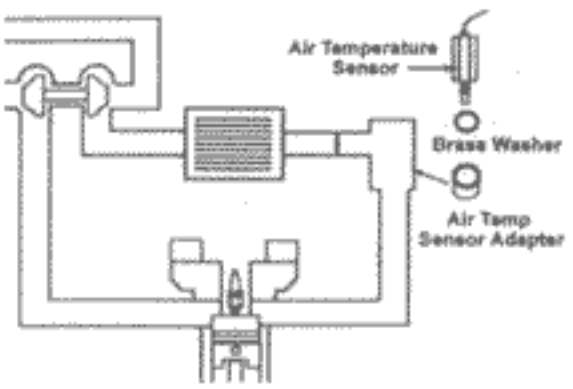
VEIN PRESSURE CONVERTER
(VPC)
INSTALLATION MANUAL

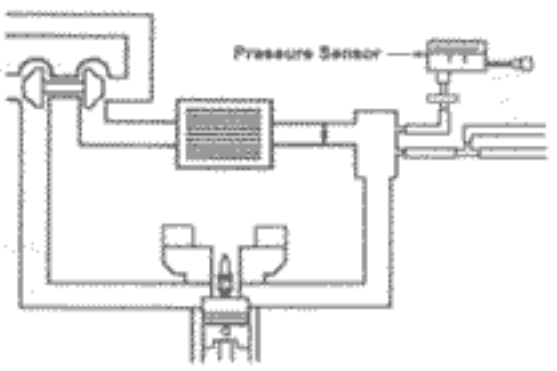
NOTICE

This manual assumes that you have and know how to use the tools and equipment necessary to safely and efficiently perform service operations on your vehicle. This manual assumes that you are familiar with typical automotive systems and basic service and repair procedures. Do not attempt to carry out the operations shown in this manual unless these assumptions are correct. Always have access to a factory repair manual. To avoid injury to yourself and to others, follow the safety precautions contained in the factory repair manual. Before installing this product, read through this entire manual and familiarize yourself with the terms used herein.

INSTALLATION OF THE PRESSURE SENSOR

1. Disconnect the negative battery terminal from the battery.
2. Attach the pressure sensor to the "L" bracket with the supplied mounting bolts.
3. Mount the pressure sensor in a location taking into account the following:
   A. The pressure sensor should be mounted slightly higher than the throttle body with the fitting facing down. Mount the sensor and the air filter away from water and high temperatures. If you cannot use an existing factory bolt, use the 6mm bolt, lock washer and flat washer supplied with this kit.
   B. The hose layout to the sensor must be done with the length of hose supplied with this kit. The 4mm hose should be kept as short as possible and the inline air filter should be placed no more than two (2) inches from the pressure sensor. Install the pressure sensor harness so it will have the ability to reach the F-con unit inside the passenger compartment. Do not extend or add to this harness.
   C. If there is only one pressure source on the intake manifold after the throttle body, use a 4mm tee to splice into the line making sure the other side does not relieve pressure. If there are two sources in the intake manifold, use one for the pressure sensor and tee the line you remove into the other source (see figure below).



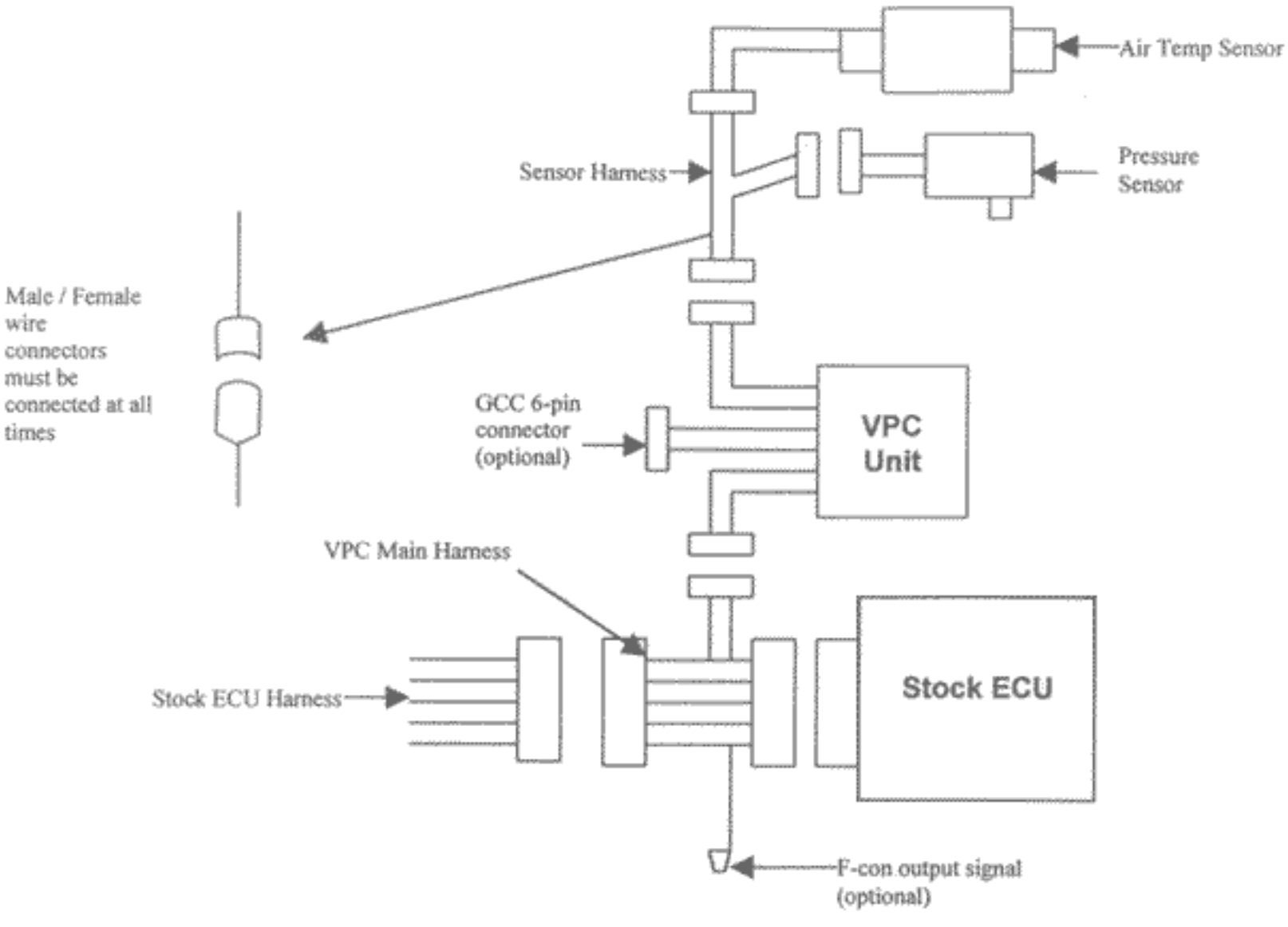


INSTALLATION OF THE AIR TEMPERATURE SENSOR

1. Mount the air temperature sensor fitting, if possible, into the intake manifold after the throttle body. If this is not possible, just before the throttle body with a 1/8pt tap. Do not mount the air temp. sensor after the cold start injector or an AIC controlled injector. **NOTE:** When tapping, make sure the location is flat enough for thread strength and that all metal is cleaned up to prevent any engine damage. Verify that there is enough clearance for the temp. sensor probe to be installed into the fitting.
2. Use Teflon tape when installing the fitting.
3. Install the air temp. sensor into the adapter using the 6mm brass washer supplied with this kit-see diagram above.
4. Connect the air temp. sensor harness to the air temp. sensor and run the harness through the firewall to the F-con harness mounting location.

INSTALLATION OF THE VPC CONTROL UNIT

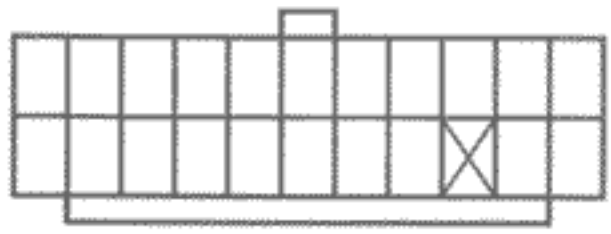
1. Locate the stock ECU using the factory repair manual.
2. Install the main VPC harness between the ECU and the ECU harness making sure the connectors are pushed all the way in.
3. Mount the VPC control unit in the desired location utilizing the mounting bracket supplied in this kit.
4. Connect the main VPC and sensor harnesses to the VPC control unit.
5. IMPORTANT: Make sure the wire with the male/female connector on the sensor harness is connected at all times.
6. Verify that all parts are installed correctly then reconnect the negative battery cable to the battery.



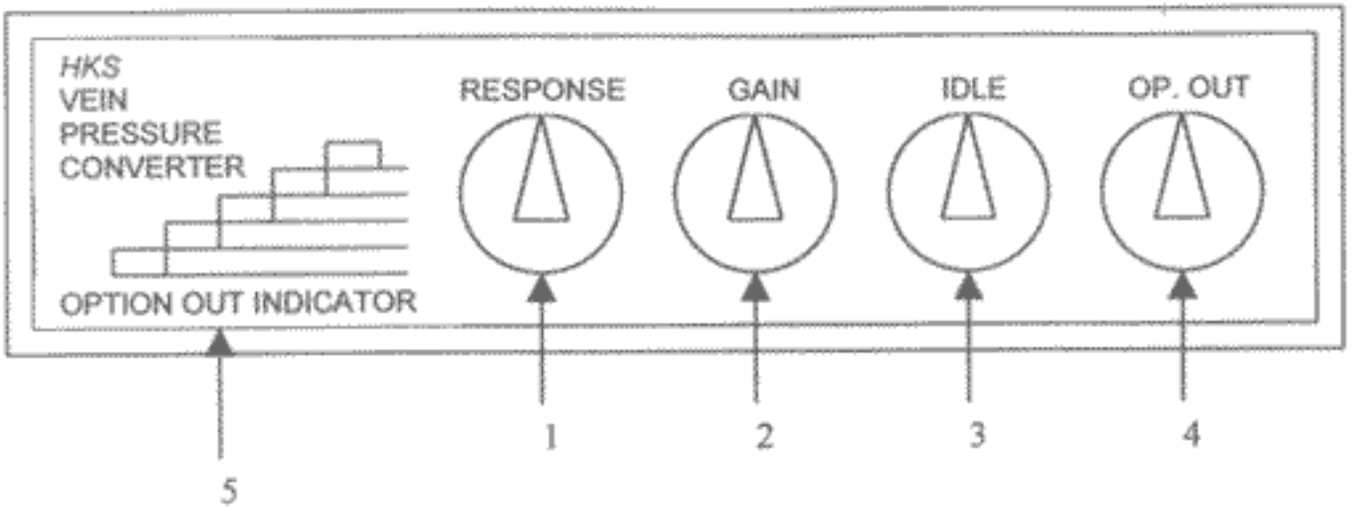
ADJUSTMENT OF THE VPC (see diagram on next page)

NOTE: All knobs are set at the 12 o'clock position at the time of manufacture.

1. **Response-** If turned clockwise, it will increase fuel delivery on the initial opening of the throttle and less fuel when released. If turned counterclockwise, it will decrease fuel delivery on the initial throttle opening and increase when released. **NOTE:** If the response knob is turned clockwise too much, the VPC will be more sensitive to on and off throttle situations which will cause a hesitation in engine response.
2. **Gain**-This knob will change the VPC output voltage (lean or rich) through the rpm band. Each notch is a 2% adjustment lean or rich. **NOTE:** If the knob is turned clockwise (rich) too much, fuel cut and/or hesitation may occur.
3. **Idle**-This knob will adjust the air/fuel mixture at idle below 1300rpm. Each notch is a 2% adjustment lean or rich.
4. **Option Out**-This knob is used to control an F-con unit (if an F-con is available for your application). Each notch is a 2% adjustment lean or rich. The option out wire on the VPC harness goes to the #17 position on the F-con harness (see diagram below). If the vehicle needs this wire to be connected, it will be specified in the supplemental vehicle specific manual. **NOTE**: If you are utilizing a GCC (Graphic Control Computer) with the F-con, disconnect the GCC from F-con and connect it to the VPC control unit (8 pin connector). The GCC, when used on the VPC, can control the VPC output voltage by each rpm displayed on the GCC. If the GCC is turned too far clockwise (rich), fuel cut may occur.
5. **Option Out Indicator**-The first LED will light up red to show that the VPC unit is turned on. Each LED will light up red to indicate a 10% increase of fuel to be added to the F-con by the VPC. The VPC reads boost pressure through the factory ECU. It decides how much fuel the F-con should add. The LED indicator will turn on with or without the use of the F-con.



Shown from wire side



*12 o'clock position- neutral
*Clockwise-richen
*Counterclockwise-lean out

TROUBLESHOOTING

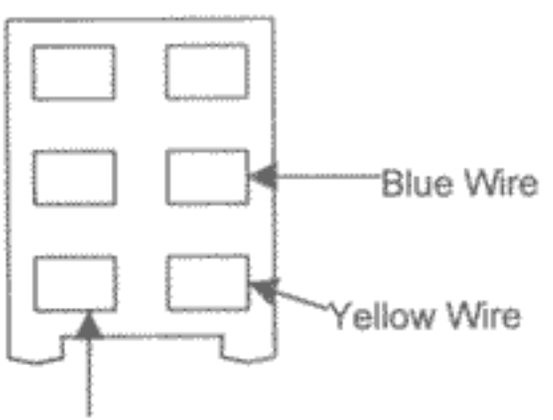
If the check engine light comes on, refer to the factory repair manual for checking of diagnostic codes and repair as necessary. Erase ECU memory and start again.

Symptom- Vehicle does not start.
Possible Cause-Bad connections on the VPC connector. Verify that all connectors are tightly pushed together and that no wires have come out of the connectors.
Possible Cause-Verify that the factory air flow meter has been disconnected and removed from the vehicle.
Symptom- Rough idle or hesitation.
Possible Cause- Pressure sensor connection and/or location. Refer to the pressure sensor installation section of this manual

Pressure Sensor Check-With the ignition key on, use the green wire as a ground. The yellow wire should be at 5 volts. The blue wire should be at about 1.744 volts with the hose disconnected from the pressure sensor. Check the voltage between the blue and green wires. It should read as follows:

in/hg	voltage	kg/cm2	psi	voltage
-14.5	0.9267	0.1	1.42	1.908
-8.7	1.254	0.4	5.69	2.399
-209	1.581	0.7	9.96	2.889
0	1.744	1.0	14.22	3.380
		1.5	21.34	4.198

If the voltage is not within these parameters, the pressure sensor is possibly defective.



(Shown from wire side of the pressure sensor harness)