

G - TESTS W/CODES - DIGIFANT

Article Text

1989 Volkswagen Golf

For Volkswagen Technical Site

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ARTICLE BEGINNING

1989-90 ENGINE PERFORMANCE

Volkswagen Self-Diagnostics - Digifant II

Golf, Jetta

*** PLEASE READ THIS FIRST ***

NOTE: Self diagnosis functions are only available on certain early production California models.

NOTE: Manufacturer has addressed significant technical concerns with the Digifant II system. Please refer to Volkswagen Technical Service Bulletins Group 90, No. 89-02 and Group 24, No. 89-07.

INTRODUCTION

In the Digifant II system, basic fuel metering is determined by engine RPM and by the volume and temperature of the air entering the engine. The Digifant II ECU receives air flow volume and temperature data from the air flow sensor and engine RPM data from the distributor, and distributes fuel to the engine through the fuel injectors.

Fuel injectors are triggered simultaneously at a rate that is proportional to engine RPM. Fuel mixture is controlled by the length of the electrical impulse from the ECU.

Digifant II ECU makes additional adjustments to the amount of fuel delivered by the injectors based on input from various sensors. Oxygen sensor system provides the ECU with information on engine combustion efficiency by measuring the amount of oxygen in the exhaust stream. Switches on the throttle valve inform the ECU when the throttle is fully open or fully closed (at idle). A coolant temperature sensor on the cylinder head provides the ECU with engine temperature information for adjustments during starting and warmup.

In order for the system to operate properly, the basic adjustments to idle speed, ignition timing, idle mixture and throttle switches must be correct. If basic settings are incorrect, ECU will attempt to compensate and test results will be misleading.

SELF DIAGNOSIS SYSTEM

NOTE: Not all California models are equipped with the fault diagnosis system, and there are some variations among those which are so equipped.

Some cars equipped with the Digifant II engine management system and delivered for sale in California are equipped with an on-board diagnosis system as part of the Digifant II ECU.

Possible wiring faults should be checked and corrected before

Make sure the ignition is switched off. Depress and hold Engine Fault rocker switch. With the switch depressed, turn the ignition on. Keep the switch depressed for at least 5 seconds. Then turn the ignition off. Test drive the car for at least 10 minutes.

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