

Kamasa-TOOLS®

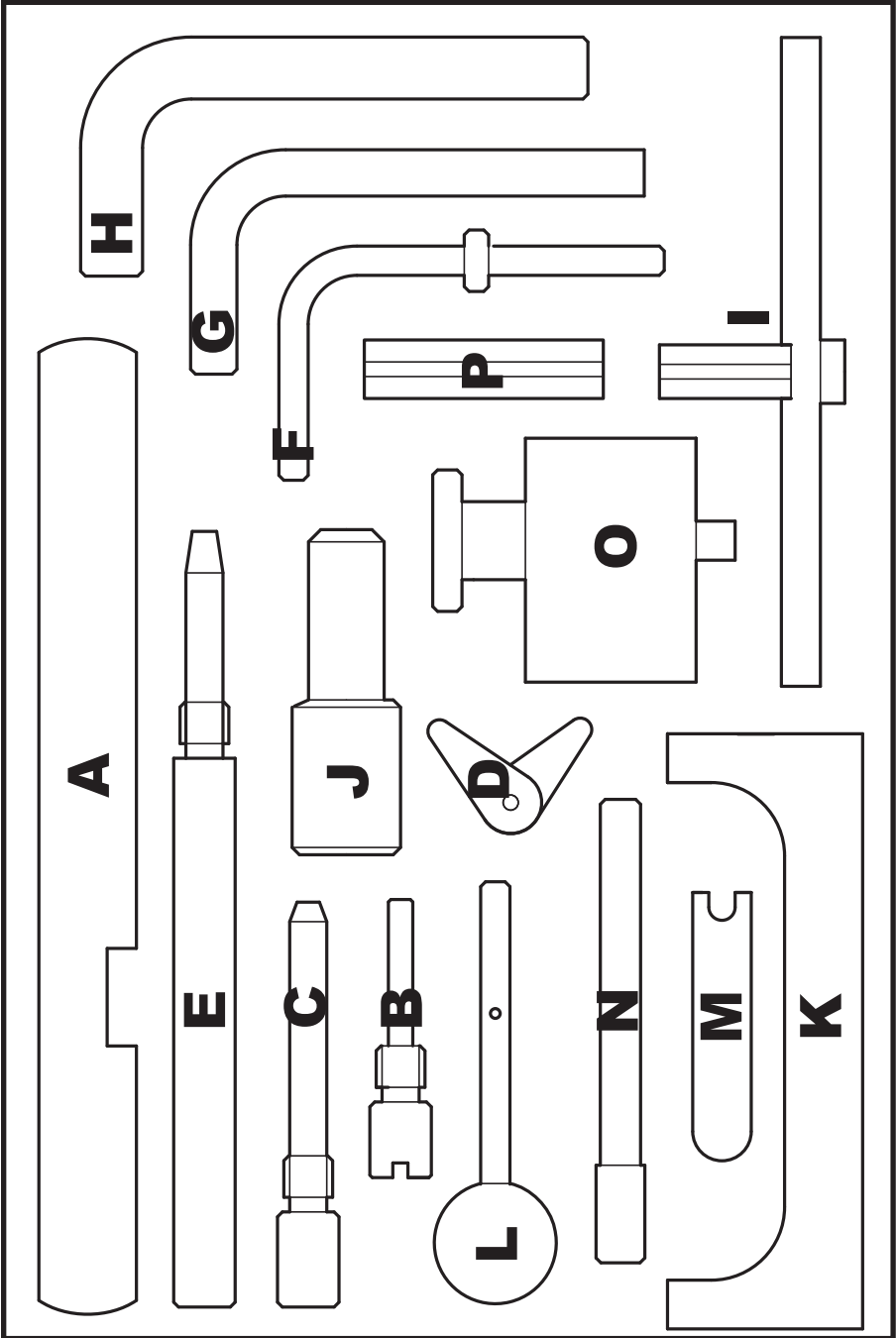
Engine
timing tools

Ford

K 10531

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Pack Layout



Component identity

Part No.	OEM Ref	Description
A 23054-01	21-162B 303-367 303-376	Camshaft Setting Strap
B 23054-02	21-210	Crankshaft timing pin
C 23054-03	21-163 303-620	Crankshaft timing pin
D 23060-F		Shim Set
E 23060-S	21-104 303-193	Crankshaft timing pin
F 23060-01	23-019	6mm Injection Pump Setting Pin and Washer
G 23060-04	21-123	9.5mm Setting Pin
H 23060-07	23-020	12.7mm Setting Pin
I 23060-10	21-168	Flywheel Locking Tool
J 23061-01	23-047	15.4mm Injection Pump Setting Pin
K 23062-B	21-105	Camshaft Setting Bracket
L 23069-11	23-019	Injection Pump Pulley Timing Pin
M 23069-12	23-058 310-084	Tensioner Locking Tool
N 23069-35	23-029	8.25mm Setting Pin
O 23161-03	23-059 310-085	Crankshaft Locking Tool
P 23060-10c	303-393-02	Long Toothed Block For Item I

Applications

This comprehensive timing tool kit has been compiled to cover a large number of engines and often suitable for different manufactures.

The CD has been supplied giving guidance on the many manufactures vehicles this kit covers.

More specific kits are available where manufacturers' have introduced modified engines.

The data on the CD has been supplied under licence from Autodata Limited.

Supplied in Excel format the data can easily be filtered to select the exact model you require. (Data-Filter-AutoFilter)



Engine Timing Tools

This timing tool kit covers most engines in the Ford range pre 2007 including both petrol and diesel and the Zetec engine.

Supplied in foam tray with full OEM codes and application list included

Safety Precautions

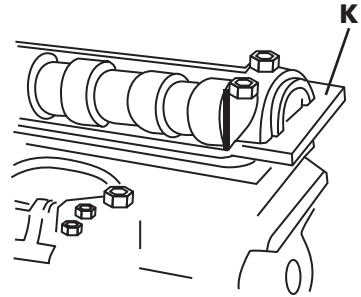
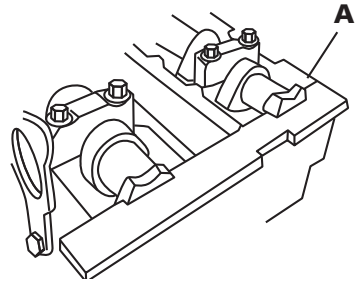
- If the engine has been identified as an Interference engine, damage to the engine will occur if the timing belt has been damaged. A compression check of all the cylinders should be taken before the cylinder head (s) are removed.
 - Do not turn crankshaft or camshaft when the timing belt has been removed
 - 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

Camshaft setting / locking plates

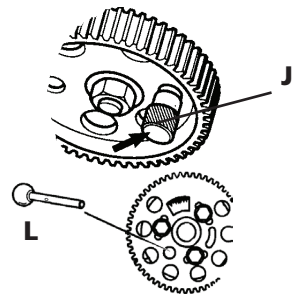
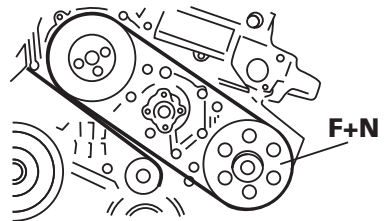
are used to accurately align a datum slot, located in the end of the camshaft, with the top face of the camshaft housing to hold the camshaft at the (TDC) Top Dead Centre position.

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.

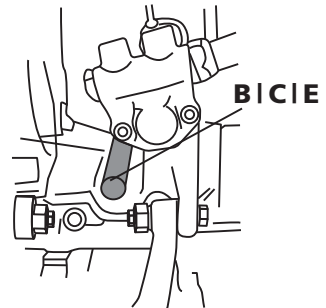
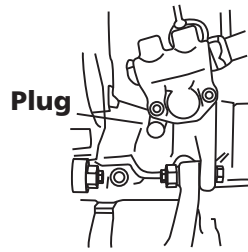
1. Insert the locking pin through the timing pulley or the fixed timing hole.
2. Rotate the engine slowly in the normal direction of rotation until the point at which the pulley timing holes and the engine timing holed are aligned, the locking pins can now be engaged to lock the engine in the correct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



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.

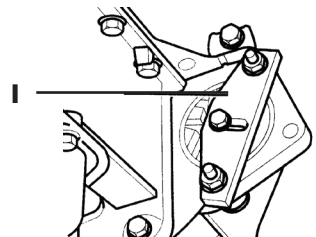


Flywheel Locking Tool

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.





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