INTRODUCTION

The GMP CFS Series Cooling Fan Control is a bimetal disc actuated, stud mounted, SPST, single terminal electrical switch. The calibrated bimetal disc responds to engine coolant temperature changes to energize an electrically driven coolant fan motor. The bimetal disc snaps from a concave to a convex shape at a predetermined calibration temperature. This snap action occurs in 1/10,000 of a second with the motion directly transferred to the movable arm for precise snap action cut-in and cut-out. Calibrated bimetal discs are recognized for their inherent reliability and calibration stability. The CFS Switch has been specifically designed to control electrically driven coolant fan motors on the 1984-1995 Chevrolet Corvette. The CFS Switch lowers the coolant temperature, thus maximizing engine performance and reducing engine wear.

INSTALLATION PROCEDURES

Electric Cooling Fan Controlled by a Fan Control Switch

(1.) Drain the cooling system. **MAKE SURE THE COOLANT IS COOL!** Disconnect the negative (Black) battery cable from the battery. Locate the factory cooling fan switch. The switch is normally located on the cylinder head between spark plugs one and three or six and eight. Refer to a General Motors Corvette Service Manual for the switch location. Call 1-800-782-4356 to order a GM Corvette Service Manual

(2.) Unplug the factory cooling fan connector by squeezing and pulling it at the same time. Use a 13/16" deep well socket to remove the factory cooling fan switch. Use a 7/8" socket to install the CFS Switch. No sealant is required.

USE CAUTION WHEN INSTALLING THE SWITCH INTO THE CYLINDER HEAD! CROSS THREADING WILL CAUSE DAMAGE TO THE HEAD AND OR SWITCH!

Electric Cooling Fan(s) Controlled by the ECM/PCM (Computer)

Refer to steps 1-2 located above

(3.) 1990–1995 models have a 3/8" water jacket plug in the cylinder head between spark plugs one and three. The plug can be removed with a piece of 5/16" piece of square bar stock. An old 3/8" socket extension can be ground to fit the plug.

Locate the electric cooling fan relay(s). Refer to a GM Service Manual for the relay location.

Locate and identify the fan signal wire coming from the relay connector. Normally terminal "F" is the signal wire on the newer oval style relays. Terminal "B" is the signal wire on the older rectangle relays. Letters are molded into the connector assembly and identify the connector terminal cavities. Always refer to a GM Service Manual for proper signal wire connector location and color. Use a test probe if you are unsure which the signal wire is. **WARNING**! Never connect the relay signal wires or green/ blue harness wires to a 12-volt power source. Damage to the harness will occur.

A. Single Fan Operation: Plug the cooling fan switch connector into the CFS Switch. Route either the blue wire or green wire (Note: Both wires are tied together and perform the same function) over to the relay location. Cut one of the wires to the proper length. Be sure to add a few inches for flex. Strip approximately ¼" of insulation off the end on the wire. Crimp the pink connector onto the end of the bare wire. Attach the purple "T-Tap" splice connector to the appropriate primary relay signal wire. Plug the pink blade connector into the purple "T-Tap" splice connector. (Single Fan Operation Only – Cut the extra lead off or tie it up and out of the way)

B. Dual Fan Operation: Plug the cooling fan switch connector into the CFS Switch. Route both the blue wire and green wire (Note: Both wires are tied together and perform the same function) over to the relay location (Note: On some models the relays may be in different locations). Cut both of the wires to the proper length. Be sure to add a few inches for flex. Strip approximately ¼" of insulation off the end of both wires. Crimp a pink connector onto the end of both bare wires. Attach the purple "T-Tap" splice connector to the appropriate primary and secondary relay signal wire. Plug the pink blade connectors into the purple "T-Tap" splice connector.

When the engine coolant reaches the turn-on point temperature, the fan switch will close to ground. The ground signal will be sent to the cooling fan relay(s). The cooling fan(s) will turn-on and remain on until they cool the engine coolant to a turn-off point of approximately 15 degrees less than the turn-on point. The CFS Switch has approximately + or – 10 degrees of tolerance.

Note: Analog and digital temperature gauges are not completely accurate. The turn-on and turn-off temperature may vary slightly from what the vehicle gauge reads. Furthermore, the gauge sensor is located in a different location than the CFS Switch location. Coolant temperature may vary at different engine coolant stream locations.

(4.) Reconnect the negative (Black) battery cable. Refill the cooling system to the proper level and check for leaks around the switch. Start the engine and allow the coolant to heat up to operating temperature to insure the fan operate properly.
Caution! Never place hands or loose clothing near the cooling fan(s) at anytime. Severe injury may occur.

NOTE: DO NOT REMOVE THE COOLANT TEMPERATURE SENSOR (CTS) OR THE COOLANT GAUGE SENSOR.

INSTALLATION CHART

Year	Model	Main Fan	Auxiliary Fan	CFS Switch Install Location
1984	Corvette	Yes (1)	Not Available	Right Side Cylinder Head
1985	Corvette	Yes (2)	Optional (1)	Right Side Cylinder Head
1986	Corvette	Yes (2)	Optional (1)	Left Side Cylinder Head
1987	Corvette	Yes (2)	Optional (1)	Left Side Cylinder Head
1988	Corvette	Yes (2)	Optional (1)	Left Side Cylinder Head
1989	Corvette	Yes (2)	Optional (1)	Left Side Cylinder Head
1990	Corvette	Yes (2)	Optional (1)	Left Side Cylinder Head
1991	Corvette	Yes (2)	Not Available (3)	Left Side Cylinder Head
1992	Corvette	Yes (2)	Not Available (3)	Left Side Cylinder Head
1993	Corvette	Yes (2)	Not Available (3)	Left Side Cylinder Head
1994	Corvette	Yes (2)	Not Available (3)	Left Side Cylinder Head
1995	Corvette	Yes (2)	Not Available (3)	Left Side Cylinder Head

1996 – 2006 Corvette: THIS PRODUCT IS NOT APPLICABLE

(1) – Cooling fan controlled by factory fan switch.
(2) – Cooling fan controlled by the ECM/PCM (Computer).
(3) – This model is equipped with a secondary-cooling fan that is controlled by the ECM/PCM.

1984 Corvette – The main cooling fan is controlled by a factory cooling switch similar to the CFS Switch. It's located on the passenger side cylinder head between spark plugs six and eight. Remove the factory connector by squeezing and pulling it at the same time. Remove the factory switch and replace it with the CFS Switch.

1985 Corvette – The primary cooling fan is controlled by the ECM. Some models came with an optional auxiliary cooling fan (RPO B4P). This aux. fan is located in front of the radiator inside the air box. The aux. fan is controlled by a factory-cooling switch similar to the CFS Switch and is located on the passenger side cylinder head between spark plugs six and eight. The CFS Switch replaces the factory switch.

1986-1989 Corvette - The primary cooling fan is controlled by the ECM. Some models came with an optional auxiliary cooling fan (RPO B4P). This aux. fan is located in front of the radiator inside the air box. The aux. fan is controlled by a factory-cooling switch similar to the CFS Switch and is located on the driver side cylinder head between spark plugs one and three. The CFS Switch replaces the factory switch.

1990-1995 Corvette – The primary and secondary cooling fans are controlled by the ECM/PCM (Computer). The CFS Switch is installed in the driver side cylinder head between spark plugs one and three. A small 3/8" water jacket plug must be removed. The plug can be removed with a piece of 5/16" piece of square bar stock. An old 3/8" socket extension can be ground to fit the plug. Soak the plug in penetrating oil overnight. The CFS Switch replaces the 3/8" water jacket plug.