

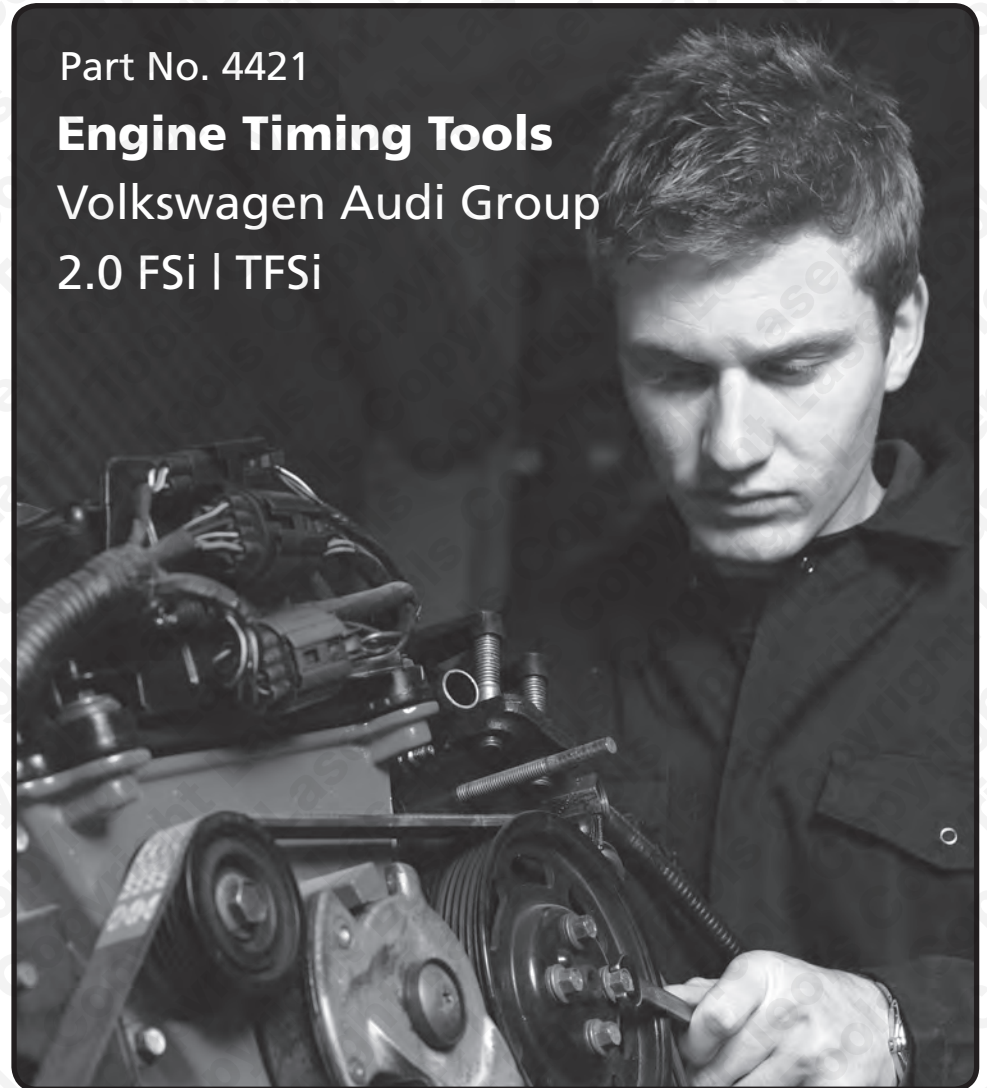
LASER®

Part No. 4421

Engine Timing Tools

Volkswagen Audi Group

2.0 FSi | TFSi



www.lasertools.co.uk



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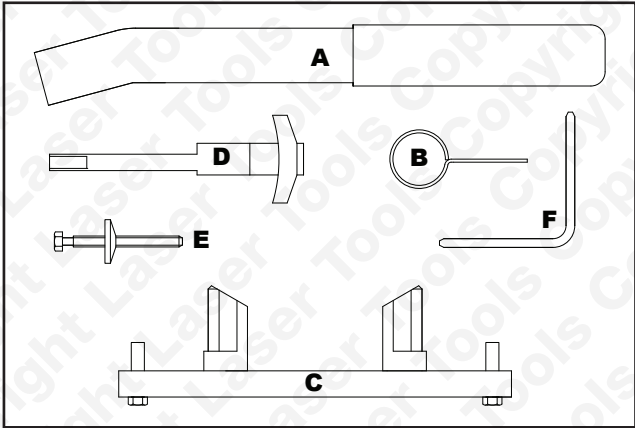
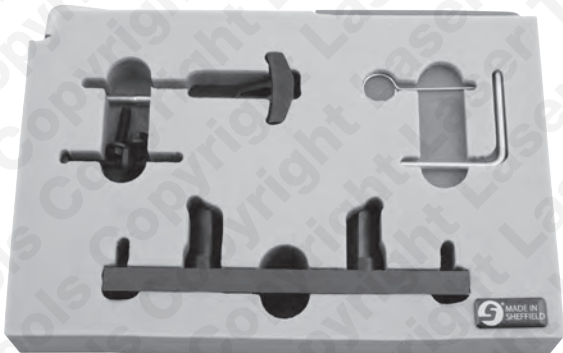
Guarantee

If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186**. Normal wear and tear are excluded as are consumable items and abuse.

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Plan Layout



Ref	Code	Oem Ref.	Description
A	C441	T10020	Tension Wrench
B	C284	T40011	Tensioner Pin
C	C335	T10252	Camshaft Aligning Tool
D	C348	3366	Automatic Chain Tensioner Retainer
E	C337	T10092	Chain Tensioner Retaining Screw and Nut
F	C283	T10060/A	Auxiliary Drive Belt Tensioner Locking Pin

Warning

Incorrect or out of phase engine timing can result in damage to the valves. The Tool Connection cannot be held responsible for any damage caused by using these tools in anyway.

Safety Precautions – Please read

- Disconnect the battery earth leads (check radio code is available)
- Remove spark or glow plugs to make the engine turn easier
- Do not use cleaning fluids on belts, sprockets or rollers
- Always make a note of the route of the auxiliary drive belt before removal
- Turn the engine in the normal direction (clockwise unless stated otherwise)
- Do not turn the camshaft, crankshaft or diesel injection pump once the timing chain has been removed (unless specifically stated)
- Do not use the timing chain to lock the engine when slackening or tightening crankshaft pulley bolts
- Do not turn the crankshaft or camshaft when the timing belt/chain has been removed
- Mark the direction of the chain before removing
- It is always recommended to turn the engine slowly, by hand and to re-check the camshaft and crankshaft timing positions.
- Crankshafts and Camshafts may only be turned with the chain drive mechanism fully installed.
- Do not turn crankshaft via camshaft or other gears
- Check the diesel injection pump timing after replacing the chain
- Observe all tightening torques
- Always refer to the vehicle manufacturer's service manual or a suitable proprietary instruction book
- 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

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 Tool Connection cannot be held responsible for any damage caused what so ever.

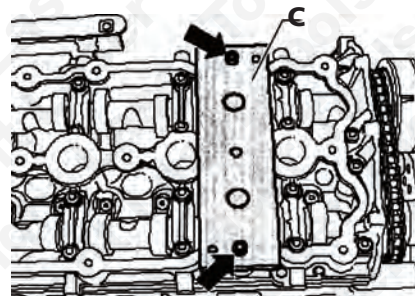
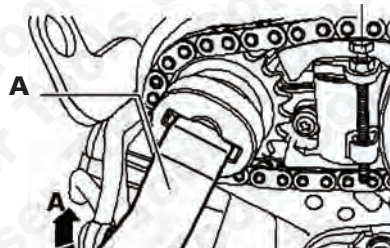
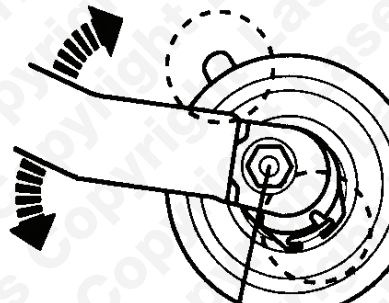
ALWAYS USE A REPUTABLE WORKSHOP MANUAL

Manufacturer	Model	Style	Engine Code	Year
Audi	A3	2.0 FSI SOHC	AXW BHD BMB	2003-
	A3	2.0 FSI	AWA AXX BPY BWA	2004-
	A4	2.0 TFSI	BUL	2004-
	A6	2.0 TFSI	BJP BGB	2006-
Volkswagen	Golf	2.0 FSI SOHC	AXW	2003-
	Passat	2.0 TFSI	BWA BWE BGB BPJ	2005-
	Touran	2.0 FSI SOHC	AXW	2003-

Instruction (GB)

1. This series of engines have both timing belt and chain to control the valve timing.
2. Known as an interference engine, this means that if the Cam belt or chain should break it is more than likely that damage may have occurred to the pistons or valves. It is recommended that a compression test should be taken on all cylinders before removing the cylinder head(s)
3. The Tension Wrench (A) is generally used when fitting timing belts where it is necessary to hold the positioning of the belt tensioner pulley in alignment whilst the centre nut is tightened.
4. On 2.0 litre FSI engines this tool can also be used to turn the inlet camshaft when fitting the Camshaft Alignment Tool (C) into the grooves located on the camshaft spindle.
5. The Camshaft Alignment Tool (C) is fitted at the back of the engine next to the camshaft link chain. The formed pegs are located between the camshaft lobes as illustrated.
6. It is advisable to fix this tool to the cylinder head using the 2 x washer-faced M6 fasteners provided as indicated.
7. If the tool cannot be fitted, the camshaft timing is incorrect and the camshaft adjuster must be removed using a T50 Torx® Bit.
8. The chain tensioner is pressed together using Chain Tensioner Retaining Nut and Screw (E) and is locked in position with Tensioner pin (B).
9. Use the Automatic Chain Tensioner Retainer tool (D) for engines with an automatic chain tensioner.
10. The camshaft adjuster can now be removed along with the chain.

11. Fit the Camshaft Alignment Tool (C) and retain with the fasteners.
12. Refit the camshaft adjuster on to the exhaust camshaft ensuring that the notch and pin align.
13. Maintain position and lay the chain over the top of the inlet camshaft sprocket.



Instruction (DE)

1. Bei diesen Motoren werden Steuerriemen und -kette zur Einstellung der Steuerzeiten verwendet.
2. Bei dem Motor handelt es sich NICHT um einen Freiläufer, d.h., wenn der Nockenwellen(zahn)riemen oder die Kette reißt, besteht die Möglichkeit eines Schadens an den Kolben oder Ventilen. Es wird empfohlen, eine Kompressionsprüfung auf allen Zylindern durchzuführen, bevor der Zylinderkopf/ die Zylinderköpfe entfernt werden.
3. Der Spanner (A) wird üblicherweise beim Einbau von Steuerriemen verwendet, wenn die Riemenspannerscheibe in der richtigen Ausrichtung gehalten werden muss, während die Zentralmutter festgezogen wird.
4. Bei 2.0 l FSI-Motoren kann dieses Werkzeug auch dafür verwendet werden, die Einlassnockenwelle zu drehen, wenn das Nockenwellen-Ausrichtwerkzeug (C) in die Nuten an der Nockenwellenspindel gesetzt wird.
5. Das Nockenwellen-Ausrichtwerkzeug (C) wird auf der Rückseite des Motors neben der Nockenwellen-Gliederkette eingesetzt. Die geformten Rasten befinden sich zwischen den Wellennocken, siehe Abbildung.
6. Es ist ratsam, dieses Werkzeug am Zylinderkopf zu befestigen. Dazu sind die 2 x M6-Schrauben mit Telleransatz zu verwenden.
7. Wenn das Werkzeug nicht eingesetzt werden kann, ist die Nockenwellensynchronisation falsch und der Nockenwellenversteller muss mit einem T50 Torx® Bit entfernt werden.
8. Der Kettenspanner wird mit der Kettenspanner-Sicherungsmutter und -Schraube (E) zusammengedrückt und mit dem Spannstift (B) arretiert.
9. Das automatische Kettenspanner-Haltewerkzeug (D) für Motoren mit einem automatischen Kettenspanner verwenden.

10. Der Nockenwellenversteller kann jetzt zusammen mit der Kette entfernt werden.
11. Das Nockenwellen-Ausrichtwerkzeug (C) einsetzen und mit den Verbindungselementen befestigen.
12. Den Nockenwellenversteller wieder an der Auslassnockenwelle einbauen, dabei darauf achten, dass Kerbe und Stift fluchten
13. Die Position halten und die Kette über das Einlassnockenwellenrad legen.

