



Ignition system, servicing

Safety precautions ⇒ [28-1, Safety precautions](#) .

Technical data, spark plugs ⇒ [28-1, Technical data, spark plugs](#) .

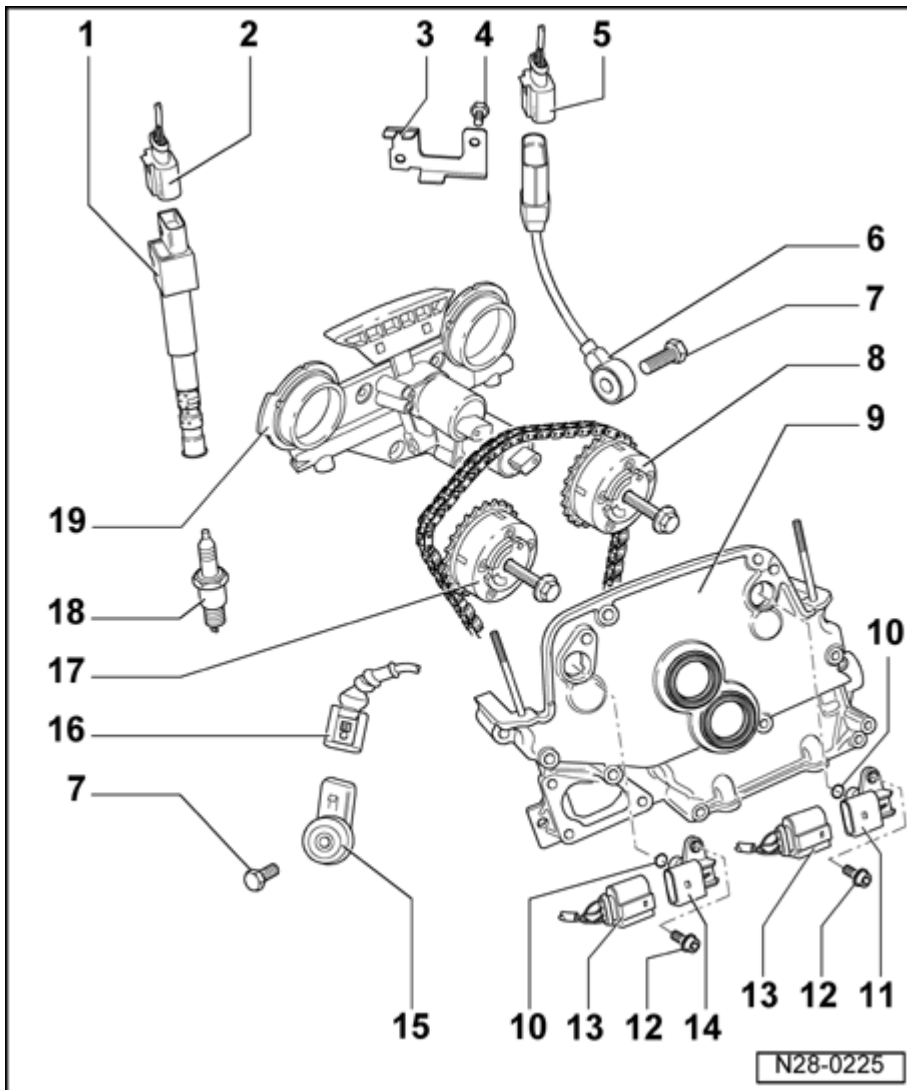
Ignition system components, assembly overview ⇒ [28-1, Ignition system components, assembly overview](#)

Ignition coils with power output stages, removing and installing ⇒ [28-1, Ignition coils with power output stage, removing and installing](#)

General notes on ignition system

- Only the components which specifically relate to the ignition system are dealt with here. The other components of the injection and ignition system ⇒ [24-1, Fuel injection system, servicing](#) .
- For trouble-free operation of the electrical components a voltage of at least 11.5 V is necessary.
- It is possible that the control module will recognize a malfunction and store a DTC during some tests. After completing all tests and repairs, DTC memory should therefore be checked and erased if necessary ⇒ *Vehicle Diagnosis, Testing and Information System VAS 5051 "Guided Functions"* .
- If the engine only starts briefly and then turns off again after troubleshooting, repair or checking of the components, it may be that the immobilizer is blocking the Engine Control Module (ECM). Control module must then be adapted if necessary ⇒ *Vehicle Diagnosis, Testing and Information System VAS 5051 "Guided Functions"* .

Ignition system components, assembly overview



- **Ignition Coil with Power Output Stage N70, N127, N291, N292, N323, N324**

- Remove and install with puller T10095 A .

- **Connector**

- Black, 4-pin
 - Use assembly too T10118 to pull off.

- **Bracket**

- For Knock Sensor (KS) 1 G61 connector

- **10 Nm**

- **Connector**
 - Black, 3pin
 - Sensor contacts and connector contacts gold plated

- **Knock Sensor 1 G61**
 - Component location:
between cyl. 1 and cyl. 3

- **20 Nm**
 - Torque setting influences the function of knock sensor

- **Exhaust camshaft adjuster**
 - Identification: 32A
 - With sensor wheel for Camshaft Position (CMP) Sensor 2 G163
 - If the camshaft adjuster has been removed, adjust valve timing after installation ⇒ [15-1, Valve timing, adjusting](#) .

- **Cover**
 - Removing and installing ⇒ [15-1, Cover, removing and installing - assembly overview](#) .

- **Oil seal**
 - Replace

- **Camshaft position (CMP) sensor 2 G163**
 - For exhaust camshaft
 - Sensor contacts and connector contacts gold plated

- **10 Nm**
- **Connector**
 - Black, 3pin
 - Sensor contacts and connector contacts gold plated
 - Mark connector before removing

- **Camshaft Position (CMP) sensor G40**
 - For intake camshaft
 - Sensor contacts and connector contacts gold plated

- **Knock sensor 2 G66**
 - Component location: between cyl. 4 and cyl. 6
 - Sensor contacts and connector contacts gold plated

- **Connector**
 - Black, 2-pin
 - Sensor contacts and connector contacts gold plated

- **Intake-camshaft adjuster**
 - Identification: 24E
 - With sensor wheel for Camshaft Position (CMP) sensor G40
 - If the camshaft adjuster has been removed, adjust valve timing after installation ⇒ [15-1, Valve timing, adjusting](#) .

- **Spark plug, 20 Nm**
 - Removing and installing with spark plug removal tool 3122B
 - Type and electrode gap ⇒ [28-1, Technical data, spark plugs](#)

- **Control housing**
 - For camshaft adjustment
 - Removing and installing ⇒ [15-2, Camshafts, removing and installing](#) , Camshafts, removing and installing

Safety precautions

To reduce the risk of personal injury and/or damage to the fuel injection and ignition system, always observe the following:

- Only disconnect and reconnect wires for injection and ignition system, including test leads, when ignition is switched off.
- Do not touch or remove ignition wires when engine is running or turning at starter speed.

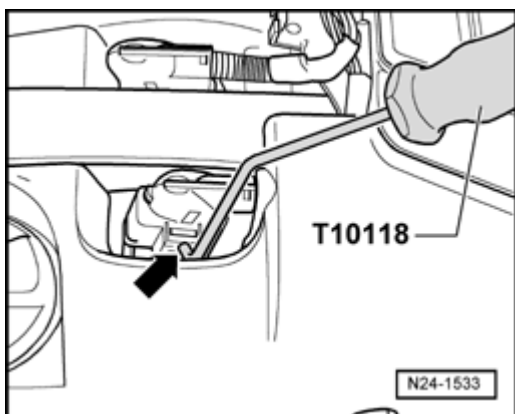
If test and measuring equipment is required during road test, note the following:

- Test and measuring instruments must be secured to rear seat and operated by a 2nd person from this location.

If test and measuring instruments are operated from the front passenger seat and the vehicle is involved in an accident, there is a possibility that the person sitting in this seat may receive serious injuries when the airbag is triggered.

If the engine is to be turned at starter speed, without starting: Disconnect connectors from ignition coils 1...6. Assembly tool T10118 can be used to release locking

mechanism.



- Place the assembly tool T10118 against the release button - **arrow** - , and carefully remove the connector from the respective ignition coil with power output stage .

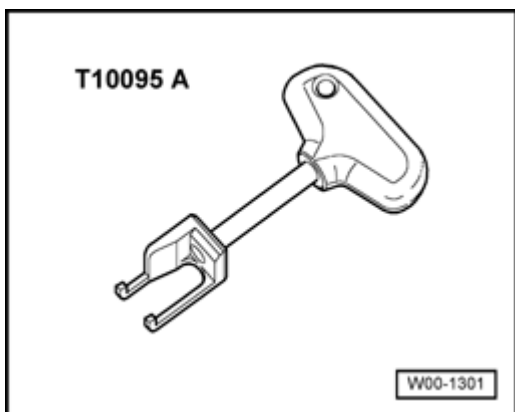
Technical data, spark plugs

Engine code	BAA / BMX
Ignition sequence	1-5-3-6-2-4
Spark plugs ¹⁾	
VW	101 905 606 A
Manufacturer designation	IZKR 7B
Electrode gap	max. 1.1 mm
Torque specifications	20 Nm

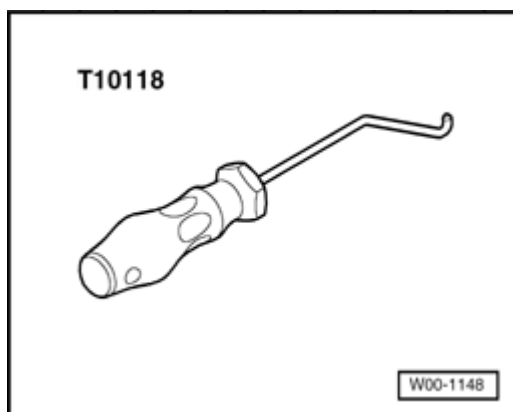
¹⁾ Use Spark plug removal tool 3122B to remove or install spark plugs

Ignition coils with power output stage, removing and installing

Special tools, testers and auxiliary items required

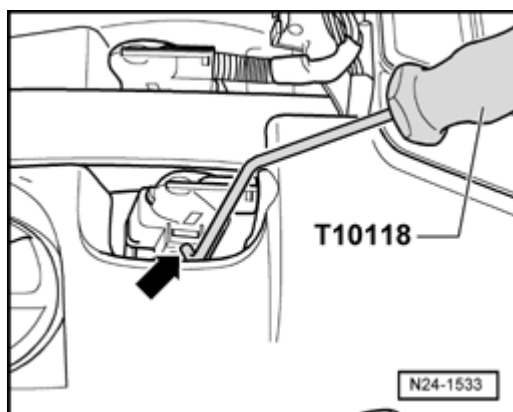


- Puller T10095 A

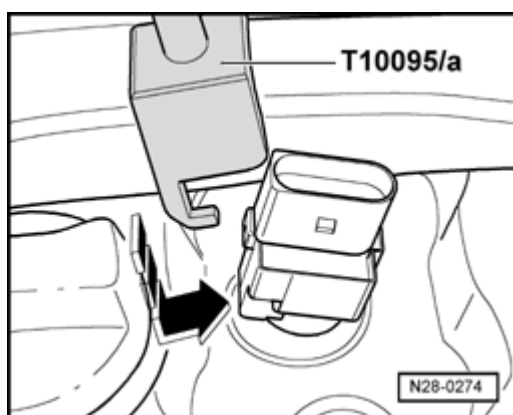


- Assembly tool T10118

Removing

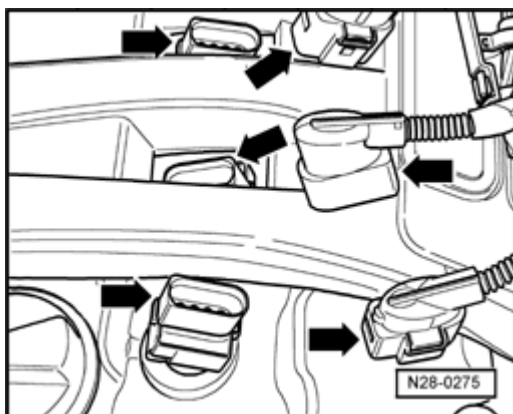


- Place the assembly tool T10118 against the release button - **arrow** - , and carefully remove the connector from the respective ignition coil with power output stage .

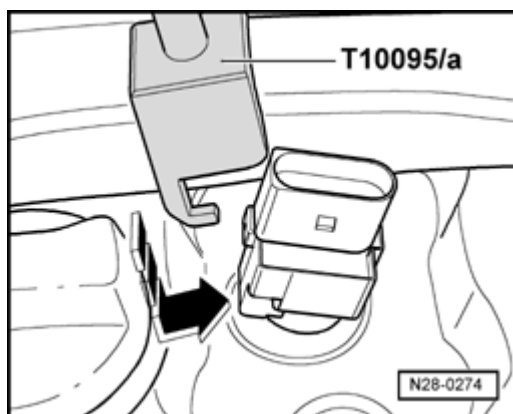


- From the straight side of the connector, push the puller T10095 A on in the direction of - **arrow** - , and pull out the Ignition Coil with Power Output Stage .

Installing



- To install, insert the Ignition Coil with Power Output Stage in the respective spark plug shaft, so that the straight sides of the connectors match one another - **arrow** - .



- From the straight side of the connector, push the puller T10095 A on in the direction of - **arrow** - , and push the Ignition Coil with Power Output Stage onto the spark plug.