RESET CRANKSHAFT TIMING

After Ford Duratorq engine re-bulid

ALWAYS READ MANUFACTURER'S SPECIFICATIONS BEFORE UNDERTAKING ANY TECHNICAL PROCEDURES.

THEREASON

- A Crankshaft timing reset is needed after Cylinder Head replacement or repair.
- The Ford Duratorq 2.0 > 2.4^{cc} engine is not set to **T**op **D**ead **C**entre **(TDC),** it will need to be done manually as there are no Crankshaft timing positional marks.
- The Duratorq 2.2 > 2.4^{cc} engine has two different types of Flywheel locking pins:
  Common Rail locking pin has a stepped diameter end.
  Non-common Rail locking pin has one single diameter.

THEPROCESS

THE FUEL PIPE COMING FROM THE INJECTION PUMP CAN'T BE SLACKENED WHILE THE ENGINE IS RUNNING. THE SYSTEM OPERATES AT PRESSURE IN EXCESS OF 1020 BAR AND CAN CAUSE SERIOUS BODILY HARM.

If the **Cylinder Head has been removed**, rotate the Crankshaft until Cylinder one piston is at TDC, mark the TVD and Timing Cover. This is now the reference point for +/-0° TDC, now follow the instructions from step 6).

If the **engine is assembled**, follow these instructions:

1. Clean around the Rocker Cover to reduce contaminants entering the engine.
2. Remove the Rocker Cover access injector.
3. Remove the injector from Cylinder one to gain access to number one Cylinder bore.
4. With the Crankshaft Pulley fitted to the Crankshaft nose, rotate the engine in a clockwise direction until the Cylinder is positioned next to the Timing Cover at TDC.
5. Place a horizontal mark on the engine and Crankshaft Pulley ensuring they are in-line. This is now the reference point for +/-0° TDC.
6. Remove the TVD ensuring the Crankshaft remains at the 0° position.
7. Measure around the Pulley in a clockwise direction 73mm and make a second mark onto the Pulley.
8. This second mark is 50° before TCD or -50° BTDC.
9. Refit the Crankshaft Pulley in-line with the 0° mark.
10. Rotate the Crankshaft anti-clockwise until the second mark (-50°) aligns with the 0° TDC marked on the engine.
11. The engine is now set at-50° BTDC.
12. Fit the flywheel locking pin.

Please consult the Figures to the right as a visual aid of the previous instructions given.

FIGURE 1:

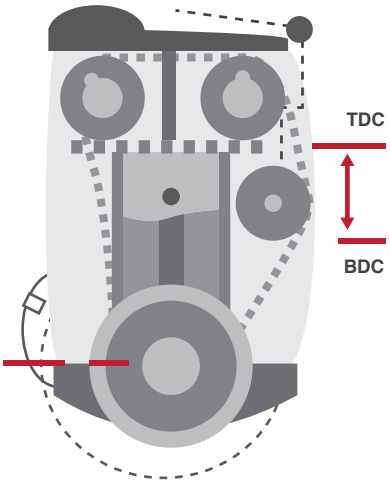
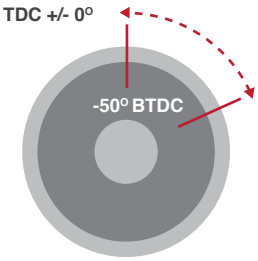


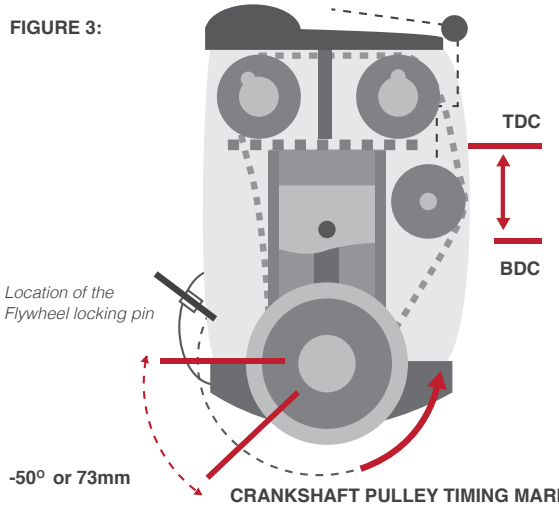
FIGURE 2:



CRANKSHAFT PULLEY

Measure around in a clockwise direction 73mm from the TDC mark.

FIGURE 3:



INCORRECT REPOSITIONING OF THE CRANKSHAFT POSITION SENSOR COULD CAUSE POOR ACCELERATION AND STALLING.

BGA products are to be replaced by an experienced automotive installer. This information is to be used as reference only. Always seek manufacturer specification.