DTC	P1601/89	INJECTOR CORRECTION CIRCUIT MALFUNCTION (EEPROM)

NOTICE:

- **When an injector is replaced, the injector's compensation code must be input into the ECM. When the ECM is changed, all of the existing injector compensation codes must be input into the new ECM.**
- **Injector compensation codes are unique, 30–digit, alphanumeric values printed on the head portion of each injector. If an incorrect injector compensation code is input into the ECM, the engine assembly may rattle or engine idling may become rough. In addition, engine failure may occur and the life of the engine may be shortened.**

1. When replacing the ECM with a new one, input all the injectors' compensation codes into the new ECM as follows:

(a) Prior to replacing the ECM, use the intelligent tester II to read and save each injector's compensation code from the original ECM (see page 05–442).

(b) After installing a new ECM, input the saved compensation codes into the new ECM using the tester (see page 05–447).

(c) Turn the ignition switch OFF and then turn the intelligent tester II OFF.

(d) Wait for at least 30 seconds.

(e) Turn the ignition switch ON and then turn the intelligent tester II ON.

(f) Clear DTC P1601/89 stored in the ECM using the intelligent tester II (see page 05–466).

HINT:

- Each injector has different fuel injection characteristics. In order to optimize the fuel injections, the ECM uses the compensation codes to balance the different fuel injections between each injector.
- When you first turn ON the engine switch after replacing the ECM or an injector(s), DTC P1601/89 is set. This is to inform you that an injector compensation code(s) is/are required to be registered. Manually clear the DTC upon completion of the compensation code registration.

CIRCUIT DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
P1601/89	Injector compensation code is not registered (1 trip detection logic)	• Injector compensation code • ECM
P1601/89	Wrong injector compensation code is registered (1 trip detection logic)	• Injector compensation code • ECM

INSPECTION PROCEDURE

HINT:

Read freeze frame data using the intelligent tester II. Freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, freeze frame data can help determine if the vehicle was running or stopped, if the engine was warmed up or not, and other data from the time the malfunction occurred.

1	CHECK INJECTOR COMPENSATION CODE (See page 05–442)

OK: Compensation codes stored in ECM match compensation codes of installed injectors.

NG → REGISTER INJECTOR COMPENSATION CODE (See page 05–447)

OK

REPLACE ECM (See Pub. No. RM990E, page 10–34)

NOTICE:
After replacing the ECM, allow for ECM learning start the engine and idle it until it is fully warmed up.