Technical Bulletin

Subject: **Anti-theft Immobilizer On Board Diagnostic (OBD)**	**Group:** **01**
	Number: **99–11**
Model(s): **Golf, Jetta, Cabrio, New Beetle** **2000 ▶**	**Date:** **June 25, 1999**

The anti-theft immobilizer information in this Technical Bulletin will be integrated into the Repair Manual (Volkswagen Electronic Service and Information System) on CD-ROM at the next update.

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Anti-theft immobilizer On Board Diagnostic (OBD)

Immobilizer electronic components and warning light function

The immobilizer electronics consist of:

♦ control electronics in instrument cluster

♦ a warning light for anti-theft immobilizer sensor -K117- in instrument cluster (speedometer display)

♦ a matched engine control module

♦ an induction coil on the ignition lock

♦ matched ignition keys with electronic components (transponder and response reader memory)

Malfunction recognition and Diagnostic Trouble Code (DTC) display via warning light for anti-theft immobilizer sensor

An intact immobilizer system is indicated by the warning light for anti-theft immobilizer sensor -K117- lighting up and going out after approx. 3 seconds when the ignition is switched on.

Warning light flashes or stays lit when the ignition is switched on (indicates a malfunction in system) if:

♦ the ignition key has been carried out incorrectly.

♦ no transponder (response reader memory) is present in the ignition key.

♦ An unauthorized ignition key is used.

♦ an unauthorized engine control module is detected.

♦ a malfunction is present in the induction coil of anti-theft immobilizer -D2-.

♦ a malfunction is present in the data wiring.

Warning light does not light up when the ignition is switched on if:

♦ the immobilizer control module has detected an authorized key.

♦ the immobilizer control module has not detected an incorrect engine control module.

♦ the immobilizer control module is currently "matching keys" and after matching the keys no malfunction has occurred.

To troubleshoot, perform the On Board Diagnostic (OBD) program and retrieve the stored information with either the VAG 1551/1552 Scan Tool or VAS 5051 Vehicle Diagnostic, Testing and Information System.

Immobilizer On Board Diagnostic (OBD), initiating

If malfunctions occur in the sensors and components being monitored, they will be stored in the Diagnostic Trouble Code (DTC) memory together with an indication of the type of malfunction.

A maximum of 4 DTCs can be stored simultaneously.

Sporadic malfunctions are automatically cancelled if they are not repeated in next 50 engine starts.

OBD must be initiated at the commencement of troubleshooting and the stored information checked with the VAG 1551/1552 Scan Tool or VAS 5051 Vehicle Diagnostic, Testing and Information System.

Note:

The following description deals only with the VAG 1551Scan Tool.

The information displayed is used in conjunction with a DTC table which has information on the possible causes for pin-pointed repair steps.

Connecting VAG 1551 Scan Tool and selecting functions (Checking control module version)

Checking requirements:

♦ All fuses OK according to wiring diagram

♦ Supply voltage OK (at least 9.0 V).

Connect VAG 1551 using cable VAG 1551/3 as follows:

– Locate Data Link Connector (DLC) under instrument panel.

– Connect cable VAG 1551/3 to DLC

VAG - ON BOARD DIAGNOSTIC   HELP
1 - Rapid data transfer*
2 - Blink code output*

◄ Indicated on display

* Appears alternately

Note:

♦ *If the display remains blank, check the VAG 1551 voltage supply according to the wiring diagram.*
⇒ *Electrical Wiring Diagrams, Troubleshooting and Component Locations binder*

♦ *Additional operating instructions can be called up with the scan tool -HELP- button.*

♦ *The → button advances the program sequence.*

♦ *In the operating mode 1 "Rapid data transfer" the function 00 "Automatic test sequence" can be carried out. All vehicle control modules will be checked automatically.*

– Switch ignition on.

– Switch printer on with Print button (indicator lamp in button lights up).

– Press button -1- for "Rapid data transfer" mode.

```
Rapid data transfer              HELP
Input address word XX
```
◄ Indicated on display

– Press buttons -1- and -7- to select "Instrument Cluster" address word 17.

– Confirm entry with -Q- button.

```
1J0919860D A4-COMBI INSTR.VDO V04 →
Coding 00042              WSC  00000
```
◄ Indicated on display

– Press → button.

```
IMMO–IDENT No.: VWZ7Z0V0066808  →
```
◄ Indicated on display

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Immobilizer identification number (14 character, VW...)

– Press → button.

```
Rapid data transfer            HELP
Select function XX
```
◄ Indicated on display

```
Control module does not answer!    HELP
```
◄ Indicated on display

By pressing the -HELP- button a list of possible malfunction causes is printed out.

– After correcting malfunctions, enter address word 17 again for instrument cluster and confirm with -Q- button.

```
IMMO–IDENT No.: VWZ7Z0V0066808  →
```
◄ Indicated on display

– Press → button.

```
Rapid data transfer            HELP
Select function XX
```
◄ Indicated on display

If the -HELP- button is pressed, a list of selectable functions is printed out.

List of selectable functions

Note:

♦ *Do not select further functions other than those listed above (which can be printed out after pressing the -HELP- button).*

♦ *After the function is completed the VAG 1551 returns to the following start position:*

Rapid data transfer	HELP
Select function XX	

◀   Indicated on display

Checking DTC memory

Note:

The displayed DTC information is not constantly up-dated, but is only restarted when initiating the On Board Diagnostic (OBD) or with function 05 " Erase DTC memory".

– Switch printer on with -Print- button (indicator lamp in button lights up).

```
Rapid data transfer          HELP
Select function XX
```
◄   Indicated on display

– Press buttons -0- and -2- to select " Check DTC memory" function 02.

```
Rapid data transfer          Q

02 – Check DTC memory
```
◄   Indicated on display

– Confirm entry with -Q- button.

```
X DTCs recognized!
```
◄   The number of stored DTCs appears in the display.

The stored DTCs are displayed and printed out one after another.

– Locate DTC printed out in DTC table and correct ⇒ Page 12.

```
No DTC recognized!           →
```
◄   If " No DTC recognized" is displayed the program will return to the starting point after pressing the → button.

```
Rapid data transfer          HELP
Select function XX
```
◄   Indicated on display

If display reads otherwise:
⇒ Scan tool operating instructions

– Press buttons -0- and -6- to select "End output" function 06 ⇒ Page 11

– Switch ignition off and separate DLC.

Erasing DTC memory

Note:

After erasing the DTC memory its contents will automatically be indicated. If the DTC memory cannot be erased, again check the DTC memory and repair malfunctions.

Requirements

♦ DTC memory has been checked ⇒ Page 8

♦ All malfunctions repaired.

After the DTC memory has been successfully checked:

```
Rapid data transfer            HELP
Select function XX
```
◄ Indicated on display

– Press buttons -0- and -5- to select "Erase DTC memory" function 05.

```
Rapid data transfer              Q
05 – Erase DTC memory
```
◄ Indicated on display

– Confirm entry with -Q- button.

```
┌─────────────────────────────────────────┐
│ Rapid data transfer              →       │   ◀   Indicated on display
│ DTC memory is erased!                    │
└─────────────────────────────────────────┘       The Diagnostic Trouble Code (DTC) memory is now erased.

                                                   – Press → button.

┌─────────────────────────────────────────┐
│ Rapid data transfer           HELP       │   ◀   Indicated on display
│ Select function XX                       │
└─────────────────────────────────────────┘

┌─────────────────────────────────────────┐
│ Warning!                                 │   ◀   If this appears in the display, the test sequence is faulty.
│ DTC memory was not checked               │
└─────────────────────────────────────────┘

┌─────────────────────────────────────────┐
│ Rapid data transfer              →       │   ◀   If this appears in the display, the test sequence is faulty.
│ DTC memory was not checked               │
└─────────────────────────────────────────┘
```

◀ If this appears in the display, the test sequence is faulty.

Note:

Adhere exactly to the test sequence: First check the Diagnostic Trouble Code (DTC) memory and, if necessary, repair any malfunctions.

Ending output

– Press buttons -0- and -6- to select "End output" function 06.

Rapid data transfer	Q
06 – End output	

◄ Indicated on display

– Confirm entry with -Q- button.

Rapid data transfer	Help
Enter address word XX	

◄ Indicated on display

– Switch ignition off.

– Disconnect VAG 1551 Scan tool.

Diagnostic Trouble Code (DTC) table

> **CAUTION!**
>
> **After repairs the DTC memory of the engine control module must always be checked and the DTC memory content "Engine control module blocked" erased. Check and eliminate any further malfunctions stored.**

Note:

♦ *All static and sporadic malfunctions are stored in the DTC memory: A malfunction is recognized as a static malfunction when it is present for a minimum of 2 seconds. If the malfunction is no longer present after this time, it is stored as a sporadic fault and "/SP" appears on the display.*

♦ *After switching on the ignition, malfunctions stored are first recognized as sporadic and are changed to static if they are present after the check has been completed.*

♦ *If a sporadic malfunction is no longer present during the next 50 driving cycles (ignition on for a minimum of 2 seconds) it is erased.*

♦ *The following table lists all the malfunctions, with the corresponding 5-digit code numbers, that can be recognized by the immobilizer control module and printed out by the VAG 1551.*

♦ *DTCs appear only on a print-out.*

♦ *Before replacing a component shown as faulty, check wiring and connections to the component as well as Ground connections according to the wiring diagram.*

♦ *When the repair has been completed, the DTC memory must always be checked again with the VAG 1551 and then erased.*

VAG 1551 print out	Possible cause	Possible effects	Correction
01128 Induction coil of anti-theft Immobilizer sensor	Wiring from induction coil to instrument cluster faulty or Induction coil faulty	Engine will not start and warning light flashes	– Check induction coil wire and wire routing (visual check), replace coil if necessary. – Erase DTC memory and check again (⇒ Page 9 and Page 8), replace instrument cluster if necessary.

VAG 1551 print out	Possible cause	Possible effects	Correction
01176 Key Signal too low not authorized	Induction coil or wire faulty (transfer resistance/loose contact) or Ignition key electronics (transponder) missing or not functioning or Mechanically correct igni-tion key not matched	Engine will not start and warning light flashes Engine will not start and warning light flashes Engine will not start and warning light flashes	– Check induction coil wire and wire routing (visual check), replace coil if necessary. – Replace ignition key and rematch all ignition keys and check function ⇒ Page 19. – Rematch all ignition keys and check function ⇒ Page 19.
01177 Engine control module not authorized	Engine control module not matched. W-wire between the con-trol modules is OK.	Engine will not start and warning light flashes	– Match engine control module ⇒ Page 27.

VAG 1551 print out	Possible cause	Possible effects	Correction
01179 Key programming incorrect	Ignition key matching faulty	Warning light flashes quickly	– Rematch all ignition keys by entering the secret number and check function ⇒ Page 19.
65535 Control module faulty	Instrument cluster control module faulty	Engine will not start and warning light lights up	– Replace instrument cluster
Other DTCs	If DTCs are displayed that are not shown in this table, ⇒ OBD of instrument cluster		

Read measured value block

<table>
<tr><td>Rapid data transfer   HELP
Select function XX</td></tr>
</table>

◄ Indicated on display:

– Press buttons -0- and -8- to select "Read measured value block" function 08.

<table>
<tr><td>Rapid data transfer   Q
08 – Read measured value block</td></tr>
</table>

◄ Indicated on display

– Confirm entry with -Q- button.

<table>
<tr><td>Read measured value block
Input display group number XX</td></tr>
</table>

◄ Indicated on display

– Press buttons -0-, -2 and -2-.

– Confirm entry with -Q- button.

Note:

When the printer is switched on the actual display is printed out.

<table>
<tr><td>Read measured value block   22   →
1   1   1   2</td></tr>
</table>

◄ – Indicated on display, for example

Evaluating measured value block

Authorized start?	Engine control module answers?	Key condition OK?	No. of matched keys
1 yes	1 yes	1 yes	2
0 no	0 no	0 no	

Evaluating malfunctions:

♦ Start authorized: "0":

   A non-coded or incorrectly coded key has been used or the engine control module has an incorrect code or a malfunction ⇒ check engine control module DTC memory.

♦ Engine control module answers: "0":

   There is a malfunction in the engine control module or in wiring ⇒ Check engine control module DTC memory.

♦ Key condition OK: "0":

   ♦ A faulty key or a key without transponder has been used

   ♦ An ignition key with an incorrect type of transponder was used (fixed code transponder)

   ♦ Induction coil malfunction

– Check DTC memory (function 02).

♦ Number of matched keys: 2

If the value displayed in the first 3 display fields is 1:

– Press button -3-.

```
┌─────────────────────────────────────────┐
│ Read measured value block    23      →   │  ◄
│ 1           0            1                │
└─────────────────────────────────────────┘
```

– Indicated on display, for example

If something different appears on the display, the "Matching of keys" function must be performed, ⇒ Page 19.

If a "0" is displayed in display field 3:

An ignition key with an incorrect type of transponder was used.

– Obtain a key with correct type of transponder.

Note:

There are various types of ignition keys with various types of transponders. Observe when ordering parts!

– Press → button.

```
┌─────────────────────────────────────────┐
│ Rapid data transfer            HELP      │  ◄
│ Select function XX                       │
└─────────────────────────────────────────┘
```

Indicated on display

Matching ignition keys

Note:

♦ *If new or additional ignition keys are required they must be matched to the immobilizer control module.*

♦ *Note the procedure when changing the locking set and the immobilizer control module.*

♦ *The matching procedure must always be carried out for all the ignition keys, including the existing ones.*

♦ *The number of keys already matched will be displayed when the adaptation (matching) function is selected.*

♦ *If only one key is matched, the vehicle can be started immediately with this key. If more than one key has been matched, the vehicle can only be started immediately with the last key matched.*

♦ *The matching procedure can be interrupted by pressing the -C-button on the VAG 1551.*

CAUTION!

The VAG 1551 dealership number (workshop code) will be stored in the immobilizer control module when matching ignition keys.

Requirements

♦ All ignition keys available. If no old ignition key is available see "Lost key procedure", ⇒ Page 25

♦ Key fob with covered secret number is available, if not see "Establishing secret number", ⇒ Page 25

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– Insert correct profile ignition key in ignition lock.

– Connect VAG 1551, select operating mode 1, "Rapid data transfer", switch ignition on and enter address word 17 "Instrument cluster".

After displaying the immobilizer identification:

– Press → button.

Rapid data transfer	HELP
Select function XX	

◄ Indicated on display

– Press button -1- twice to select "Login procedure" function 11.

Rapid data transfer	Q
11 – Login procedure	

◄ Indicated on display

– Confirm entry with -Q- button.

Login procedure	Q
Enter code number XXXXX	

◄ Indicated on display

– Enter secret number, when doing this place a 0 before 4 digit number (example: 01915).

The secret number is located on the key fob and is made visible by carefully "scratching off" the protective coating (e.g. with a coin).

– Confirm entry with -Q- button.

Rapid data transfer	HELP
Select function XX	

◄ Indicated on display

```
┌────────────────────────────────────┐
│                                    │
│  Tester sends address word 17      │
│                                    │
└────────────────────────────────────┘
```
◄ If this appears on display:

The secret number is not accepted.

– Enter secret number again.

Note:

♦ *3 attempts to enter the secret number are possible immediately. The next 3 attempts are only possible after a minimum of 10 minutes (if the ignition remains switched on during this time and the OBD is exited via the function 06 "End output").*

♦ *The waiting period between each 3 attempts doubles each time up to a maximum of 255 minutes.*

– Press buttons -1- and -0- to select "Adaptation" function 10.

```
┌────────────────────────────────────┐
│  Rapid data transfer           Q   │
│  10 – Adaptation                   │
└────────────────────────────────────┘
```
◄ Indicated on display

– Confirm entry with -Q- button.

```
┌────────────────────────────────────┐
│  Adaptation                        │
│  Enter channel number XX           │
└────────────────────────────────────┘
```
◄ Indicated on display

– Press buttons -2- and -1- to select "Channel 21".

– Confirm entry with -Q- button.

```
┌────────────────────────────────────┐
│  Function is unknown or       →    │
│  cannot be carried out at the moment│
└────────────────────────────────────┘
```
◄ If the following display appears

– Repeat adaptation by entering secret number.

```
┌────────────────────────────────────┐
│  Channel 21.........Matching   2  →│
│                         <–1 3–>    │
└────────────────────────────────────┘
```
◄ Indicated on display

The top line of the display shows that 2 ignition keys are matched to the system.

– Press → button.

```
┌─────────────────────────────────────────┐
│ Channel 21.........Matching      2    →  │
│ Enter matching value XXXXX               │
└─────────────────────────────────────────┘
```
◀ Indicated on display

– Press button -0- four times and then enter number of all ignition keys to be matched, including existing key (e.g. 00003); max. possible Qty: 8.

– Confirm entry with -Q- button.

```
┌─────────────────────────────────────────┐
│ Channel 21        Matching       3    Q  │
│                         <–1 3–>          │
└─────────────────────────────────────────┘
```
◀ Indicated on display for 3 ignition keys to be matched

– Confirm entry with -Q- button.

```
┌─────────────────────────────────────────┐
│ Channel 21        Matching       3    Q  │
│ Store amended value?                     │
└─────────────────────────────────────────┘
```
◀ Indicated on display

– Confirm entry with -Q- button.

```
┌─────────────────────────────────────────┐
│ Channel 21        Matching       3    →  │
│ Amended value is stored                  │
└─────────────────────────────────────────┘
```
◀ Indicated on display

VDO instrument clusters:

The warning light -K117- goes out.

The key in the ignition/starter lock is now matched.

– Press → button.

– Switch ignition off and remove key.

– Insert next key in ignition/starter lock and switch ignition on again.

The warning light -K117- lights up for approx. 2 seconds and then goes out.

– As soon as warning light for anti-theft immobilizer sensor -K117- in instrument cluster goes out, switch ignition off again and remove key.

– Repeat this procedure until all keys are matched.

With VDO instrument clusters the warning light -K117- goes out after the last ignition key is matched.

With Motometer instrument clusters the warning light -K117- flashes briefly after the last ignition key is matched signifying the matching sequence is completed.

Note:

♦ *If the warning light continues flashing the key matching is faulty and must be performed again.*

♦ *The warning light flashes quickly if the 30 seconds are exceeded when matching all ignition keys. When the ignition is switched off the time is not registered.*

The matching of ignition keys is automatically terminated when:

♦ Number of keys to be matched is reached.

♦ An already matched key is used to switch the ignition on again and the ignition remains switched on for longer than 1 second (DTC is stored)

◆ Permissible matching period of 30 seconds is exceeded (DTC is stored) after switching ignition on using the 2nd key.

– Select "Check DTC memory" function 02. If there is no malfunction stored, matching of keys has been successfully completed.

Lost key procedure

– Order replacement ignition key using the lock number.

– Match ignition key ⇒ Page 19

Determining secret number

If the 4-digit secret number is not known or the key fob with the secret number is not available, the secret number must be requested from the dealership or importer using the 14-character immobilizer control module identification number.

– Initiate OBD of instrument cluster.

– Read 14-character immobilizer identification number:

IMMO–IDENT No.: VWZ7Z0V0066808 → ◄ Indicated on display (example)

Procedure after changing instrument cluster (Matching)

Installing a new instrument cluster

The immobilizer identification number and secret number are already stored in the replacement instrument cluster.

– Match all vehicle keys ⟹ Page 19

– Enter identification number in vehicle documents.

– Give secret number to customer.

Installing an instrument cluster that has already been used in another vehicle

The engine control module must be matched to the replacement instrument cluster immobilizer.

– Perform adaptation function after changing engine control module ⟹ Page 27.

– Match all vehicle keys ⟹ Page 19.

– Enter identification number in vehicle documents.

– Give secret number to customer.

Procedure after changing engine control module (Matching)

Note:

♦ *The engine control module is matched to the immobilizer control module in the instrument cluster. When changing a component it must be rematched.*

♦ *If an authorized ignition key is not available but the secret number is, new ignition keys must be manufactured and matched.*

♦ *The matching can be interrupted with the "C" button of the VAG 1551*

Requirements

Authorized ignition key available.

– Insert old (authorized) key in ignition lock.

– Connect VAG 1551, select operating mode 1, "Rapid data transfer". Switch ignition on and enter address word 17, "Instrument cluster".

After the control module identification has been displayed:

IMMO–IDENT No.: VWZ7Z0V0066808 →

◄ Indicated on display (example)

– Press → button.

Rapid data transfer   HELP
Select function XX

◄ Indicated on display

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– Press buttons -1- and -0- to select "Adaptation" function 10.

Rapid data transfer   Q
10 – Adaptation

◄ Indicated on display

– Confirm entry with -Q- button.

Adaptation
Enter channel number XX

◄ Indicated on display

– Press button -0- twice to select " Channel 0".

– Confirm entry with -Q-.

Adaptation   Q
Erase learned value?

◄ Indicated on display

– Confirm entry with -Q- button.

Adaptation   →
Learned values are erased

◄ Indicated on display

– Press → button.

Rapid data transfer   HELP
Select function XX

◄ Indicated on display

Note:

When the ignition is next switched "on" the identification of the engine control module is read by the immobilizer control module and stored.

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Replacement instrument cluster, adaptation

A new 14-character immobilizer identification number and secret number are stored in the electronic memory of the replacement instrument cluster. This data is also listed on a label on the rear of the instrument cluster.

Replacement instrument clusters are delivered in a "learning mode" that enables immediate matching of the 3 existing ignition keys to the new instrument cluster.

Installing new instrument cluster, requirements

♦ All ignition keys currently in use on vehicle should be available

♦ Replacement instrument cluster installed an functional

– Insert correct profile ignition key in ignition/starter lock and switch ignition on.

Warning light -K117- lights up for approx. 2 seconds and then goes out.

The key presently in the ignition/starter lock is now matched.

– Switch ignition off and remove key.

– Repeat above procedure procedure for all available keys.

With each key to be matched, warning light -K117- lights up for approx. 2 seconds and then goes out.

– Enter new immobilizer identification number in vehicle documents (read from rear of instrument cluster).

– Inform customer of new secret number (read from rear of instrument cluster by scratching protective coating).

If all the ignition keys currently in use on the vehicle are not available for matching to the new instrument cluster at time of replacement, proceed as follows:

– Match available ignition key(s) via new instrument cluster learning mode as described above.

– Inform customer to obtain and return with all ignition keys currently in use on vehicle.

– When customer returns to have all available ignition keys matched, the normal method of matching ignition keys (with VAG 1551) must be used at that time ⇒ page 19.

CAUTION!

♦ *When the customer returns to have all available ignition keys matched to the new instrument cluster, the secret number applicable to the NEW instrument cluster must be input, NOT the secret number originally supplied with the new vehicle key fob.*

♦ *Ensure that the original ignition key(s) matched when the instrument cluster was replaced is matched again along with all the other ignition keys.*

Immobilizer troubleshooting

Requirements

♦ Voltage supply OK.

♦ Diagnostic wire between instrument cluster and VAG1551 OK.

♦ Valid wiring diagram and Repair Manual available.

Malfunction

♦ Engine does not start (when starting, engine runs and stalls after approx. 1 second)

– Connect VAG 1551 and initiate On Board Diagnostic (OBD).

– Select engine control module with address word 01.

– Check DTC memory (function 02).

Possible cause

♦ DTC 17978 -" Engine control module blocked" is stored in DTC memory

The immobilizer control module electronics have not released the engine control module!

– Erase DTC memory (function 05) and end output (function 06).

– Select instrument cluster OBD with address word 17.

– Check DTC memory (function 02), evaluate and correct malfunctions using DTC table ⇒ Page 12.

Note:

After completing the repairs and matching the immobilizer components it is absolutely necessary that the engine control module DTC memory is checked and erased.

♦ DTC 17978 "Engine control module blocked" is not stored in DTC memory

There is no malfunction of the electronic immobilizer!

– Troubleshoot "no start" condition according to instructions in engine repair manual.

Malfunction

♦ Key matching faulty

Possible cause

♦ DTC 01179 "Key programming faulty" is stored in DTC memory of immobilizer control module

– Select instrument cluster OBD with address word 17.

– Press → button.

IMMO–IDENT No.: VWZ7Z0V0066808 → ◄ Indicated on display (example)

– Compare 14-digit identification number shown in display with identification number on key fob.

– If identification numbers are different, establish secret number corresponding to identification number in display via dealership sales center/importer.

– Match all keys with correct secret number.

Malfunction

♦ "Fail" appears in odometer display in instrument cluster and engine does not start

Possible cause

♦ An incorrect secret number has been entered 3 times

– Perform "Login procedure" function 11 $\Rightarrow$ Page 20

Emergency start function, activating without VAG 1551

Using the emergency start function, a vehicle with a faulty anti-theft immobilizer can be started and driven under its own power to a VW dealership.

Requirements

♦ Customer must provide proof of authorized vehicle operation/ownership with vehicle documents and identification

♦ Key tag with covered secret number is available (If not, ⇒ "Determining secret number", page 25

♦ Mechanically correct key available

– Switch ignition on.

– Twist setting knob for clock (on instrument cluster) clockwise while simultaneously pressing reset button for trip odometer counter.

In the display for the trip odometer counter "0000" appears and the first digit blinks.

Using the reset button for the trip odometer counter, the first digit can now be moved from "0" through "9":

– Press reset button for trip odometer counter until valid first digit of secret number is displayed, e.g. "5"

In the trip odometer counter display "5000" appears.

– Twist setting knob for clock.

In the trip odometer counter display "5000" appears and the second digit blinks.

– Press reset button for trip odometer counter until valid second digit of secret number is displayed, e.g. "3".

– Twist setting knob for clock.

In the trip odometer counter display "5300" appears and the third digit blinks.

– Press reset button for trip odometer counter until valid third digit of secret number is displayed, e.g. "4".

– Twist setting knob for clock.

In the trip odometer counter display "5340" appears and the fourth digit blinks.

– Press reset button for trip odometer counter until valid fourth digit of secret number is displayed, e.g. "9".

In the trip odometer counter display "5349" appears (example).

– On instrument cluster, simultaneously twist clock setting knob and press reset button for trip odometer counter.

If the valid secret number has been input correctly:

♦ trip odometer display is shown again in trip odometer counter

♦ warning light for anti-theft immobilizer goes out

Note:

♦ *Three attempts to input the secret number correctly are possible immediately. The next three attempts will not be possible for at least 10 minutes if the ignition remains switched on continuously during this time.*

♦ *After the secret number has been input incorrectly three times, and the ignition switched off, the control module is locked. "FAIL" appears in the trip odometer display counter in the instrumet cluster.*

♦ *The waiting time between each set of attempts doubles each time to a maximum time of 255 minutes.*

♦ *If during the input procedure no key/button operation occurs for longer than 30 seconds, the emergency start attempt is interrupted.*

– Switch ignition off and then start engine.

The emergency start function is not operable again and must be re-activated if:

♦ 5 minutes have elapsed since the ignition was switched off and the ignition key removed from the ignition lock.

♦ 45 minutes have elapsed since the ignition was switched off, but an ignition key remained inserted in the ignition lock.

♦ Upon beginning an adaptation function with VAG 1551.