

Kamasa-TOOLS®

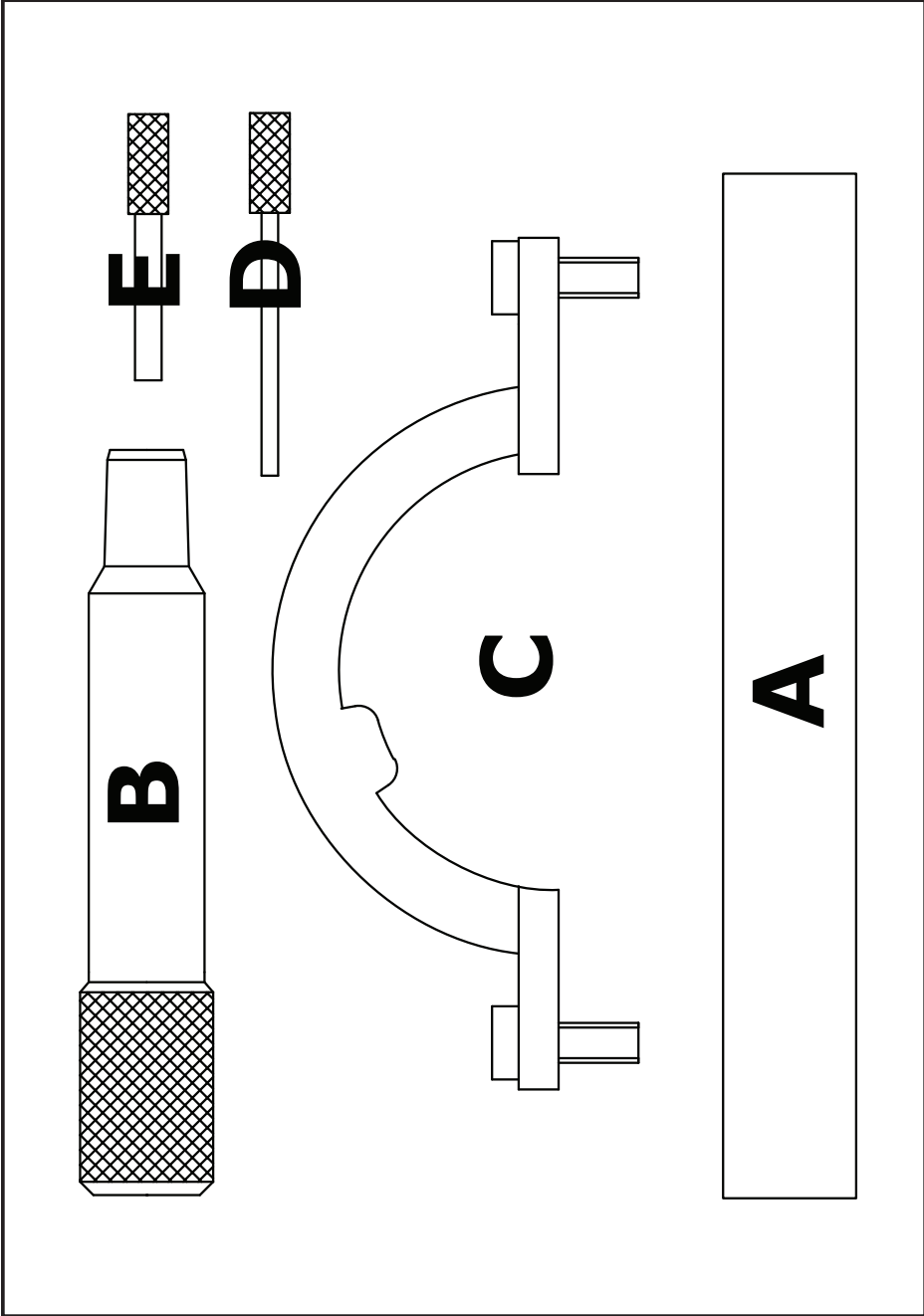
Engine
timing tools

Opel | Vauxhall
1.0 | 1.2 | 1.4

K 10532

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Pack Layout



Component identity

| Part No. | OEM Ref | Description |
|---------------|---------|-------------------------------|
| A 23164-11 | KM-953 | Camshaft Setting Plate |
| B 23164-12 | KM-952 | Crankshaft TDC Timing Pin |
| C 23164-14 | KM-954 | Timing Disc Position Gauge |
| D 23164-15 | KM 955 | Tensioner Retaining Pin 2.5mm |
| E 23164-16 | KM-955 | Tensioner Retaining Pin 4mm |

Applications

| Manufacturer | Model | Type | Engine Code | Year |
|---------------|--------------------|-----------------|---------------------------|---------|
| Vauxhall/Opel | Agila | 1.0 1.2 | Z10XE Z12XE | 2004 |
| | Agila | 1.0 1.2 | Z10XEP Z12XEP | 2003-08 |
| | Corsa-B | 1 | X10XE | 1997-00 |
| | Corsa-B | 1.2 | X12XE | 1997-00 |
| | Corsa I Combo-C | 1.0 1.2 1.4 | Z10XEP Z12XEP Z14XEP | 2003-09 |
| | Astra-G | 1.2 | X12XE | 1998-04 |
| | Astra-G | 1.4 | Z14XEP | 2003-06 |
| | Astra-H | 1.4 | Z14XEL Z14XEP | 2004-09 |
| | Tigra-B | 1.4 | Z14XEP | 2004-09 |
| | Meriva | 1.4 | Z14XEP | 2004-09 |

Engine Timing Tools

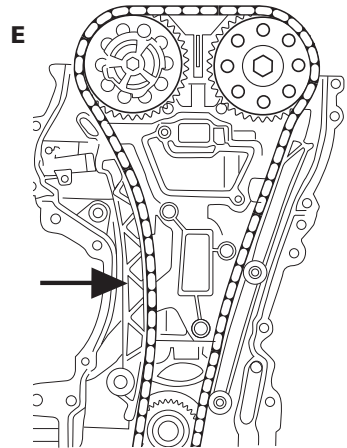
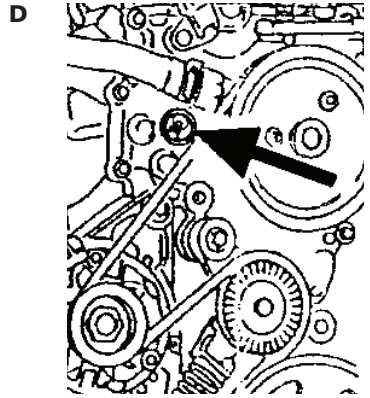
This set of tools enables the correct timing to be made when servicing the Vauxhall/Opel chain engines fitted to Vauxhall Agila and Corsa with 1.0 12v X10XE and 1.2 16v X12XE engines

Safety Precautions

- If the engine has been identified as an Interference engine, damage to the engine will occur if the timing belt has been damaged. A compression check of all the cylinders should be taken before the cylinder head (s) are removed.
- Do not turn crankshaft or camshaft when the timing belt has been removed
- To make turning the engine easier, remove the spark plugs
- Observe all tightening torques
- Do not turn the engine using the camshaft or any other sprocket
- Disconnect the battery earth lead (Check Radio code is available)
- Do not use cleaning fluids on belts, sprockets or rollers
- Some toothed timing belts are not interchangeable. Check the replacement belt has the correct tooth profile
- Always mark the belt with the direction of running before removal
- Do not lever or force the belt onto its sprockets
- Check the ignition timing after the belt has been replaced.
- Do not use timing pins to lock the engine when slackening or tightening the crankshaft pulley bolts
- **ALWAYS REFER TO A REPUTABLE MANUFACTURERS WORKSHOP MANUAL**
Warning Incorrect or out of phase engine timing can result in damage to the valves. It is always recommended to turn the engine slowly, by hand, and to re-check the camshaft and crankshaft timing positions.

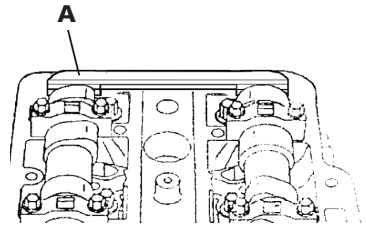
Component Application

1. Tensioner Retaining Pins (D+E) are used to retain the hydraulic activated tensioner rail which must be moved from contact with the simplex chain during the work of belt replacement.
2. If adjustment to the timing is necessary the tensioning rail must be retracted to avoid damage. The Rail should be carefully levered away and retained with a Pin. A service hole is provided in the timing chain cover.
3. Release the inlet camshaft sprocket bolt, use a spanner to counter-hold the camshaft and not the timing tools.
4. Fit a new sprocket bolt and part tighten to enable the timing disc to turn.
5. Remove the tensioner retaining pin.
6. Position the sensor disc to allow the gauge (C) to be fitted.
7. Tighten the sprocket bolt to the correct torque whilst counter holding the camshaft.
8. Remove all the timing tools.
9. Manually, turn the engine twice in the normal direction, until back to the Top Dead Centre position.
10. Check that each of the timing tools can be re-fitted correctly.

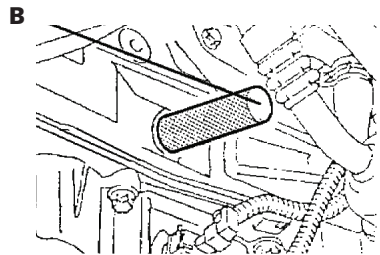


The correct engine timing position is achieved when the first cylinder is at TDC and each of the timing tools can be correctly fitted.

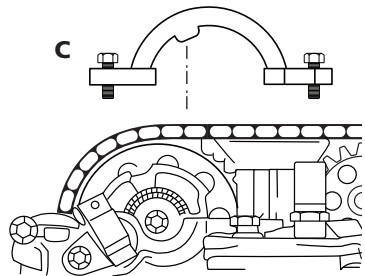
1. Camshaft Setting Plate (A) is used to correctly position both camshafts, and fits into the slots of each camshaft to align horizontally in relation to the top surface of the cylinder head.



2. The Crankshaft Locking Pin (B) which positions the crankshaft at TDC is inserted through the engine block and locates into a slot located on the first crank web of the crankshaft.



3. The Timing Disc Position Gauge (C) is connected to the cylinder head at the inlet camshaft sprocket to achieve the correct timing position of the camshaft and the sensor disc.





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