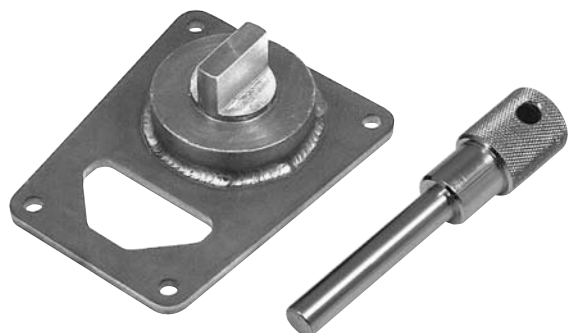


Product Information

AST5040

Diesel Engine
Setting/Locking Tool Kit



Applications:

VAUXHALL/OPEL AND CHEVROLET
2.0 Diesel Engines in

CHEVROLET

Nubira/Lacetti Evanda/Epica Captiva
Cruze

VAUXHALL/OPEL

Antara

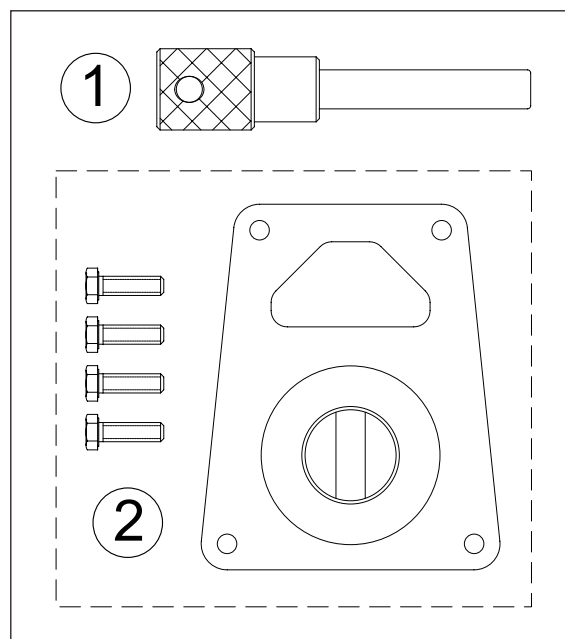
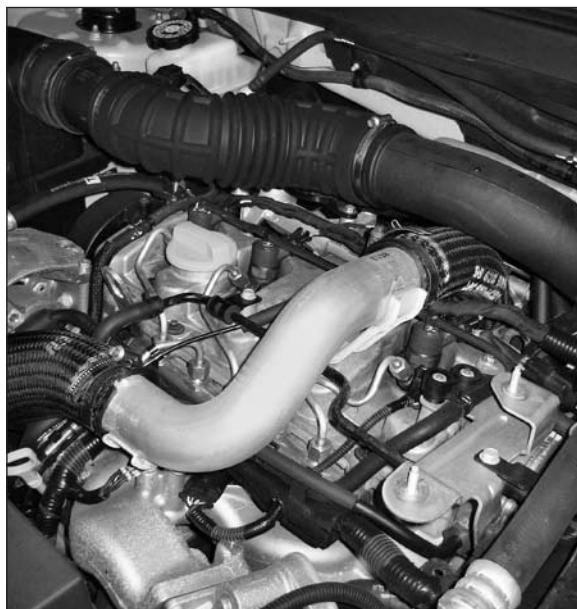
RA420/Z20S1 (Chevrolet)

Z20DM/Z20DMH (Vauxhall/Opel)

Additional AST Tools required:

AST4844 Sprocket Holding Tool

IMPORTANT: Always refer to the vehicle manufacturer's service instructions, or proprietary manual, to establish the current procedures and data. Product Information Sets detail applications and use of the tools with any general instructions provided as a guide only.



Kit contents/spares

Item	Part Number	Description
1	AST5041	Crankshaft Locking Pin
2	AST5042	Camshaft Setting Plate
-	AST5040-84	Case + Insert

These two litre single overhead camshaft 16 valve diesel engines were first introduced in 2006 in the Vauxhall/Opel Antara, and the Chevrolet Evanda/Epica.

AST5040 Diesel Engine Setting/Locking Tool Kit
Comprises: **AST5041 Crankshaft Locking Pin**
AST5042 Camshaft Setting Plate

Timing Belt Replacement

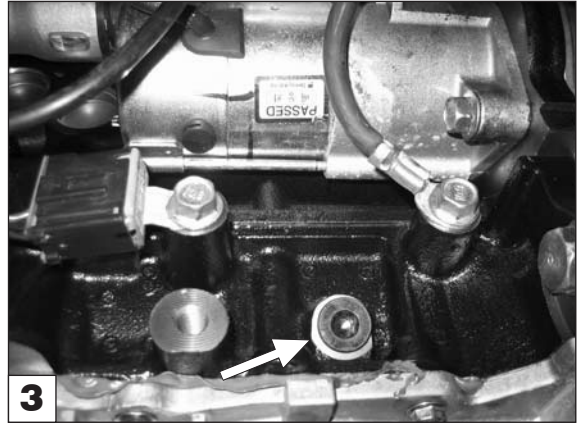
Remove the engine top cover, air hoses and auxiliary belt.
Support the engine and remove the right hand engine mounting/bracket.
Remove the timing belt upper cover, auxiliary belt pulley/tensioner.
Remove the crankshaft pulley and lower belt cover.
Remove the vacuum pump (rear of the camshaft).



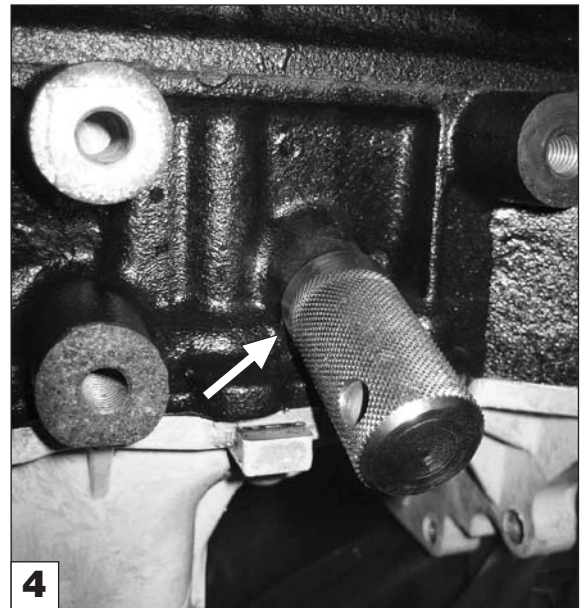
Turn the crankshaft in a **clockwise** direction until the marks align on the crankshaft gear and the engine.



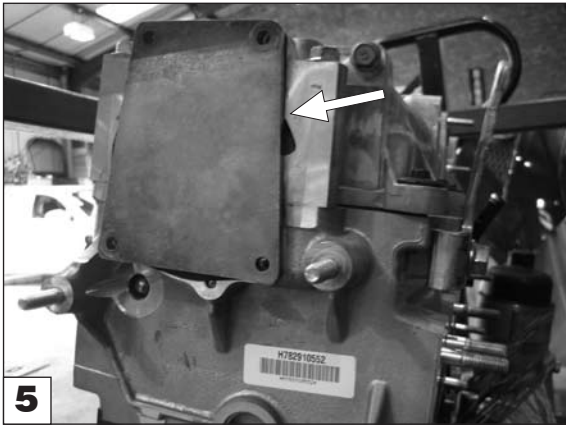
Check the camshaft position, the slot in the rear of the camshaft should be vertical and the hole must be at the top, if it is not in this 12-o'clock position then rotate the crankshaft 360 degrees, and realign the marks on the crankshaft gear and the engine.



AST5041 Crankshaft Locking Pin
Remove the blanking plug from the cylinder block.



Install the AST5041 Crankshaft Locking Pin.



AST5042 Camshaft Setting Plate

Fit the AST5042 Camshaft Setting Plate on to the cylinder head and tighten the four fixing bolts to 12Nm.

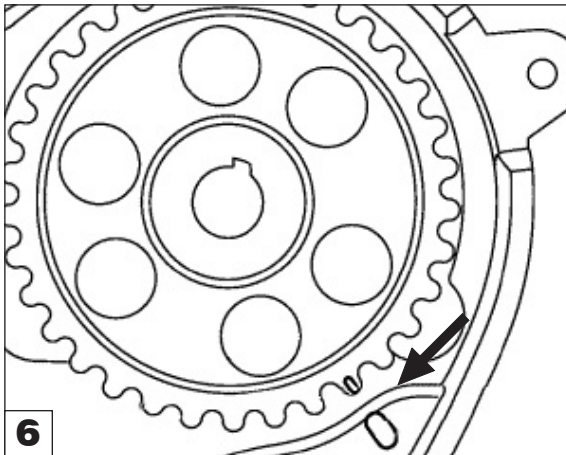
AST4844 Sprocket Holding Tool (Associated Tool - not in kit)

Using AST4844 Sprocket Holding Tool to counter hold the camshaft sprocket, release the camshaft sprocket bolt.

Loosen the timing belt tensioner bolt and remove the old timing belt.

Tighten the camshaft sprocket bolt finger tight, ensuring the sprocket is free to rotate.

Installing a new timing belt



Rotate the high pressure fuel pump sprocket to align with the mark on the engine.

Fit a new timing belt starting at the crankshaft and working in an **anti-clockwise** direction.



Turn the tensioner **anti-clockwise** using an Allen key until the pointer aligns with the hole. Tighten the tensioner bolt to 25Nm.

Using AST4844 Sprocket Holding Tool to counter hold the camshaft sprocket, tighten the camshaft sprocket bolt to 133Nm.

Remove the AST5042 Camshaft Setting Plate and AST5041 Crankshaft Locking Pin.

Checking Timing

Turn the crankshaft two revolutions in a clockwise direction until the marks align on the crankshaft gear and the engine.

Check the camshaft position, the slot in the rear of the camshaft should be vertical and the hole must be at the top, if it is not in this 12-o'clock position then rotate the crankshaft 360 degrees, and realign the marks on the crankshaft gear and the engine.

Install the AST5041 Crankshaft Locking Pin and fit the AST5042 Camshaft Setting Plate to check that engine timing is correct.

Remove the timing tools, and refit the blanking plug to the cylinder block tightening to 30Nm.

Install engine components.

NOTE: Crankshaft pulley bolts are tightened to 34Nm.