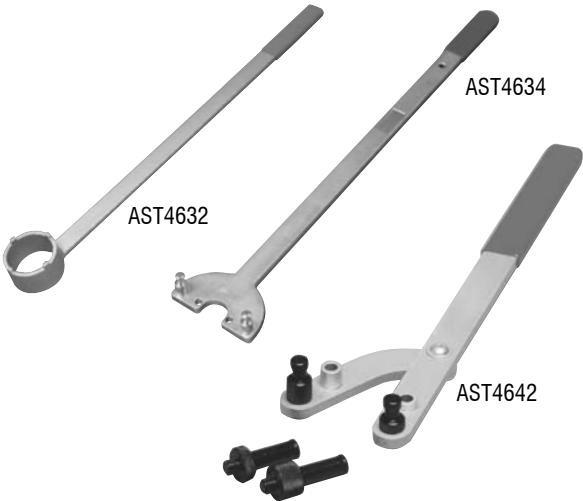


AST4635 Camshaft Setting Tool

Associated Tools: AST4632, AST4634
& AST4642
Crank Pulley Holding Tools



AST4635



IMPORTANT: Always refer to the vehicle manufacturer's service instructions, or proprietary manual, to establish the current procedures and data. Product Information Sets detail applications and use of the tools with any general instructions provided as a guide only.

Applications:

V W GROUP 1.4 & 1.6 16v./FSi Twin
Camshaft Petrol engines (Timing Belt) in

AUDI
A2

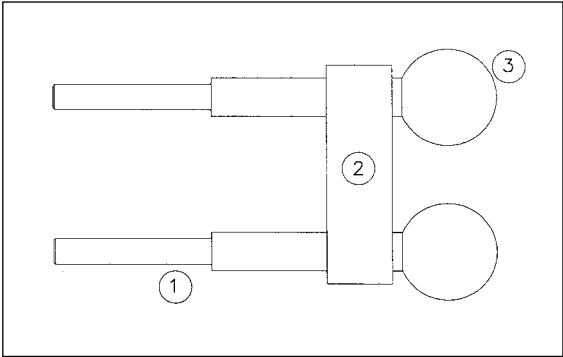
SEAT
Arosa Ibiza Cordoba
Leon Toledo Inca

SKODA
Fabia Octavia

VOLKSWAGEN
Lupo Polo Polo Classic
Golf Bora Beetle
Caddy

AFK, AHW, AJV, AKQ, APE, AQQ, ARC, ARR, ATN, AUA, AUB, AUS, AVY, AXP, AZD, BAD, BBY, BBZ, BCA, BCB, BKY engines

Additional AST Tools required:
AST4632 Crank Pulley Holding Tool
AST4634 Crank Pulley Holding Tool
AST4642 Crank Pulley Holding Tool
For applications - refer to Instruction text



Spares

Item	Part Number	Description
1	AST4635-1	Locking Pin (2 required)
2	AST4635-2	Bridge Piece
3	AST4635-3	Ball (2 required)
--	AST4635-84	Case + insert

This range of V W 1.4 and 1.6 16v. twin camshaft engines were introduced in 1997, followed later by FSi variants.

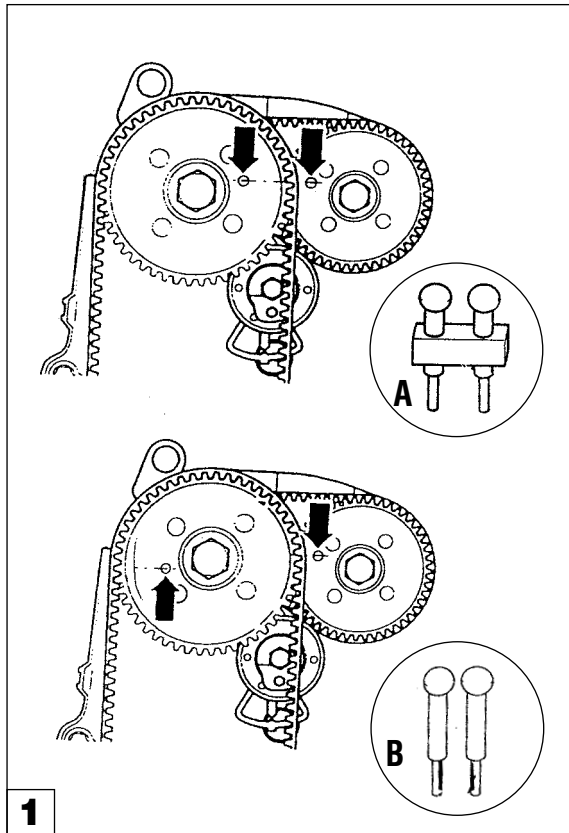
The engines have a main drive timing belt (crankshaft to inlet camshaft) and a separate exhaust camshaft drive belt (from inlet camshaft to exhaust camshaft). Both belts have their own tensioner.

Dependant upon the engine, AST4635 Camshaft Setting Tool is used either as **(A)** an assembly of the two pins and bridge piece or **(B)** as the two pins only (without the bridge), see diagram 1.

Timing belt replacement on these engines requires the crankshaft pulley to be removed. Crank Pulley Holding Tools are essential to counter-hold the pulley whilst releasing/tightening the centre bolt.

The front of the vehicle is raised and supported. The belt covers and air cleaner are removed. On Audi A2 models it will be necessary to remove the bonnet.

Turn the crankshaft to TDC No. 1 cylinder, aligning the notch on the crank pulley with the edge of the "0" mark on the casing.

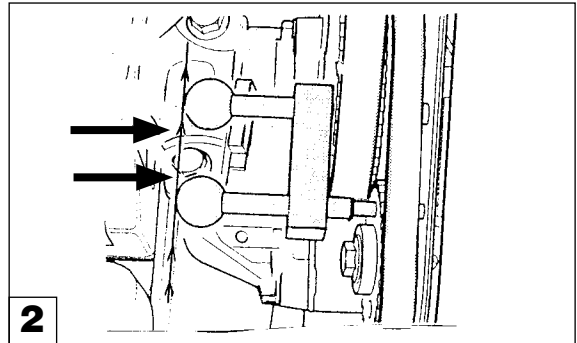


AST4635 Camshaft Setting Tool

Check that the camshaft sprocket timing holes are aligned in correct position to accept the tool or pins, as per the diagram 1.

(A) Except ARC, ARR, AVY and BAD engines - use the AST4635 Tool as an assembly of the two pins with the bridge piece.

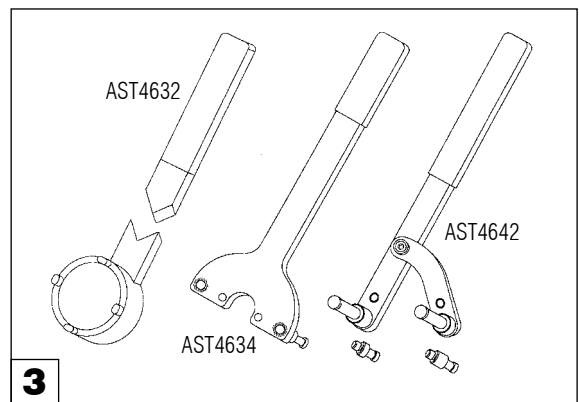
(B) For ARC, ARR, AVY and BAD engines - use the two pins separately (without bridge).



Ensure that AST4635 Setting Tool is installed correctly - Insert the pins fully into the sprocket timing holes and then slide the bridge piece down to rest on the sprockets. When correctly installed the two balls on the ends of the pins should be parallel. Ensure the ends of the pins locate fully into the datum holes in the cylinder head.

Crankshaft pulley removal

On some models the engines must be supported and the R-H engine mounting removed in order to lower the engine to access the crank pulley.



AST4632, AST4634 and AST4642 Crankshaft Pulley Holding Tools

Timing belt replacement requires the crank pulley to be removed and it is necessary to counter-hold the pulley whilst the centre bolt is released or tightened.

Dependant on application, a guide to the Holding Tool required is -

AST4632 - VW: Lupo, Polo, Golf, Bora

Engine Codes: ARC/ATN/AUS/AVY/AZD/BCB

AST4634 - Audi: A2

Skoda: Fabia, Octavia

VW: Lupo, Polo/Classic, Golf, Bora, Caddy, Beetle

Engine Codes: AFK/AHW/AJV/AKQ/APE/AQQ/AUA/ARR
AUB/AXP/BCA/BBY/BBZ/BKY/BAD

AST4642 - Seat: Arosa, Ibiza/Cordoba, Toledo, Leon, Inca

Engine Codes: AFK/AHW/APE/AQQ/AUA/AUB/AUS/AXP/
AZD/BBY/BBZ/BCA/BCB/BKY

Additionally used on **Seat Arosa 1.7SDi diesel**

Engine Code: AKU

Once the pulley has been removed place two washers on the old centre bolt and screw it back in to secure the crank gear and for use when turning the engine over by hand.

IMPORTANT: When finally installing the crank pulley a new bolt **MUST** be used.

Turn the main drive timing belt tensioner **anti-clockwise** to release tension and remove the old belt.

Loosen the exhaust camshaft belt tensioner by turning **clockwise** to remove belt. Remove tensioner roller.

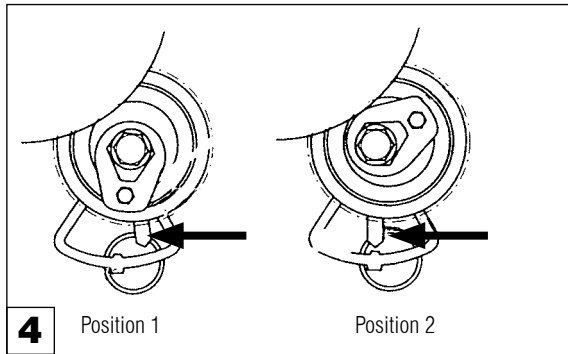
Fitting exhaust camshaft drive belt.

Check that the AST4635 Setting Tool is correctly fitted and check that the crankshaft is at TDC position - crank gear tooth with ground end should align with the mark on the sealing flange.

Fit the new exhaust camshaft drive belt in an **clockwise** direction, starting at the top of the exhaust sprocket.

IMPORTANT: Ensure the new belt is taut on the non-tensioned side.

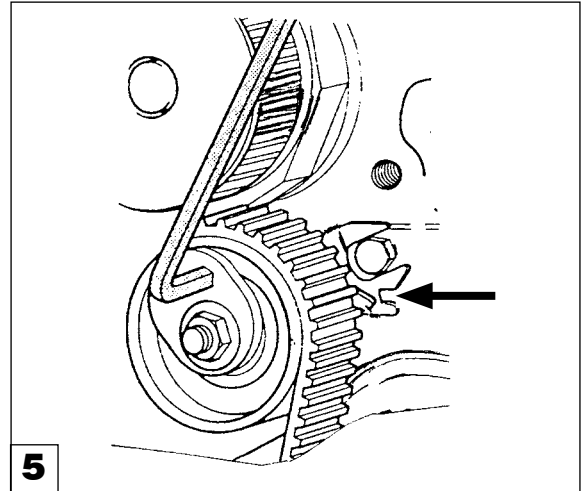
Install tensioner roller.



Turn the tensioner **clockwise** until its indicator is in **position 1**. Install the tensioner pulley so that the lug in the baseplate is engaged in the recess in the cylinder head.

Turn the tensioner **anti-clockwise** so that its indicator aligns with the lug of the baseplate - **position 2**.

Fit the main drive timing belt, as detailed.



Fitting main drive timing belt.

Fit the new main drive belt in an **anti-clockwise** direction starting at the water pump, then tensioner roller, crankshaft, idler roller and inlet camshaft sprocket.

Turn its tensioner **clockwise** until the indicator aligns with the groove in the baseplate, and tighten belt. Remove the Camshaft Setting Tool.

Carefully rotate the engine, by hand, twice, and return to TDC, checking that timing marks align correctly.

Check camshaft timing position by inserting AST4635 Setting Tool.

Check that both the main drive timing belt and exhaust camshaft belt tensioner indicators are in the correct position and apply firm thumb pressure to both belts to ensure the indicators move.

More AST Timing Kits for V W

Diesel Engine Setting/Locking Tool Kit 1.2TDi, 1.4TDi, 1.9TDi PD, 2.0TDi PD – see **AST4840**

Diesel & Petrol Engine Setting/Locking Tool Kit VW Group – see **AST4740**

Diesel Engine Setting/Locking Tool Kit V6 2.5TDi – see **AST4450**

V6 Petrol Engine Setting/Locking Tools – see **AST4401**
AST4402
AST4403

FSi Petrol Engine Setting/Locking Tool Kit 1.4/1.6 (Chain) – see **AST4845**

Petrol Engine Setting/Locking Tool Kit 1.2 (Chain) – see **AST4810**

Front End Support Guides Set (service position) – see **AST4741**



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