

***Kamasa-TOOLS***®



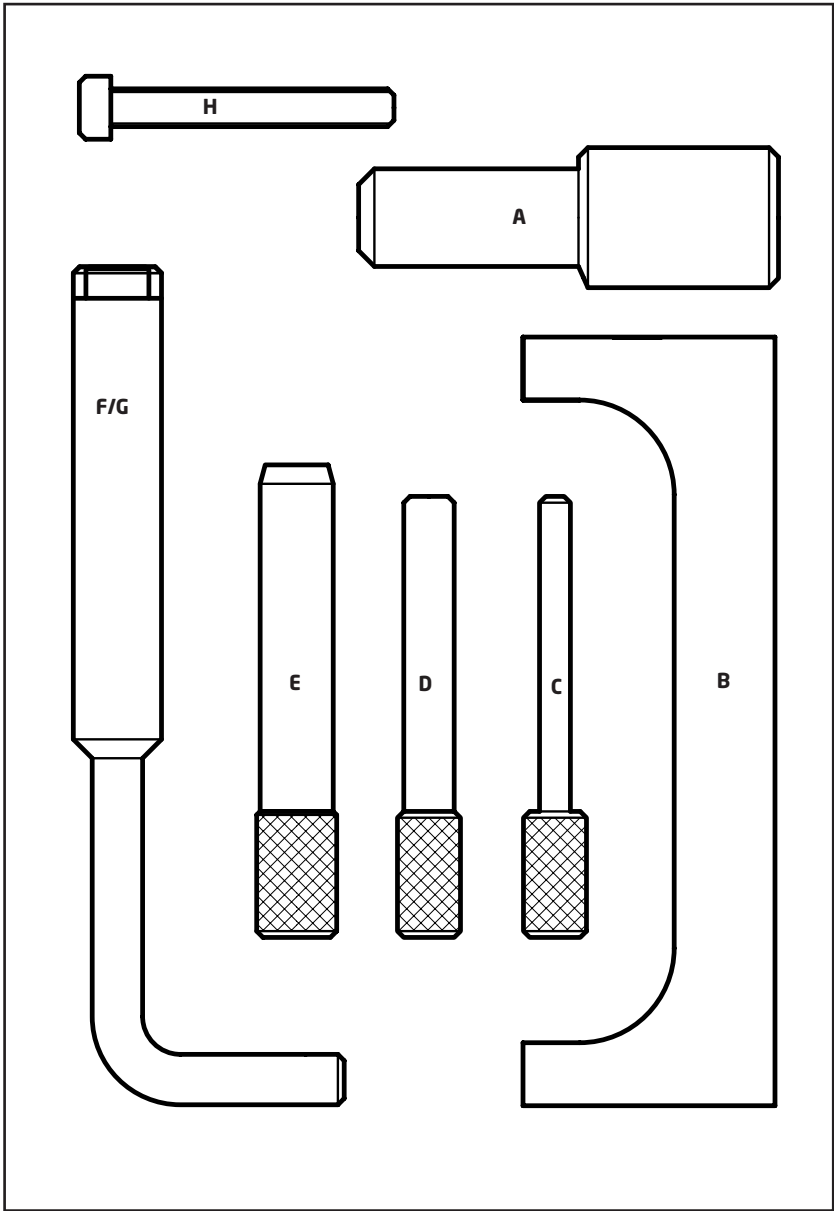
**PART NO. K318**

## **Engine Timing Tools**

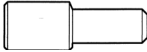


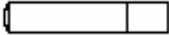
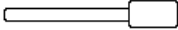
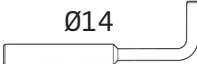
Ford 1.4 | 1.6 | 2.0 | 2.4

PSA 1.4 | 1.6 HDi

Plan Layout



# Component Identification

Part No	OEM Ref	Description	Identification
<b>A</b> 23061-01	23-047	15.4mm. Injection Pump Setting Pin	
<b>B</b> 23062-B	21-105	Camshaft Setting Bracket	
<b>C</b> 23069-04	0194A 21-260 303-732	Crankshaft / Fuel Pump alignment pin	$\varnothing 5$ 
<b>D</b> 23060-11	0194C 21-262 303-734	Flywheel Locking Pin	$\varnothing 11.6$ 
<b>E</b> 23069-25	0194B 21-263 303-735	Camshaft Sprocket Locking Pin	$\varnothing 8$ 
<b>F</b> 23060-12	21-234	Flywheel Locking Pin	$\varnothing 14$ 
<b>G</b> 23060-14	21-251 303-698	Flywheel Locking Pin	$\varnothing 14$

# Applications

Manufacturer	Model	Engine Code
Citroën	C1/C2/C3/Xsara 1.4 HDi C3/C4 1.6 HDi	8HX (DV4TD), DV4TED4 8HZ (DV4TI) 9HX (DV6A TED4)
Ford	Fiesta 1.4 TDCi Fusion 1.4 TDCi Focus C Max 1.4/1.6 TDCi	F6JA, F6JB, F6JC
Ford	Mondeo 2.0 TD/TDCi	D5BA, D6BA, FMBA/B
Ford	Transit 2.4D	D2FA, D4FA, F4FA
Ford	Transit 2.4D	H9FA, D4FA, F4FA
Peugeot	107/206/207 HDi 307 1.4/1.6 HDi 10071.4 HDi	8HT (DV4TD, DV4TED4 DV6TED4) 8HZ (DV4TI) 8HX (DV4TI)

## **Ford Duratorq 1.4 /1.6 / 2.0 / 2.4**

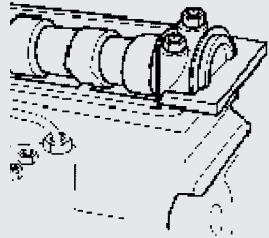
### **PSA 1.4 / 1.6 HDi**

A special 6 piece kit containing the necessary special pins required to lock the camshaft sprocket, flywheel and align the crankshaft and fuel pump when checking the valve timing on 2.0 and 2.4 litre chain driven engines and or replacing the timing belt on 1.4 /1.6 litre engines. Also includes pins for Peugeot HDi engines

## Component Applications

**Camshaft setting / locking plates** are used to accurately align a datum slot, located in the end of the camshaft, with the top face of the camshaft housing to hold the camshaft at the (TDC) Top Dead Centre position.

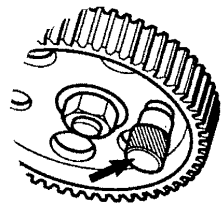
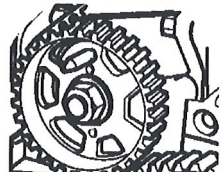
1. Follow the service manual instructions to remove the camshaft cover and timing belt cover.
2. Turn engine in the normal direction of rotation until the camshaft setting/locking plate can be inserted into the machined slot in the end of the camshaft.
3. When fitting Camshaft setting/locking plates, feeler gauges/ shims of equal thickness can be inserted under either side of the plate until all free play has been eliminated. The camshaft is now locked in its timing position and service work can now be carried out.



**Locking pins** are designed to pass through datum holes in the timing belt

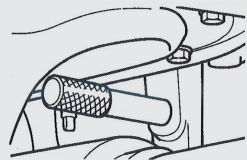
pulleys into fixed position timing holes on the engine. These can be used at the injection pump pulley, the camshaft sprocket, or at the flywheel. Follow the service manual instructions to remove the engine timing cover where necessary.

1. Insert the locking pin through the timing pulley or the fixed timing hole.
2. Rotate the engine slowly in the normal direction of rotation until the point at which the pulley timing holes and the engine timing holes are aligned, the locking pins can now be engaged to lock the engine in the correct timing position.



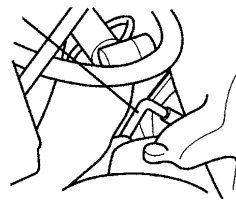
**The Crankshaft TDC Location Pin** is designed to screw into the cylinder block and to provide a stop for the crankshaft to be positioned against to set the TDC position.

1. Turn the engine in the normal direction of rotation until the timing mark on the injection pump sprocket lines up with the cast lug on the timing cover. Remove the plug from the cylinder block access hole and screw in the TDC location pin.
2. Slowly turn the crankshaft clockwise until the web makes contact with the end of the pin. Number 1 cylinder is now set at TDC on ignition stroke



**Flywheel Locking Tool** is required on engines where the flywheel and crankshaft must be held at the correct timing position. This tool is used in conjunction with the appropriate TDC Setting Screw.

After attaching the Flywheel Locking plate, the toothed profile is adjusted and locked after being fully engaged in the flywheel ring gear.



images courtesy of Autodata™  
Further information can be found at  
[www.autodata.ltd.uk](http://www.autodata.ltd.uk)

### **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**



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