

INTRODUCTION TO THE FORD INJECTORS CODING

Dear customer,

With the current Tech News, we wish to shed more light on the injectors used for the Ford vehicles (equipped with a Delphi Common Rail power supply system) and on their configuration functions.

Injectors are precision elements, whose process tolerance is extremely reduced; however, it may be possible that during production some components may present different features either because of the manufacturing processes or because of friction among the mobile parts: as a result, there may be injectors whose capacity, at an equal pressure, may be different (to 5 mg/stroke).

Consequently, every injector has peculiar features and to know exactly the initial characteristics as well as the deviations from them becomes essential.

Prior knowledge of these features helps correcting the applied impulse (corresponding to an average value) in function of the parameters contained in the electronic ECU: a kind of an individual "calibration".

In fact, one of the injectors manufacturing phases includes their being tested with some specific equipment that enables detection of their features and a calculation of the correction coefficients that shall be used by the electronic ECU.



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The calculated parameters are written down on the injector in the form of a 16 figures data matrix code and in alphanumeric characters called IMA, with serigraphs on the body of the injector itself, and reported on a label placed on the engine compartment, at the Technical Service disposal.

The four 16 figures code listed on the label are ordered according to strokes, and not to order of cylinders.

- the code on the left top regards injector 1 (cylinder 1)
- the code on the right top regards injector 2 (cylinder 3)
- the code on the left bottom regards injector 3 (cylinder 4)
- the code on the right bottom regards injector 4 (cylinder 2)

For the replacement of an injector, load the IMA codes of the new injectors into the ECU and reset the acquired parameters during the vehicles lifespan.

Also, after the ECU replacement it shall be necessary to insert the IMA codes and the vehicle's configuration and, if possible, to transfer programming data from the old ECU to the new one.

In fact, apart from other information, the ECU must also contain all data concerning injectors and their position with regards to the cylinders: this way, there shall be an optimum functioning since the first engine startup.

Also, for the troubleshooting of certain drivability problems such as missing of power supply, occurrence of black smoke, or presence in the memory of the error codes P2336, P2337, P2338, the 4 IMA codes are inserted again.



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Models concerning the injectors functioning configuration are mainly vehicles with a Delphi injection, but in particular:

Model	Version	Engine codes
Mondeo 00-05	2.0 Endura/DuraTorq TDCi EMS - EECV	HJBA/HJBB/HJBC FMBA/N7BA
Focus 01-05	1.8 Endura/DuraTorq TDCi EMS - EECV	FFDA/F9DA/F9DB
Transit 01-05	2.0 Endura/DuraTorq TDCi EMS - EECV	FIFA
	2.4 Endura/DuraTorq TDCi EMS - EECV	H9FA

ATTENTION:

1. Codes reported on the label, placed on the engine compartment, regard the injectors of initial installation. It is advisable to always verify the IMA codes reported on the label with those reported on the injector before any coding operations. In case the codes were different, take into account those written on the body of the injector. This is the safest way to obtain the correct code.
2. It is very important to carefully check the codes before editing them, so as not to mistake them for actual characters.
3. After having configured an injector code, the Delphi power supply system shall initially function without any pilot injection sequences. It shall be necessary to drive for some kilometres so that the ECU may restore the correct sequence.
4. On some models constructed before 2002, approximately, reading of the IMA codes may not be correct; however, programming of injectors shall be correct.



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Looking forward to offering information of great use, we hope it may also become a reason for an exchange of ideas.

Do not hesitate to contact us for further clarifications!

After Sales Department Technical Staff



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