CARWOOD®

Technical bulletin

PRODUCT:	DFP6.1 common rail pump
OEM:	Delphi
FITS:	PSA various
JOB:	How to retime a common rail pump to the engine

The Delphi DFP6.1 common rail pump, fitted to various PSA applications, is driven directly off the engine camshaft via a gearbox assembly on the opposite side of the engine, at a 1:1 engine to pump drive ratio. When removing and refitting the pump, the camshaft must be locked to ensure the pump drive gear is correctly aligned with the cambox drive gear. This will ensure the correct timing of the common rail pump when installed back on the engine. Failure to do so, can result in excessive engine vibration, EOBD codes related to the fuel system, fuel pump failure, and even complete engine failure.

How to retime a DFP6.1 pump to the engine

» before removing the pump, remove the crankshaft pulley centre cap
» rotate the crankshaft slowly clockwise until the camshaft sprocket timing hole is aligned
» Important! Never turn the crankshaft anticlockwise as it can cause the belt to slacken and jump a tooth
» when the holes line up, fit the dedicated camshaft sprocket locking tool (fig 1) to secure it into position

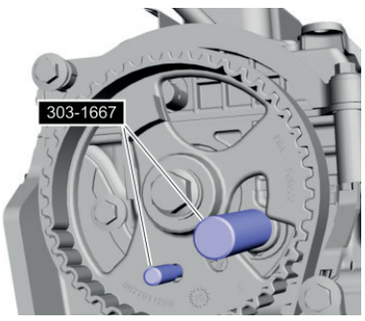

fig 1

» remove all fuel lines from the pump and cap immediately to protect against contamination
» remove the 3 retaining bolts from the pump (fig 2) and carefully lift out

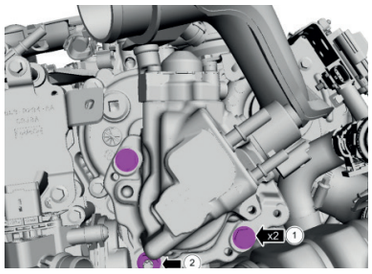

fig 2

» before fitting the replacement pump, remove the plastic protection cover from the drive gear (fig 3)

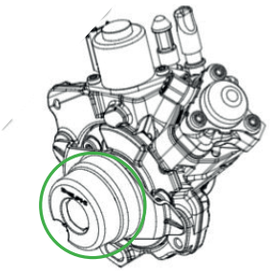

fig 3

» ensure the timing mark on the drive gear is aligned with the timing mark on the pump body (fig 4)

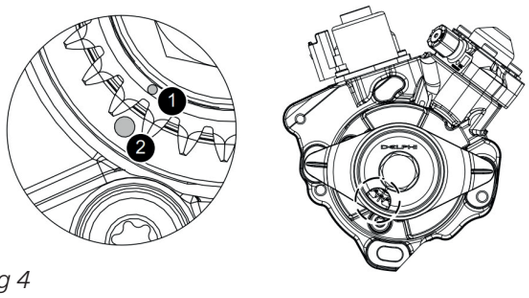

fig 4

» if the timing marks are off by more than 10 degrees, the pump will need to be returned under warranty
» if less than 10 degrees, carefully rotate the pump drive gear clockwise to align the marks
» check that the engine camshaft sprocket is still locked in the correct position (fig 1)
» install the pump into the pump gearbox using the 3 retaining bolts (fig 2), torqued to 20Nm
» reattach all fuel lines to the pump ensuring the HP outlet fuel line is torqued to 30Nm
» remove the engine camshaft locking tool and rotate the engine manually by using a tool on the crankshaft pulley by 2 full revolutions
» WARNING: if the engine fails to rotate, stop immediately and recheck procedure

IMPORTANT: This process should only be performed by a trained technician. Always consult the service manual.

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