds indicates sufficient fuel volume. **NOTE:** If the vehicle stalls, turn the GATE VALVE on the "T" adaptor 3/4 turn clockwise (closed). Re-start the vehicle and hold FILL/PURGE button again while slowly turning the GATE VALVE counterclockwise (open) until the engine begins to stumble slightly. **NOTE:** When filling the reservoir, add 8 oz. of detergent for every 1/4 tank of fuel.
10. **TEST 4 - LEAKDOWN** - Turn off the vehicle. Observe the FUEL PRESSURE gauge. The pressure should be maintained or increased due to heat expansion. If pressure drops, refer to "Vehicle Diagnostics" in the Operator's Manual. **NOTE:** Some GM systems will not hold pressure at rest. This is normal and will not affect driveability.
11. Press the FILL/PURGE button for five seconds to relieve the pressure in the OUTPUT (red) hose. Close GATE VALVE.
12. Carefully disconnect the "LOOP" adaptor from the return line. Disconnect and remove the "T" adaptor.
13. As shown in FIGURE B on the back of this page, connect one end of the "LOOP" adaptor to the pressure line coming from the vehicle's fuel tank. Connect the other end of the "LOOP" adaptor to the return line going back to the fuel tank. This forms a tank-to-tank loop making it unnecessary to disable the fuel pump.
14. Connect the OUTPUT (red) hose from the unit to the adaptor on the vehicle's pressure line going to the throttle body and connect the RETURN (black) hose to the adaptor going to the return line coming from the pressure regulator.

Throttle Body Fuel Injection (TBI) Cleaning Procedure:

1. Verify that TBI Setup Steps 1-14 above have been completed before continuing. Press and hold the START button.
2. Turn the PRESSURE ADJUST regulator clockwise until the FUEL PRESSURE gauge displays at least 4 PSI or **Up Arrow** LED stays illuminated without flashing. Release the START Button. Continue to turn PRESSURE ADJUST regulator clockwise until it is closed, this should be approximately the same as running pressure.
3. Press the **+** button to increase the time, or the **-** button to decrease the time until the **Time** LED displays 10 minutes.
• **Refer to appropriate Intake System Cleaning Procedure section for proper intake tract cleaning at this point.**
4. After the 10 minutes has expired on the **Time** LED display, press the **Start** button until the pressure rises again.
5. Press the **+** button to increase the time, or the **-** button to decrease the time until the **Time** LED display indicates 30 minutes.
(Run time may be adjusted depending on the condition of the vehicle's fuel system.)
6. Start the vehicle to begin the engine cleaning process.
7. When time expires, the unit will automatically shut off and purge the system for five seconds, shutting off the engine and illuminating the CYCLE COMPLETE LED and sounding the alarm. Turn OFF the vehicle's ignition.
8. Turn the PRESSURE ADJUST regulator counterclockwise to open it. Press and hold the FILL/PURGE button for five seconds to relieve pressure in the OUTPUT (red) hose.
9. Disconnect the battery leads, hoses, and adaptors. Reconnect all of the vehicle's fuel lines. Re-install the vehicle's gas cap.
10. Start the vehicle and verify that there are no fuel leaks.
11. Always test drive the vehicle for three miles following the cleaning service to flush all detergent from the vehicle's fuel and exhaust systems.

MotorVac CarbonClean System THROTTLE BODY INJECTION (TBI) QUICK REFERENCE GUIDE

THROTTLE BODY FIG. A



THROTTLE BODY FIG. B

