

Kamasa-TOOLS®

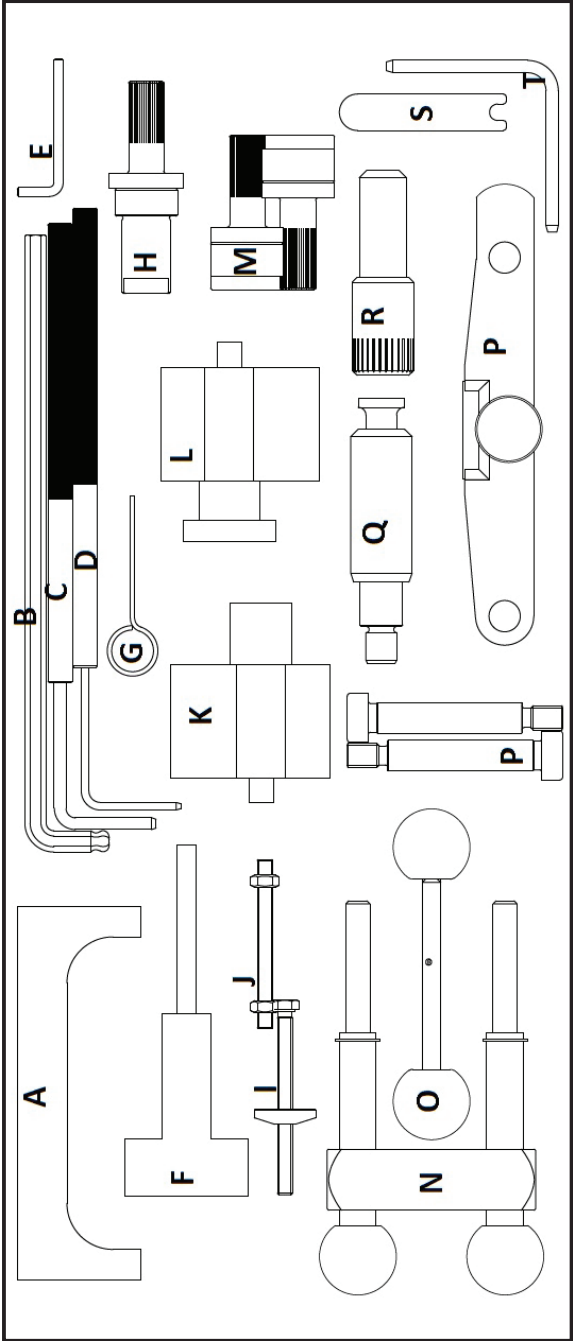
Engine
Timing Tools

Volkswagen
Audi Group

K 10543

www.kamasatools.com

Pack Layout



Component identity

Part No.	OEM Ref	Description
A 23062 BZ	U40021, 2065A, MP1-300, 21-1-5, 5190, 999 5190	Camshaft Locking Bracket
B 23177 03	T10264	6mm Ball Hex
C 23177 01	T40098	3.9 Ten Locking Pin
D 23177 02	T10265	2.5 Ten Locking Pin
E E10517	T10115, 303-1054	Tensioner Pin
F 23161 92	3366	Chain Tensioner Retainer
G 23161 06A	T20046	Tensioner Pin
H 23176 02X	T10120	Camshaft Tool
I 23161 93	T10092	Chain Tensioner Retainer
J 23161 05		Stud & Nuts M5 x 55mm
K 23161 03c	T10100	Crankshaft Locking
L 23161 03A	T10050, 23-059, 310-085	Crankshaft Locking
M 23176 01X	T10123	Camshaft Tools x 2
N 23069 14	T10016, T10074	Camshaft Locking
O 23069 11	U40074, MP1-301, 3359, T20102	Locking Pin x 2
P 23161 B	T10098, 3418, MP1-312, T20038	Setting Bracket and Screws 23161-04A
Q 23176 03X	T10121	Crankshaft Tool
R 23061 01X	2064, 23-047, U20003, 5193, 15-046, 999 5193	Injection Pump Pin
S 23069 12Y	T10008,23-058, 310-084	Tensioner Locking Tool
T 23161 96Z	T10060A, T10060, T40098,T20167	Tensioner Locking Pin

Applications

The application list for this product has been compiled cross referencing the OEM Tool Code with the Component Code.

In most cases the tools are specific to this type of engine and are necessary for Cam belt or chain maintenance.

If the engine has been identified as an interference engine valve to piston damage will occur if the engine is run with a broken Cam belt.

A compression check of all cylinders should be performed before removing the cylinder head.

Always consult a suitable work shop manual before attempting to change the Cam belt or Chain.

The use of these engine timing tools is purely down to the user's discretion and Kamasa cannot be held responsible for any damage caused what so ever.

ALWAYS USE A REPUTABLE WORKSHOP MANUAL

Component Applications

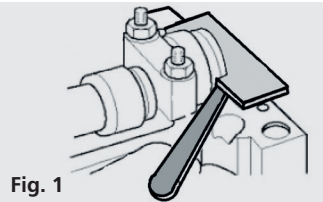
N.B Due to the number of engine types covered by this kit it is not possible to give engine specific instructions for this reason the information given below is for reference only.

Kamasa recommends the use of Manufacturer data or Autodata.

Kamasa cannot be held responsible for damage to engine or personnel whilst using this tool kit.

Component A Camshaft Locking Bracket

Used to lock the single over head camshafts in their timed position. To ensure an accurate set position feeler gauges should be used to ensure component (A) sits parallel to the cylinder head upper surface as shown in Fig 1



Component B 6mm Ball ended Hex Key

Used to adjust the belt tensioner on some later engines.

Component C 3.9mm Tensioner Locking Pin

Used to lock the belt tensioner in its retracted position.

Component Applications

Component D

2.5mm Tensioner Locking Pin

Used to lock the belt tensioner in its retracted position.

Component E

Short Style Tensioner Locking Pin

Component F

Chain Tensioner Retainer

Used on twin camshaft engines where a chain is used to transfer the drive from one cam to the other. Used to lock and retain the chain adjuster in position.

Component G

Tensioner Pin

Component H

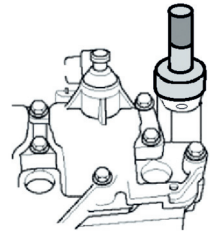
Camshaft Locking Tool

Used to lock the camshaft in its timed position.

Used on single overhead cam engines.

The nose of the tool should sit in a hole in the camshaft.

See Fig. 2



Component I/J

Chain Tensioner Retaining Tools

Used to retain the tensioner on the chain in the cylinder head. See Fig. 3.

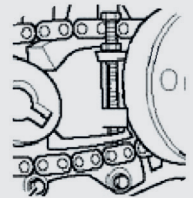


Fig. 3

Component K/L

Crankshaft Locking Tools

Both (K) and (L) are used to lock the crankshaft by engaging with the crankshaft front sprocket.

In order to fit either tool they must slide into engagement from the front of the engine.

These tools will not simply drop into place.

NB: Component (K) has the arrow at the 1 o'clock position between bolt holes and has a slightly oval sprocket.

Component (L) has the mark positioned inline with a bolt hole and is a round sprocket. Fig. 4.

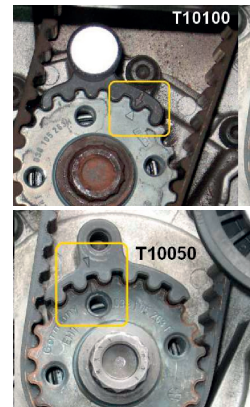


Fig. 4

Component Applications

Component M

A pair of cam locking tools

Used to lock the camshafts on the 1.2 twin cam engines. See Fig. 5

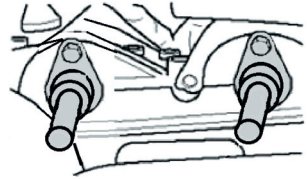


Fig. 5

Component N

A pair of Cambelt Locking Tools

Used to lock the camshafts where a separate belt is used to transfer the drive from one shaft to the other. EG 1.4 petrol engines. See Fig. 6

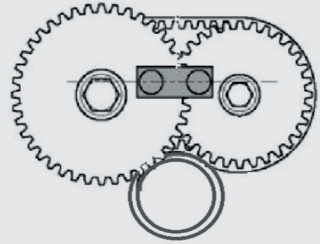


Fig. 6

Component O

Camshaft and Diesel Pump Tools

Component P

Camshaft Setting Bracket

Allows the camshaft timing to be set by removing the vacuum pump and fitting the bracket into the slot of the camshaft as shown in Fig. 7

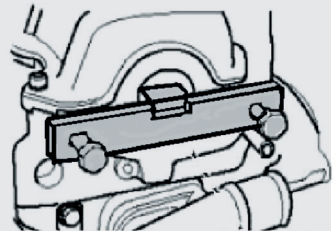


Fig. 7

Component Q

Crankshaft locking tool

Designed to lock the crankshaft by fitting in place of the crankshaft sensor and locking the flywheel in its timed position. Fig. 8

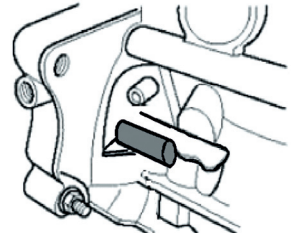


Fig. 8

Component R

Diesel injection pump locking pin

Used where diesel pump is driven by a separate belt. See Fig 9.

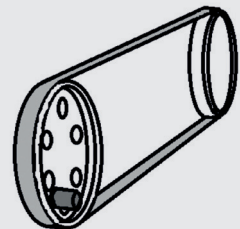
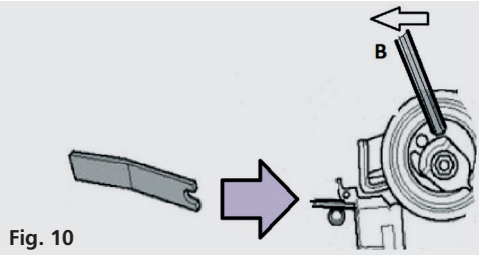


Fig. 9

Component Applications

Component S
Tensioner Locking Plate
Used as shown in Fig.10



Component T
Tensioner Locking Pin

images courtesy of Autodata™
Further information can be found at
www.autodata.ftd.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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