



BriSCA F2 Official Statement Zetec Engine – Sump Depth 6th April 2018 Version 1.0 (Published)

Following a challenge to an existing rule, BriSCA F2 confirms that the Zetec engine sump rules remain as published in the “2018 Car Construction Regulations and Drivers’ Information” book, specifically:

Sumps (Zetec Engines)

233.18.10 All Sumps – The total external depth of the sump **MUST** measure at least a **MINIMUM** of 160mm along at least 50% of its length.

Background

- Rule 233.18.10 has been in place for three seasons, since the early days of the permitted use of the Zetec engine, and is designed to encourage the use of standard un-modified components such as original Ford bell-housings (or direct after-market copies) and sumps, rather than bespoke competition items designed for performance gain.
- The Pinto, Duratec and Zetec engine variants are all designed / constructed differently with their cranks in different positions relative to the bottom face of their engine blocks. Therefore, the depth of the sump to achieve the same distance from the rotational centre of the crankshaft is different for each engine type and thus comparison and standardisation of sump dimensions over all engine variants is not appropriate.
- What is constant between engine types (with a common original Pinto bell-housing that fits all three engines) is the distance from the rotational centre of the crankshaft to the base of the bell-housing. As a result, the specification of a measurement from the bottom (underneath) face of the engine block to the base of the sump is appropriate when the position of the bell-housing is taken in to consideration.
- On a Zetec engine, the distance from the bottom face of the block to the lowest point of a standard Ford Pinto alloy bell-housing is 157mm. Therefore, it was not unreasonable for the Zetec engine project team to have set a minimum sump depth of 160mm (just 3mm lower than the bell-housing) to ensure that:
 1. The bell-housing does not protrude below the sump where it could be caught and damaged on kerbing or another car during an incident.
 2. Fabricated sumps match up with the dimensions of permitted original production sumps.

...continued

Additional Info (Clarification)

- The specified 160mm depth is a minimum value, and therefore there is no permitted tolerance on that measurement.
- Given that the scrutineering of sump depths is most likely (though not exclusively) to be carried out with the engine in the car, for the avoidance of doubt, **the measurement is taken from the bottom face of the block to the bottom of the sump**, and thus includes any gasket fitted between the sump and the block.

Advice to Drivers

- Drivers are reminded that they should always satisfy themselves that any components purchased from a supplier meet the current technical regulations in force. It is the driver's responsibility to present a legal car.
- Drivers are advised to check that the sump on any Zetec engine they use conforms to the regulations.
- BriSCA F2 have been made aware that a number of fabricated Zetec engine sumps that do not conform to the minimum specified depth have been manufactured and are in circulation.
- Should a sump be found that does not comply with the regulations then drivers are advised to consult with their supplier for a fix. Permitted modifications in order to bring a shallow sump in to line with the regulations include, but are not limited to:
 - a) Banding the sump to increase overall depth
 - b) Fitting an external false bottom to the sump to increase depth without affecting the existing oil-pan's integrity.
- BriSCA F2 have consulted with the BDF driver representatives regarding this issue and jointly agree that any incorrect specification sumps should be rectified as soon as practicably possible, and by 1st January 2019 at the very latest.

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