01-79

Instrument cluster with long service life, On Board Diagnostic (OBD) (from m.y. 2000)

General information

Technical features of the instrument cluster

The instrument cluster is equipped with a service display which can process flexible data, that is, the instrument cluster evaluates various vehicle based service requirements on input quantities such as driveability or oil consumption.

The long service life is capable of reproducing the functions of the standard SRI, when the limits are set correctly. The limits are variable (in U.S. with set limits ⇒ Table ⇒).

It is also possible to evaluate the oil temperature sensor. Adaptation channels in the VAG On Board Diagnostic (OBD) make this possible.

In countries where the standard Service Reminder Indicator (SRI) values are still used, such as the USA, the following constant adaptation values must be entered:

Table for Service Reminder Indicator values without long service life

Channel 42 (minimum mileage performance)	8000 miles
Channel 43 (maximum mileage performance)	8000 miles
Channel 44 (maximum time interval until next service)	365 days
Channel 45 (oil quality)	1

01-81

The Audi A4 instrument cluster is offered with a Midline version with Minicheck system and the Highline version with Driver Information System (DIS).

The instrument cluster in the Audi S4 is only offered with the Highline version with Driver Information System.

The speedometer contains an LCD display for the odometer and trip odometer.

A LCD display for LCD-clock/date is located in the tachometer.

The service reminder indicator is displayed in the center display.

The warning/ indicator lights are integrated in the speedometer and tachometer.

01-82

Details about the instrument cluster

⇒ *Operating instructions Audi A4 or Audi S4*

The instrument cluster is controlled by a microprocessor and has extensive On Board Diagnostic (OBD) capabilities. If malfunctions occur in any of the system components, corresponding Diagnostic Trouble Codes (DTC) are stored in the DTC memory of the instrument cluster. These can then be identified using the VAG1551 or VAG1552 Scan Tool (ST).

Note:

The description in this repair manual only refers to the VAG1551 Scan Tool (ST).

01-83

Malfunction message "dEF" on trip odometer display

If the control module in the instrument cluster detects a malfunction in its permanent memory, the letters "dEF" will appear on the trip odometer display.

- If "dEF" is indicated on display, replace instrument cluster ⇒ Page 90-27 .

Notes for replacing instrument cluster

♦ Do not disassemble instrument cluster.

♦ If necessary, instrument cluster should be replaced through the exchange loop.

♦ Fill out a damage report form and return together with faulty instrument cluster.

♦ Faulty units must always be returned in original packaging.

♦ The odometer and the Service Reminder Indicator (SRI) of the replacement instrument cluster can be adapted using the VAG1551 Scan Tool (ST) ⇒ Page 01-133 .

On Board Diagnostic (OBD), initiating program

Additional information

- ◆ Electrical Wiring Diagrams, Troubleshooting & Component Locations

- ◆ Service tools handbook

- ◆ Parts catalog

01-85

Safety precautions

If special testing equipment is required during road test, note the following:

WARNING!

 ◆ *Adhere to the following to avoid risk of accident during measurements while driving and road tests:*

 ◆ *Only use VAS5051 or VAG1551 to read out measuring value blocks. The tester must be secured to the rear seat and operated from there by a second technician.*

To reduce the risk of personal injury and/or damage of electric and electronic components, always observe the following:

 ◆ Always switch ignition off before connecting or disconnecting test/measurement tools.

 ◆ 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.

 ◆ Always switch ignition off before disconnecting

or connecting battery. Failure to do so may damage a control module.

01-86

Test requirements:

♦ Check fuse for function according to wiring diagram.

♦ Always check coding of instrument cluster according to code table ⇒ Page 01-112 .

♦ Connect VAS5051 tester or VAG1551 scan tool ⇒ Page 01-241 .

♦ Switch on ignition.

Notes:

♦ *If nothing is indicated on display, check voltage supply for VAG 1551 scan tool according to wiring diagram.*

♦ *Additional instructions can be called up via the HELP button on the scan tool.*

♦ *The → button is used for advancing through the program sequence.*

♦ *An incorrect entry can be canceled using the C button.*

◆ *Function 00 "Automatic test sequence" can be performed in operating mode 1 "Rapid data transfer". This automatically checks all control modules installed in the vehicle.*

01-87

- Switch on ignition.

- Switch printer on via the PRINT button (indicator lamp in button lights up).

- Press button -1- to select "Rapid data transfer" operating mode 1.

Rapid data transfer	HELP
Insert address word XX	

◄ Indicated on display

Address word: 17

- Press buttons -1- and -7-.

Rapid data transfer	Q
17 - Instrument cluster	

◄ Indicated on display:

- Press -Q- button to confirm input.

01-88

8D0920830... B5-INST. Clstr M73 D08 →

Coding 02242   **WSC 06812**

◄ Indicated on display after approx. 5 seconds:

- ◆ 8D0920830...: Part number of instrument cluster (see also parts catalog)

- ◆ B5-INSTRUMENT CLUSTER component marking

- ◆ VDO: Manufactured by VDO (M73 : Manufactured by Magneti Marelli)

- ◆ D08: Software version of instrument cluster

- ◆ Coding 02242: Coding of instrument cluster

- ◆ WSC 06812: dealership number

Note:

Check code number according to coding table ⇒ Page 01-112 .

- Press → button.

01-89

Rapid data transfer	HELP
Control module does not answer	

Rapid data transfer	HELP
Malfunction in communication setup	

Rapid data transfer	HELP
K-wire does not switch to Ground	

Rapid data transfer	HELP
K-wire does not switch to Plus	

◄   *If one of these messages is displayed, perform trouble shooting according to troubleshooting diagnostic.*

⇒ *Electrical Wiring Diagrams, Troubleshooting & Component Locations*

01-90

Rapid data transfer	HELP
Select function XX	

◄ Indicated on display

- Pressing the HELP button will print out an overview of all of the possible functions.

On Board Diagnostic (OBD) functions

The following functions are possible:

02 - Check DTC Memory ⇒ Page 01-91 .

03 - Output Diagnostic Test Mode ⇒ Page 01-101 .

05 - Erase DTC Memory ⇒ Page 01-107 .

06 - End Output ⇒ Page 01-109 .

07 - Code Control Module ⇒ Page 01-110 .

08 - Read Measuring Value Block ⇒ Page 01-114 .

10 - Adaptation ⇒ Page 01-133 .

01-91

Check DTC Memory (scan tool function 02)

Note:

The displayed DTC information is updated only when initiating OBD or with "Erase DTC Memory" function 05.

- Switch printer on via the PRINT button (indicator lamp in button lights up).

Rapid data transfer	HELP
Select function XX	

◄ Indicated on display

- Press buttons -0- and -2-. This selects "Check DTC memory", function 02.

Rapid data transfer	Q
02 - Check DTC memory	

◄ Indicated on display

- Press -Q- button to confirm input.

X DTC recognized!

◄ The number of stored malfunctions appears in the display.

The stored malfunctions are displayed and printed out one after the other.

- Check print-out against DTC table and repair malfunction ⇒ Page 01-93 .

01-92

No DTC recognized!	→

Rapid data transfer	HELP
Select function XX	

◄   If "No DTC recognized!" is displayed, the program will return to "Select function XX" after the →button is pressed.

◄   Indicated on display

If something else is displayed:

⇒ *Operating instructions of Scan Tool (ST)*

- End Output (function 06) ⇒

- Switch off ignition and disconnect diagnostic connector.

01-93

Diagnostic Trouble Code (DTC) table for instrument cluster

Notes:

♦ *The following table lists all malfunctions that can be recognized by the instrument cluster and printed out by the VAG1551 scan tool. The malfunctions are listed in order according to their 5-digit numbers.*

♦ *DTC numbers appear only on the print-out.*

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

♦ *After repairs and function test of the system, DTC memory must always be checked again using the VAG1551 scan tool and erased.*

♦ *DTC memory stores all static and sporadic malfunctions: If a malfunction occurs and persists for at least 2 seconds, it is identified as a static malfunction (outside temperature malfunction at least 60 seconds, coolant temperature sensor only after at least 30 minutes with engine running). If a malfunction does not occur again, it is registered as sporadic. "/SP" will appear at right on scan tool display.*

♦ *When the ignition is switched on, all existing malfunctions are automatically re-classified as sporadic malfunctions and will only register as static malfunctions if they still occur after testing.*

♦ *Sporadic malfunctions which no longer occur during 50 driving cycles (ignition on at least 5 minutes, vehicle speed 30 km/h) are erased automatically.*

01-94

VAG 1551 scan tool display	Possible causes	Corrective action
00562 Oil level thermal sensor -G266- ◆ Open circuit/short circuit to B+ ◆ Short circuit to Ground ◆ Implausible signal	◆ Open circuit or short circuit between oil level thermal sensor -G266- and instrument cluster ◆ Oil level thermal sensor -G266- faulty -G266- faulty ◆ Electronic part in sensor faulty	- Locate malfunction using wiring diagram - Repair open circuit - Oil level thermal sensor -G266- faulty Replace -G266-
00667 Outside temperature signal ◆ Open circuit/short circuit to B+ ◆ Short circuit to Ground ◆ implausible signal (is indicated incorrectly and must be disregarded)	◆ Open circuit or short circuit between instrument cluster and A/C control head -E87- ◆ A/C control head -E87- faulty	- Locate malfunction using wiring diagram - Repair open circuit - A/C system OBD ⇒ *Repair Manual, Heating & AirConditioning, Repair Group 01*
00668 Vehicle voltage, terminal 30 ◆ Voltage supply too low	◆ Battery was disconnected ◆ Open circuit or short circuit to a control module or sensor	- Perform automatic test sequence in order to determine the control module responsible for the DTC ⇒check voltage supply of malfunctioning control module - Locate malfunction using wiring diagram

		- Repair open circuit
		- Erase DTC memory and observe vehicle further

01-95

VAG 1551 scan tool display	Possible causes	Corrective action
00771 Sender for fuel gauge -G- ♦ Open circuit/short circuit to B+ ♦ Short circuit to Ground	♦ Open circuit or short circuit between sender for fuel gauge -G- (Front Wheel Drive/All Wheel Drive) and instrument cluster ♦ Sender for fuel gauge -G- (Front Wheel Drive/All Wheel Drive) is faulty	- Locate malfunction using wiring diagram - Repair open circuit - - Replace Sender for fuel gauge -G- (Front Wheel Drive/All Wheel Drive)
00779 Outside air temperature sensor -G17- ♦ Open circuit/short circuit to B+ ♦ Short circuit to Ground	♦ Open circuit or short circuit ♦ Outside air temperature sensor -G17- faulty	- Locate malfunction using wiring diagram - Repair open circuit - Replace outside air temperature sensor -G17-
01039 Engine Coolant Temperature (ECT) sensor -G2- ♦ Open circuit/short circuit to B+ ♦ Short circuit to Ground	♦ Open circuit or short circuit between Engine Coolant Temperature (ECT) sensor -G2- and instrument cluster ♦ Engine Coolant Temperature (ECT) sensor -G2- faulty	- Locate malfunction using wiring diagram - Repair open circuit - Replace Engine Coolant Temperature (ECT) sensor -G2-

01-96

VAG 1551 scan tool display	Possible causes	Corrective action
01300 Control module for navigation with CD mechanism -J401- ♦ no communication	♦ Open circuit or short circuit ♦ Incorrect control module, that is, control module does not support CAN ♦ A control module that supports CAN is not indicated with a "1" in measuring value block ⇒ Page 01-132 If control module for navigation with CD-mechanism -J401- is not displayed with "1" ♦ Adaptation for the instrument cluster was not performed properly	- Locate malfunction using wiring diagram - Repair open circuit - Replace control module with a control module that supports CAN - Select adaptation channel 62 and input the correct adaptation value ⇒ Page 01-190 .
01304 Radio ♦ no communication	♦ Open circuit or short circuit ♦ Incorrect control module, that is, control module does not support CAN ♦ A control module that supports CAN is not indicated with a "1" in measuring value block ⇒ Page 01-132 . ♦ Adaptation for the instrument cluster was not performed properly	- Locate malfunction using wiring diagram - Repair open circuit - Replace control module with a control module that supports CAN - Select adaptation channel 62 and input the correct adaptation value ⇒ Page 01-190 .

01-97

VAG 1551 scan tool display	Possible causes	Corrective action
01311 Data-BUS information ♦ faulty ♦ in single wire mode	♦ Open circuit or short circuit to a control module in information data-BUS ♦ Incorrect control module in information data-BUS, that is, control module does not support CAN. ♦ A control module that supports CAN is not indicated with a "1" in measuring value block ⇒ Page 01-132 . ♦ During adaptation of the instrument cluster, a control module that supports CAN was not concurrently adapted ♦ Data bus is operating on only one wire (this can cause EMV problems)	- Locate malfunction using wiring diagram - Repair open circuit - Replace control module with a control module that supports CAN - Select adaptation channel 62 and input the correct adaptation value ⇒ Page 01-190 . - Check data exchange ⇒ Page 01-196 .

01-98

VAG 1551 scan tool display	Possible causes	Corrective action
01312 Powertrain data-BUS ♦ faulty	♦ Open circuit or short circuit to a control module in powertrain data-BUS ♦ A control module in the powertrain data-BUS is incorrect, that is, control module does not support CAN ♦ A control module that supports CAN is not indicated with a "1" in measuring value block ⇒ Page 01-129 . ♦ During adaptation of the instrument cluster, a control module that supports CAN was not concurrently adapted	- Locate malfunction using wiring diagram - Repair open circuit - Replace incorrect control module with a control module that supports CAN - Select adaptation channel 60 and input the correct adaptation value ⇒ Page 01-183 .
01314 Engine Control Module (ECM) ♦ no communication	♦ Open circuit or short circuit ♦ Incorrect control module, that is, control module does not support CAN ♦ A control module that supports CAN is not indicated with a "1" in measuring value block ⇒ Page 01-129 If Engine Control Module (ECM) is not displayed with "1" ♦ Adaptation for the instrument cluster was not performed properly	- Locate malfunction using wiring diagram - Repair open circuit - Replace control module with a control module that supports CAN - Select adaptation channel 60 and input the correct adaptation value ⇒ Page 01-183 .

01-99

VAG 1551 scan tool display	Possible causes	Corrective action
01315 Transmission Control Module (TCM) ◆ no communication	◆ Open circuit or short circuit ◆ Incorrect control module, that is, control module does not support CAN ◆ A control module that supports CAN is not indicated with a "1" in measuring value block ⟹ Page 01-129 . ◆ Adaptation for the instrument cluster was not performed properly	- Locate malfunction using wiring diagram - Repair open circuit - Replace control module with a control module that supports CAN - Select adaptation channel 60 and input the correct adaptation value ⟹ Page 01-183 .
01320 Climatronic control module -J255- ◆ no communication	◆ Open circuit or short circuit ◆ Incorrect control module, that is, control module does not support CAN ◆ A control module that supports CAN is not indicated with a "1" in measuring value block ⟹ Page 01-130 If climatronic control module -J522- is not displayed with "1" ◆ Adaptation for the instrument cluster was not performed properly	- Locate malfunction using wiring diagram - Repair open circuit - Replace control module with a control module that supports CAN - Select adaptation channel 60 and input the correct adaptation value ⟹ Page 01-183 .

01-100

VAG 1551 scan tool display	Possible causes	Corrective action
01336 Comfort system data-BUS ◆ faulty ◆ in single wire mode	◆ Open circuit or short circuit to a control module in comfort system data-BUS ◆ A control module in the comfort system data-BUS is incorrect, that is, the control module does not support CAN ◆ A control module that supports CAN is not indicated with a "1" in measuring value block ⇒ Page 01-131 . ◆ During adaptation of the instrument cluster, a control module that supports CAN was not concurrently adapted ◆ Data bus is operating on only one wire (this can cause EMV problems)	- Locate malfunction using wiring diagram - Repair open circuit - Replace control module with a control module that supports CAN - Select adaptation channel 61 and input the correct adaptation value ⇒ Page 01-187 . - Check data exchange ⇒ Page 01-196 .
01402 Data wire from navigation ◆ Unplausible signal	◆ Open circuit in clock, enable or data wire ◆ Problem in interface between navigation and instrument cluster ◆ Disturbance due to electromagnetic radiation inside and outside vehicle	- Check cabling of data wires for damage - Check for cause of electromagnetic disturbance ⇒ *Repair Manual, Radio, Telephone,Navigation, Repair Group 91* - Repair open circuit
65535 Control module	Instrument cluster faulty	- Replace instrument cluster ⇒ Page 90-27 .

faulty		

01-101

Output Diagnostic Test Mode (scan tool function 03)

Notes:

- ◆ Output Diagnostic Test Mode is only possible when vehicle is stationary and engine is not running!

- ◆ If malfunctions are found during output Diagnostic Test Mode, determine cause of malfunction and replace instrument cluster if necessary.

During the "output Diagnostic Test Mode" function, all actuators that are installed in the instrument cluster and coded are activated in sequence.

- ◆ There is also a simultaneous parallel sweep through the indicator range of all analog display instruments (Engine Coolant Temperature (ECT) gauge, tachometer, speedometer, fuel gauge)

- ◆ Activation of warning lamps

- ◆ Activation of seat belt warning light

◆ Activation of chime

◆ Segment test of driver information system, LCD clock/date display, and LCD trip odometer and daily odometer.

01-102

◆ Test of instrument cluster lighting, including dimmer

Note:

Test can only be performed with lights switched on.

Initiating output Diagnostic Test Mode:

Rapid data transfer	**HELP**
Select function XX	

◄ Indicated on display

- Press buttons -0- and -3-. This selects "output Diagnostic Test Mode (DTM)", function 3.

Rapid data transfer	**Q**
03 - Output Diagnostic Test Mode	

◄ Indicated on display:

- Press -Q- button to confirm input. Output Diagnostic Test Mode for analog displays is initiated immediately.

Output Diagnostic Test Mode	**→**
Analog displays	

◄ Indicated on display:

01-103

The following tests are performed simultaneously:

♦ Sweep of coolant temperature needle through entire display range

♦ Sweep of tachometer needle through entire display range

♦ Sweep of speedometer needle through entire display range

♦ Sweep of fuel gauge needle through entire display range

After sweep of display ranges, the following fixed values are displayed:

Engine Coolant Temperature (ECT) gauge:	$^1/_2$
Tachometer:	3000 RPM
Speedometer:	62 MPH
Fuel gauge:	$^1/_2$

Note:

Switching ignition on and off will stop any needle

sweep that has started.

- Press → button.

01-104

Output Diagnostic Test Mode	→
Warning lamp test for instrument cluster	

◄ Indicated on display:

All lamps are switched on that are activated by the processor.

- Press → button.

Output Diagnostic Test Mode	→
Seat belt warning light -K19	

◄ Indicated on display:

Seat belt warning light is activated.

Note:

Depending on options/versions, the seat belt warning light may be activated by the control module coding, that is, if this actuator test is omitted, the warning light is not active.

- Press → button.

01-105

Output Diagnostic Test Mode	→
Gong	
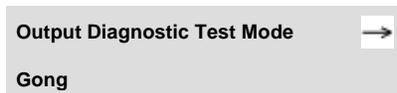
◄ Indicated on display:

Chime is activated and sounds the entire time.

 - Press → button.

Output Diagnostic Test Mode	→
Segment test	
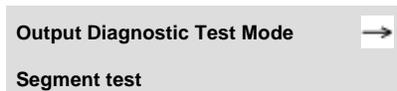
◄ Indicated on display:

All display points of the driver information display, the LCD clock/date indicator and the LCD odometer and daily odometer are activated.

 - Press → button.

01-106

Output Diagnostic Test Mode →

Illumination/switch and instruments

◄ Indicated on display:

Instrument cluster illumination is automatically set twice to bright and dark and then switched to maximum illumination (bright).

‐ Press → button.

Output Diagnostic Test Mode →

END

◄ Indicated on display:

‐ Press → button to end output Diagnostic Test Mode.

The tester returns to the "Select function" mode.

Rapid data transfer HELP

Select function XX

◄ Indicated on display

01-107

Erase DTC Memory (scan tool function 05)

Note:

If DTC memory cannot be erased, check DTC memory again and repair malfunction.

Requirements

◆ DTC memory checked ⇒ Page 01-91 .

◆ All malfunctions repaired.

After successful DTC memory check:

Rapid data transfer	HELP
Select function XX	

◄   Indicated on display

- Press buttons -0- and -5-. This selects "Erase DTC memory", function 05.

01-108

Rapid data transfer **Q**	◄ Indicated on display
05 Erase DTC memory	- Press -Q- button to confirm input.

◄   Indicated on display

Rapid data transfer   **→**

DTC memory is erased!

DTC memory is erased.

  - Press →button.

◄   Indicated on display

Rapid data transfer   **HELP**

Select function XX

Notes:

CAUTION!

DTC memory was not checked

◄   ♦ *Test sequence is faulty if this message is displayed.*

Rapid data transfer   **→**

DTC memory was not checked

◄   ♦ *Test sequence is faulty if this message is displayed.*

Follow test sequence exactly: first check DTC memory, repair malfunction (s) if necessary, then erase.

01-109

End Output (scan tool function 06)

Rapid data transfer HELP
Select function XX

◄ Indicated on display

- Press buttons -0- and -6-. This selects "End Output", function 06.

Rapid data transfer Q
06 End output

◄ Indicated on display

- Press -Q- button to confirm input.

Rapid data transfer HELP
Input address word XX

◄ Indicated on display

- Switch off ignition.

- Disconnect harness connectors for the VAG1551 scan tool

Code Control Module (scan tool function 07)

Using this function, the instrument cluster can be coded as follows:

◆ Options

◆ Country versions

◆ Number of cylinders

◆ Engine versions

Notes:

◆ *Coding adjusts the various combination possibilities of the on board computer according to engine type, cylinder count and country version.*

◆ *Only the appropriate combinations for the Audi A4 or Audi S4 are mentioned in the coding table.*

01-111

Initiating coding

Rapid data transfer	HELP
Select function XX	

◁ Indicated on display

- Press buttons -0- and -7-. This selects "Code Control Module", function 07.

- Press -Q- button to confirm input.

Rapid data transfer	Q
07 Code control module	

◁ Indicated on display

- Press -Q- button to confirm input.

Code control module	
Input code number XXXXX	(0-32000)

◁ Indicated on display:

- Input code number using coding table ⇒ . Example: 02242

    02   Seat belt warning active

      2   Country version US

        4   4-cylinder

          2   gas engine

Code control module	Q
Input code number 02242	(0-32000)

◁ Indicated on display:

- Press -Q- button to confirm input.

8D0920830... B5-INST. Clstr. M73 D08 →	
Coding 02242	WSC 06812

◁ Indicated on display:

- Press → button.

Coding table:

XX				Optional equipment/transmission version
00				No additional equipment
02				Seat belt warning active
16				Navigation I and II
	X			Country version
	0			Germany (D)
	1			RdW Left Hand Drive
	2			USA (US)
	3			Canada (CDN)
	4			Great Britain (GB)
	5			Japan (JP)
	6			Saudi Arabia (SA)
	7			Australia (AUS)
	8			RdW Right Hand Drive
	9			JP Right Hand Drive (RHD) vehicles

Note:

Navigation I is the first generation navigation system in center display. Navigation II is the navigation system with the monitor in the center console.

01-113

		X		Cylinder count
		4		4-cylinder
		6		6-cylinder
			X	Engine versions
			0	TDI-engine
			2	gas engine
			4	Turbo-engine

Notes:

◆ *Coding can be modified to allow for various combinations of optional equipment, depending on what is installed in the vehicle.*

◆ *If vehicle is equipped with more than one item of optional equipment and/or transmission variant that needs to be coded, the overall coding will be the total of the individual coding numbers.*

Example:

• Seat belt warning active and navigation I 02 + 16 = 18

01-114

Read Measuring Value Block (scan tool function 08)

Initiating "Read Measuring Value Block"

Rapid data transfer	HELP
Select function XX	

◄ Indicated on display

- Press buttons -0- and -8-. This selects "Read measuring value block", function 08.

- Press -Q- button to confirm input.

Rapid data transfer	Q
08 - Measured value block	

◄ Indicated on display

- Press -Q- button to confirm input.

Read measured value block
Input display group number XXX

◄ Indicated on display:

- Enter display group number (from table ⇒) and press -Q- button to confirm input.

The selected measuring value block is now displayed in standard form.

01-115

Display group overview:

Display group number	Indicated on display
001	1 = Speed 2 = Engine RPM 3 = Oil pressure switch 4 = Time
002	1 = Trip odometer 2 = Fuel gauge 3 = Tank sensor 4 = Outside air temperature
003	1 = Coolant temperature
010	1 = Channel 30 2 = Adaptation tank sensor 3 = Channel 9 4 = Trip odometer
011	1 = Channel 4

	2 = Language version
	3 = Channel 3
	4 = Consumption display

01-116

Display group number	Indicated on display
012	1 = Channel 40 2 = distance since service 3 = Channel 41 4 = Time since service
013	1 = Channel 42 2 = Minimum value miles 3 = Channel 43 4 = Maximum value miles
014	1 = Channel 44 2 = Max. time interval 3 = Unassigned 4 = Unassigned
015	1 = Channel 45 2 = Oil quality 3 = Channel 46

	4 = Total consumption quantity

Display group number	Indicated on display
050	1 = Trip odometer 2 = Engine RPM 3 = Oil temperature 4 = Coolant temperature
125	1 = Engine 2 = Transmission 3 = ABS 4 = ADR
126	1 = A/C
130	1 = Tire pressure 2 = Auxiliary heater 3 = Unassigned 4 = Parking assistance
140	1 = Radio 2 = Telephone 3 = Navigation

	4 = Telematic (Tele-data-processing)

01-118

Notes:

♦ *For an instrument cluster replacement, data from display groups 10...15 must be printed out.*

♦ *Measuring value blocks 125 and 126 indicate the participants in the powertrain data-BUS.*

♦ *Measuring value block 130 indicates the participants in the comfort system databus.*

♦ *Measuring value block 140 indicates the participants in the information data-BUS*

♦ *Display will always indicate the actual values obtained from the sensors. The values which appear on the instrument cluster are filtered and may be different.*

♦ *If the actual engine coolant temperature is between 80 ° C and 100 ° C, instrument cluster will always show 90 ° C.*

01-119

Measuring value block 001

Read Measuring Value Block 1 → ◄Indicated on display:

30 MPH   2400 RPM   Oil p2 <min.   12: 20 h

Time

Oil pressure switch 2

- Oil p2 < min.

- Oil p2 OK

Engine speed (RPM)

- 0 - 9990 RPM

Speed

- 0 - 187 MPH

01-120

Measuring value block 2

Read Measuring Value Block 2　　　→　　　◀Indicated on display:

6256 mi　　43 l　　82 Ohm　　23.0 ° C

Outside air temperature

- -40 to +70 ° C

Tank sensor

- approx. 280 Ohm (empty) ... approx. 40 Ohm (full)

Fuel gauge

- 0 - 100 1

Display value of trip odometer

01-121

Measuring value block 3

Read Measuring Value Block 3 → ◀Indicated on display:

85.0 ° C

Coolant temperature

• 50 - 130° C

01-122

Measuring value block 10

Read Measuring Value Block 10　　→　　◄Indicated on display:

Channel 30　　128　　Channel 9　　626 mi

Input value for adaptation of odometer

Adaptation channel for odometer

Factory adjusted adaptation value

Adaptation channel of fuel gauge sender resistance range
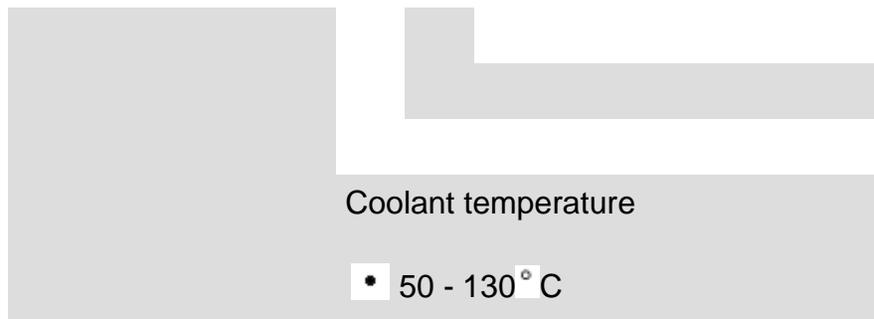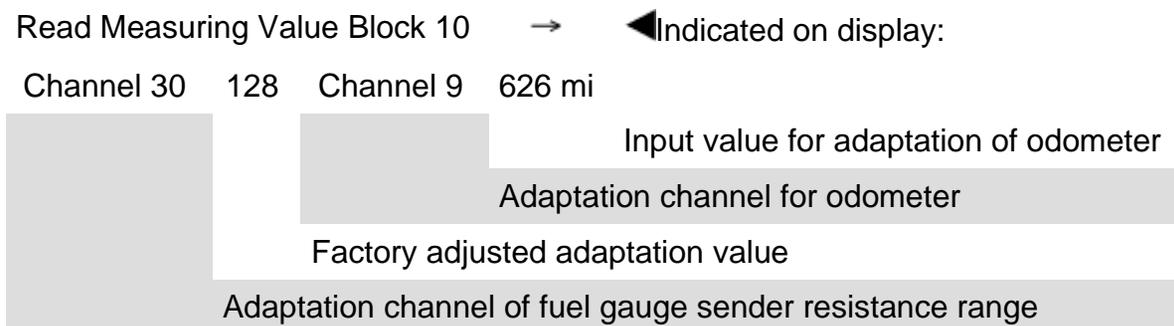
Note:

If the value "128" in display field 2 was changed due to a customer complaint, the changed value must be transferred when replacing instrument cluster.

01-123

Measuring value block 11

Read Measuring Value Block 11   →   ◀Indicated on display:

Channel 4   2   Channel 3   100

Factory adjusted adaptation value

Adaptation channel of fuel gauge

Selected language

* 1 is German

* 2 is English

Adaptation channel for language version of driver information display

Note:

If the value "100" in display field 4 was changed due to a customer complaint, the changed value must be transferred when replacing instrument cluster.

01-124

Measuring value block 12

Read Measuring Value Block 12 → ◀Indicated on display:

Channel 40   8   Channel 41   10

Time expired

* For example, 10 means 10 days

Adaptation channel for time since service

Driven miles

* 8 means 800 miles

Adaptation channel for distance driven since service
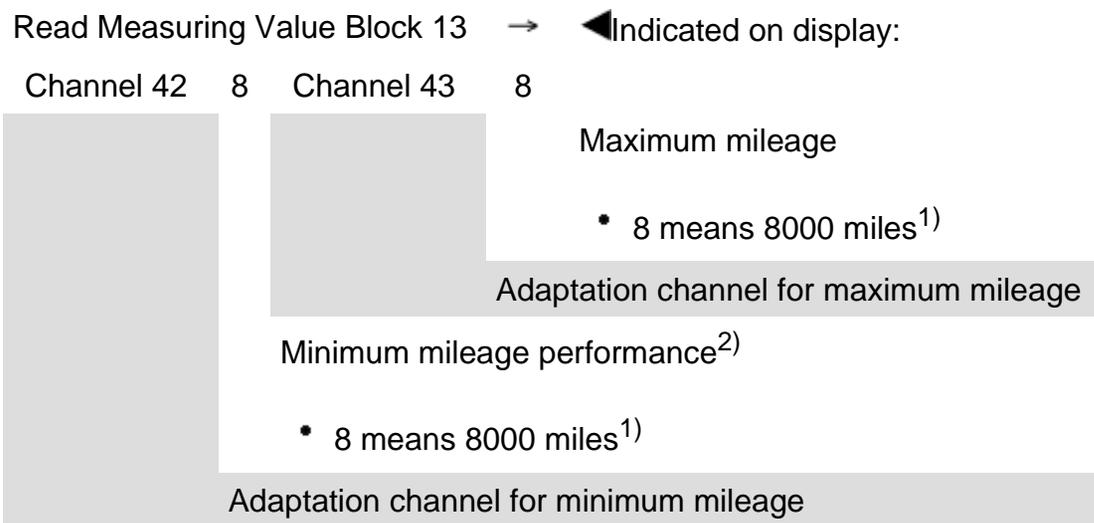
01-125

Measuring value block 13

Read Measuring Value Block 13 → ◀Indicated on display:

Channel 42   8   Channel 43   8

Maximum mileage

- 8 means 8000 miles[1]

Adaptation channel for maximum mileage

Minimum mileage performance[2]

- 8 means 8000 miles[1]

Adaptation channel for minimum mileage

Note:

[1] *The currently valid specifications can be found in the "Maintenance" book.*

⇒ *Repair Manual, Maintenance*

[2] *For USA-vehicles: For instrument cluster of the manufacturer Marelli, the starting value (first value of remaining distance without calculating) is set to 8000 miles. For instrument clusters of the manufacturer VDO, the starting value is set to 8100 miles. The 100 miles which are displayed in excess, are compensated during driving. For vehicles with 1.8 Liter Turbo engine, the starting value of 5000 is set. For both manufacturers 8000 or 8100 miles is displayed anyway. The damper action also occurs from the actual remaining interval during driving operation.*

01-126

Measuring value block 14

Read Measuring Value Block 14 → ◀Indicated on display:

Channel 44   365
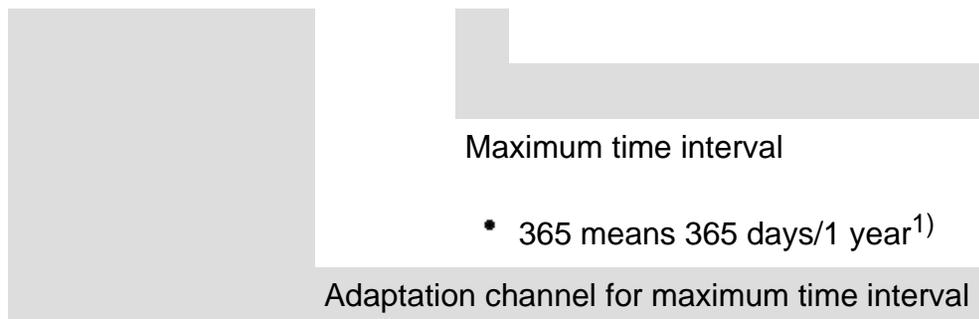
Maximum time interval

- 365 means 365 days/1 year[1]

Adaptation channel for maximum time interval

Note:

[1] *The currently valid specifications can be found in the "Maintenance" book.*

⇒ *Repair Manual, Maintenance*

01-127

Measuring value block 15

Read Measuring Value Block 15   →   ◀Indicated on display:

Channel 45   1   Channel 46   300

Total consumption quantity

* 300 means 300 liters

Adaptation channel for the total consumption quantity (gasoline engines only)

Oil quality

* Input of 1 to 4 possible [1]

* The "1" is entered in the USA

Adaptation channel for oil quality

Notes:

◆ [1] *The currently valid specifications can be found in the "Maintenance" book.*

⇒ *Repair Manual, Maintenance*

◆ *Oil quality must be re-adapted after every service.*

01-128

Measuring value block 50

Read Measuring Value Block 50   →   ◀Indicated on display:

6256 mi   2400 RPM   99°C   85.0 °C

Coolant temperature

• 50 - 130°C

Oil temperature

Engine speed (RPM)

• 0 - 9990 RPM

Display value of trip odometer

01-129
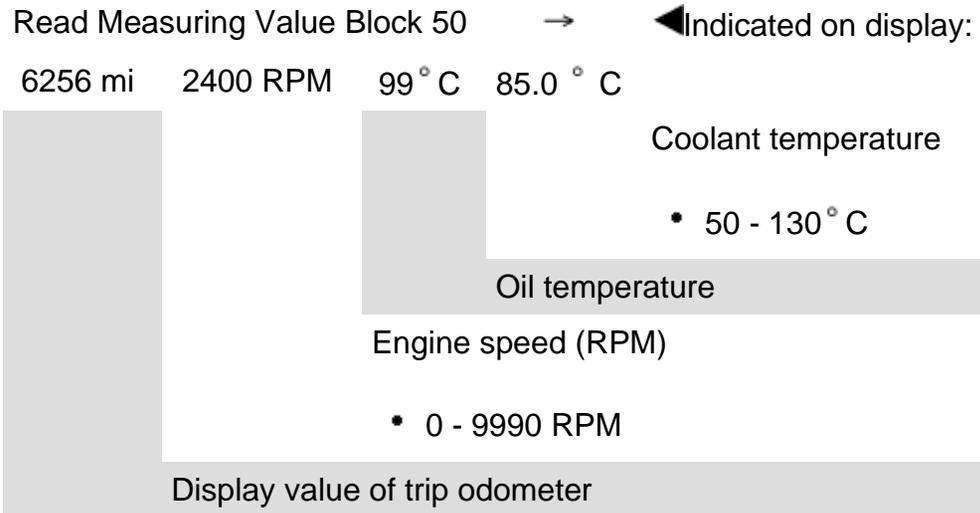
Measuring value block 125

Read Measuring Value Block 125   →   ◀ Indicated on display:

Engine 1   Transmission 1

ADR - Display field for connecting powertrain data-BUS

- 1 - means the ADR control module is a participant in the powertrain data-BUS

- empty display field indicates ADR control module is not a participant in the powertrain data-BUS

ABS - Display field for connecting powertrain data-BUS

- 1 - means the ABS control module is a participant in the powertrain data-BUS

- empty display field indicates ABS control module is not a participant in the powertrain data-BUS

Transmission - Display field for connecting powertrain data-BUS

- 1 - means the Transmission Control Module (TCM) is a participant in the powertrain data-BUS

- empty display field indicates Transmission Control Module (TCM) is not a participant in the powertrain data-BUS

Engine - Display field for connecting powertrain data-BUS

- 1 - means the Engine Control Module (ECM) is a participant in the powertrain data-BUS

- empty display field indicates Engine Control Module (ECM) is not a participant in the powertrain data-BUS

01-130

Measuring value block 126

Read Measuring Value Block 126   →   ◀Indicated on display:

A/C 1

A/C - Display field for connecting powertrain data-BUS

- 1 - means the A/C control module is a participant in the powertrain data-BUS

- empty display field indicates A/C Control Module is not a participant in the powertrain data-BUS

01-131

Measuring value block 130

Read Measuring Value Block 130 → ◄Indicated on display:

Parking assistance - display field for connecting comfort system data-BUS.

Connection

- 1- means the parking assistance control module is a participant in the comfort system data-BUS
- empty display field means the parking assistance control module is not a participant in the comfort system data-BUS

Auxiliary heater - display field for connecting the comfort system data-BUS

- 1- means the auxiliary heater control module is a participant in the comfort system data-BUS
- empty display field means the auxiliary heater control module is not a participant in the comfort system data-BUS

Tire pressure - display field for connecting the comfort system data-BUS

- 1- means the tire pressure control module is a participant in the comfort system data-BUS
- empty display field means the tire pressure control module is not a participant in the comfort system data-BUS

01-132

Measuring value block 140

Read Measuring Value
Block 140

→ ◀Indicated on display:

Telematic - Display field for connecting information data-BUS

- 1 - means the Telematic control module is a participant in the information data-BUS
- empty display field indicates Telematic control module is not a participant in the information data-BUS

Navigation - Display field for connecting information data-BUS

- 1 - means the navigation control module is a participant in the information data-BUS
- empty display field indicates navigation control module is not a participant in the information data-BUS

Telephone - Display field for connecting information data-BUS

- 1 - means the telephone control module is a participant in the information data-BUS
- empty display field indicates telephone control module is not a participant in the information data-BUS

Radio - Display field for connecting information data-BUS

- 1 - means the radio control module is a participant in the information data-BUS

- empty display field indicates radio control module is not a participant in the information data-BUS

01-133

Adaptation (scan tool function 10)

Individual functions are called up by entering the appropriate adaptation channel numbers (listed in the adaptation table ⇒ Page 01-134).

Notes:

♦ *Using measuring value blocks 10, 11, 12 and 15, the values that need to be transferred to the new instrument cluster can be read out before replacement.*

♦ *Adaptation channels 42, 43, and 44 (see measuring value blocks 013 and 014 ⇒ Page 01-125 and ⇒ Page 01-126) must be adapted according to the oil quality (measuring value block 15 ⇒ Page 01-127).*

♦ *Adaptation channels 60, 61, and 62 are only needed when the instrument cluster communicates with the corresponding BUS system..*

♦ *Measuring value blocks 125 and 126 ⇒ Page 01-129 and ⇒ Page 01-130 indicate the components that are part of the powertrain data-BUS.*

♦ *Measuring value block 130 ⇒ Page 01-131*

indicates the components that are part of the comfort system data-BUS.

◆ *Measuring value block 140 ⇒ Page 01-132 indicates the components that are part of the information data-BUS.*

Adaptation table:

Adaptation channel	Adaptation function
02	Resetting SRI after service ⇒ Page 01-136
03	Adaptation of fuel gauge ⇒ Page 01-140
04	Language version of driver information display ⇒ Page 01-143
09	Odometer ⇒ Page 01-148
18	Adaptation of auxiliary heater ⇒ Page 01-152
30	Adaptation of fuel gauge sender resistance range ⇒ Page 01-155
35	Adaptation of engine speed threshold ⇒ Page 01-158
40	Adaptation for distance driven since service ⇒ Page 01-161
41	Adaptation for time since service ⇒ Page 01-164
42	Adaptation for minimum mileage performance ⇒ Page 01-167
43	Adaptation for maximum mileage performance ⇒ Page 01-170
44	Adaptation for maximum time interval ⇒ Page 01-173
45	Adaptation for oil quality ⇒ Page 01-176
46	Adaptation for total consumption quantity (only gasoline engines) ⇒ Page 01-179
60	Adaptation powertrain data-BUS ⇒ Page 01-181
61	Adaptation comfort system data-BUS ⇒ Page 01-185
62	Adaptation information data-BUS ⇒ Page 01-188

01-135

Initiating "Adaptation" function 10

Rapid data transfer　　　　　**HELP**
Select function XX

◄　　Indicated on display

- Press buttons -1- and -0-. This selects "Adaptation", function 10.
- Press -Q- button to confirm input.

Rapid data transfer　　　　　**Q**
10 - Adaptation

◄　　Indicated on display

- Press -Q- button to confirm input.

Adaptation
Input channel number XX

◄　　Indicated on display:

- Enter desired adaptation channel (adaptation table ⇒).
- Press -Q- button to confirm input.

Note:

After changing an adaptation value or ending an adaptation channel, "Adaptation" function 10 must be performed again before selecting another adaptation channel.

01-136

Resetting SRI after service

Rapid data transfer	HELP
Select function XX	

◄ Indicated on display

- Press -1- and -0- and confirm by pressing the -Q- button.

Rapid data transfer	Q
10 - Adaptation	

◄ Indicated on display

- Press -Q- button to confirm input.

Adaptation
Input channel number XX

◄ Indicated on display:

- Press buttons -0- and -2-.

- Press -Q- button to confirm input.

Notes:

♦ *The Service Reminder Indicator (SRI) is used to remind the driver when a service is necessary. Indication is in center display.*

♦ *Service reminder appears 1 month or 1200 miles before service limit is reached. Resolution is 100 miles. Example for display: After a total driving distance of 7000 miles, "SERVICE IN 1000 miles" is indicated.*

♦ *The remaining distance to service can be checked via the menu in center display by pressing the clock set button once.*

♦ *When a service event arrives, the text information appears in the center display for 5 seconds when ignition is switched on. It is shown after the note for automatic transmission and a target input for navigation (if applicable). Display: "SERVICE".*

♦ *The currently valid specifications can be found in the "Maintenance" book.*

⇒ *Repair Manual, Maintenance*

♦ *Data version of instrument cluster* ⇒ *Page 01-88* .

♦ *Channels 40, 41, and 46, which display the dynamic values of the service event are set to "0" automatically.*

01-138

Channel 2 Adaptation 1 →

< - 1 3- >

◄ Indicated on display: Service event is displayed

1 - means service is active, this means that "SERVICE!" is displayed in the instrument cluster.

- Press → button.

Channel 2 Adaptation 1

Input adaptation value XXXXX

◄ Indicated on display:

Service event is reset using the following adaptation values:

Adaptation value	Service event
00000	Reset

- Using the keypad enter the appropriate adaptation value (00000) to erase the service.

- Press -0- button five times.

01-139

Channel 2 Adaptation 1   Q

Input adaptation value 00000

◄ Indicated on display:

- Press -Q- button to confirm input.

Channel 2 Adaptation 0   Q

< - 1 3- >

◄ Indicated on display:

0 - means service is reset, meaning that "SERVICE in 8000 mi (Marelli instrument cluster) or 8100 mi (VDO instrument cluster)" is displayed in instrument cluster after confirming with Q button.

Note:

The display of 8000 or 8100 miles is the starting value for the service display.

- Press -Q- button to confirm input.

Channel 2 Adaptation 0   Q

Store changed value?

◄ Indicated on display:

- Press -Q- button to confirm input.

Channel 2 Adaptation 0   →

Store changed value?

◄ Indicated on display:

- Press the → button to complete the reset of the SRI.

01-140

Adaptation of fuel consumption display

Rapid data transfer	HELP
Select function XX	

◄   Indicated on display

- Press -1- and -0- and confirm by pressing the -Q- button.

Rapid data transfer	Q
10 - Adaptation	

◄   Indicated on display

- Press -Q- button to confirm input.

Adaptation
Input channel number XX

◄   Indicated on display:

- Press buttons -0- and -3-.

- Press -Q- button to confirm input.

Notes:

♦ *Adaptation only for vehicles with on board computer.*

♦ *Value entered must be between 85% and 115%.*

♦ *Value must be entered in steps of 5%.*

♦ *If the value "100" was changed due to a customer complaint, the changed value must be transferred when replacing instrument cluster.*

Channel 3 Adaptation 100	→
Consumption display < - 1 3- >	

◄   Indicated on display:

- Press → button.

01-141

Note:

Correction of fuel consumption display is only possible via direct input.

| Channel 3 Adaptation 100 |
| Input adaptation value XXXXX |

◄ Indicated on display:

- Input desired correction value using scan tool keypad, filling initial positions with "0".

Example:

Desired input value: 90%

Keypad input: 00090

| Channel 3 Adaptation 100 | Q |
| Input adaptation value 00090 |

◄ Indicated on display:

- Press -Q- button to confirm input.

| Channel 3 Adaptation 90 | Q |
| Consumption display `<` - 1 3- `>` |

◄ Indicated on display:

- Press -Q- button to confirm input.

| Channel 3 Adaptation 90 | Q |
| Store changed value? |

◄ Indicated on display:

- Press -Q- button to confirm input.

| Channel 3 Adaptation 90 | → |
| Changed value is stored |

◄ Indicated on display:

- Conclude adaptation of the fuel consumption display by pressing the →

button.

01-142

Rapid data transfer	**HELP**
Select function XX	

◄ Indicated on display

   - Press -1- and -0- and confirm by pressing the -Q- button.

Rapid data transfer	**Q**
10 - Adaptation	

◄ Indicated on display

   - Press -Q- button to confirm input.

Note:

If input is incorrect, tester switches to function mode.

Function is unknown or	→ **cannot**
be carried out at the moment	

◄ Indicated on display:

   - Press → button.

   - Select "Adaptation" function 10 again and select adaptation channel 03.

   - Perform correction of fuel gauge again.

01-143

Language version of driver information display

◄ Indicated on display

Rapid data transfer	HELP
Select function XX	

  - Press -1- and -0- and confirm by pressing the -Q- button.

◄ Indicated on display

Rapid data transfer	Q
10 - Adaptation	

  - Press -Q- button to confirm input.

◄ Indicated on display:

Adaptation
Input channel number XX

  - Press buttons -0- and -4-.

  - Press -Q- button to confirm input.

◄ Indicated on display:

Channel 4 Adaptation 1	→
Language < - 1 3- >	

Notes:

♦ *Display indicates only the last digit of the five digit language version code, for example, 1 for German.*

♦ *If incorrect value is input "Adaptation" function is terminated and "Adaptation" function 10 must be initiated again.*

♦ *Code can now be entered using the scan tool keypad in steps or via direct input.*

01-144

Coding table:

Code	Language version
00001	German
00002	English
00003	French
00004	Italian
00005	Spanish
00006	Portuguese

01-145

Input in steps:

- Code can be decreased using button 1 and
  increased using button 3, for example, to 2 for
  language version English.
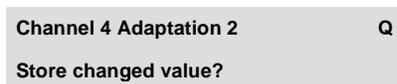
Channel 4 Adaptation 2	Q
Language < - 1 3- >	

◄   Indicated on display:

- Press -Q- button to confirm input.

Channel 4 Adaptation 2	Q
Store changed value?	

◄   Indicated on display:

- Press -Q- button to confirm input.

Channel 4 Adaptation 2	→
Changed value is stored	

◄   Indicated on display:

- Conclude adaptation of language version by pressing the → button.

01-146

Direct input:

Channel 4 Adaptation 1   →

Language < - 1 3- >

◄   Indicated on display:

- Press → button.

Channel 4 Adaptation 1

Input adaptation value XXXXX

◄   Indicated on display:

- Input desired five digit code ⇒ Page 01-144 Enter using keypad.

Example:

Coding: 2 (English)

Input value: 00002

- Press -Q- button to confirm input.

Channel 4 Adaptation 1   Q

Input adaptation value 00002

◄   Indicated on display:

- Press -Q- button to confirm input.

01-147

Channel 4 Adaptation 2	Q
Language < - 1 3- >	

◄   Indicated on display:

  - Press -Q- button to confirm input.

Channel 4 Adaptation 2	Q
Store changed value?	

◄   Indicated on display:

  - Press -Q- button to confirm input.

Channel 4 Adaptation 2	→
Changed value is stored	

◄   Indicated on display:

  - Conclude adaptation of language version by pressing the → button.

01-148

Odometer display

This function is used to adapt the odometer after the instrument cluster is replaced.

Notes:

♦ *The adaptation is only possible for an instrument cluster with a maximum mileage of 100 miles.*

♦ *Adaptation can only be performed once for each instrument cluster.*

♦ *Only larger adaptation values can be entered (more than 100 miles).*

♦ *If an incorrect value is entered and confirmed, it cannot be changed. If this happens, the instrument cluster must be replaced.*

♦ *In countries where speedometers are calibrated in miles, adaptation can be performed in miles.*

♦ *Observe notes when replacing instrument cluster ⇒ <u>Page 01-191</u> .*

01-149

Rapid data transfer HELP **Select function XX**	⊲ Indicated on display: - Press buttons -1- and 1-. This selects "Login Procedure" function 11.
Rapid data transfer Q **11 - Login-Procedure**	⊲ Indicated on display: - Press -Q- button to confirm input.
Login-Procedure **Input code number XXXXX**	⊲ Indicated on display: - Input code number 13861.
Login-Procedure Q **Input code number 13861**	⊲ Indicated on display: - Press -Q- button to confirm input.
Rapid data transfer HELP **Select function XX**	⊲ Indicated on display: - Press buttons -1- and -0-.
Rapid data transfer Q **10 - Adaptation**	⊲ Indicated on display: - Press -Q- button to confirm input.
Adaptation **Input channel number XX**	⊲ Indicated on display: - Press buttons -0- and -9-.

01-150

- Press -Q- button to confirm input.

Channel 9 Adaptation 0 →

Mileage in 10 miles < - 1 3- >

◄ Indicated on display:

Note:

For the VAG1551 scan tool values can only be input via direct input.

- Press the → button to continue program sequence.

Channel 9 Adaptation 0 Q

Input adaptation value XXXXX

◄ Indicated on display:

- Input adaptation value (measuring value block 10 ⇒ <u>Page 01-122</u>) via the keypad.

Example:

Mileage = 89627

0 8 9 6 3

X					Hundred thousands: 100000 - 655350
	X				Ten thousands: 10000 - 90000
		X			Thousands: 1000 - 9000
			X		Hundreds: 100 - 900
				X	Tens: 10 - 90
					Ones: round to nearest ten

01-151

Channel 9 Adaptation 0   Q

Input adaptation value 08963

◄   Indicated on display:

   - Press -Q- button to confirm input.

Channel 9 Adaptation 8963   Q

Mileage in 10 miles   < - 1 3- >

◄   Indicated on display:

   - Press -Q- button to confirm input.

Channel 9 Adaptation 8963   Q

Store changed value?

◄   Indicated on display:

   - Press -Q- button to confirm input.

Channel 9 Adaptation 8963   →

Changed value is stored

◄   Indicated on display:

   - End adaptation of odometer by pressing the → button.

01-152

Adaptation of auxiliary heater

Rapid data transfer	HELP
Select function XX	

◀   Indicated on display

- Press -1- and -0- and confirm by pressing the -Q- button.

Rapid data transfer	Q
10 - Adaptation	

◀   Indicated on display

- Press -Q- button to confirm input.

Adaptation
Input channel number XX

◀   Indicated on display:

- Press buttons 1- and -8-.

- Press -Q- button to confirm input.

01-153

Channel 18 Adaptation 0 ⟶

< **- 1 3-** >

◄ - Indicated on display: Adaptation value is displayed, for example 0.

Notes:

♦ *Adaptation value "0" is input if auxiliary heater is not installed.*

♦ *Adaptation value "1" is input if an auxiliary heater is installed that is independent of engine condition (running or not).*

♦ *Adaptation value "10" is input if an auxiliary heater is installed that switches off when engine is not running.*

- Press ⟶ button.

Channel 18 Adaptation 0

Input adaptation value XXXXX

◄ Indicated on display:

- Input adaptation value using keypad, filling initial positions with "0", for example 00001.

Channel 18 Adaptation 0   Q

Input adaptation value 00001

◄ Indicated on display:

- Press -Q- button to confirm input.

01-154

Channel 18 Adaptation 1   Q

< **- 1 3-** >

◄   Indicated on display:

    - Press -Q- button to confirm input.

Channel 18 Adaptation 1   Q

Store changed value?

◄   Indicated on display:

    - Press -Q- button to confirm input.

Channel 18 Adaptation 1   →

Changed value is stored

◄   Indicated on display:

    - End adaptation of the auxiliary heater by pressing the → button.

01-155

Adaptation of fuel gauge sender resistance range

This function is used to adjust the fuel gauge sender resistance range if the fuel gauge display in the instrument cluster does not match the actual amount of fuel in the tank.

Rapid data transfer	**HELP**
Select function XX	

◄ Indicated on display

- Press -1- and -0- and confirm by pressing the -Q- button.

Rapid data transfer	**Q**
10 - Adaptation	

◄ Indicated on display

- Press -Q- button to confirm input.

Adaptation
Input channel number XX

◄ Indicated on display:

- Press buttons -3- and -0-.

- Press -Q- button to confirm input.

01-156

Channel 30 Adaptation 128   →

Tank sender < - 1 3- >
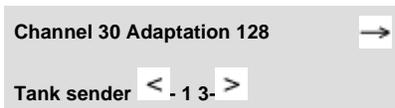
◄ Indicated on display: Adaptation value is displayed, for example 128.

Notes:

♦ *"128" is the adaptation value for the standard resistance range for the fuel gauge sender as set by the factory.*

♦ *The resistance value for the fuel gauge sender resistance range can be adjusted by $\pm$ 8 Ohm to give an adaptation value between 120 and 136.*

♦ *If the value "128" was changed due to a customer complaint, the changed value must be transferred when replacing instrument cluster.*

- Press → button.

Channel 30 Adaptation 128

Input adaptation value XXXXX

◄ Indicated on display:

- Input desired correction value using scan tool keypad, filling initial positions with "0" and watch how the display responds.

Example:

Desired input value: 132

Keypad input: 00132

Channel 30 Adaptation 128   Q

Input adaptation value 00132

◄ Indicated on display:

- Press -Q- button to confirm input.

01-157

Channel 30 Adaptation 132   Q

Tank sender `<` - 1 3- `>`

◄   Indicated on display:

- Press -Q- button to confirm input.

Channel 30 Adaptation 132   Q

Store changed value?

◄   Indicated on display:

- Press -Q- button to confirm input.

Channel 30 Adaptation 132   →

Changed value is stored

◄   Indicated on display:

- End adaptation of the fuel gauge sender resistance range by pressing the → button.

01-158

Adaptation of the engine speed threshold

This function is used to adapt the offset value for the engine speed threshold to the dynamic oil pressure warning.

Rapid data transfer	HELP
Select function XX	

◄ Indicated on display

- Press -1- and -0- and confirm by pressing the -Q- button.

Rapid data transfer	Q
10 - Adaptation	

◄ Indicated on display

- Press -Q- button to confirm input.

Adaptation
Input channel number XX

◄ Indicated on display:

- Press buttons -3- and 5-.

- Press -Q- button to confirm input.

01-159

Channel 35 Adaptation 0 →

< - 1 3- >

◄ Indicated on display: Adaptation value is displayed, for example 0.

Notes:

♦ *The adaptation value of 0 corresponds to the value set at the factory for the oil pressure warning if the oil pressure drops below 1.2 bar at 1500 rpm.*

♦ *The adaptation can be performed in four steps (0-1000).*

♦ *The adaptation value of "250" changes the engine speed threshold to 1750 rpm.*

♦ *If the value "0" was changed due to a customer complaint, the changed value must be transferred when replacing instrument cluster.*

- Press → button.

Channel 35 Adaptation 0

Input adaptation value XXXXX

◄ Indicated on display:

- Input adaptation value using keypad, filling initial positions with "0", for example, 00250.

Channel 35 Adaptation 0 Q

Input adaptation value 00250

◄ Indicated on display:

- Press -Q- button to confirm input.

01-160

Channel 35 Adaptation 250   Q

< - 1 3- >

◄   Indicated on display:

- Press -Q- button to confirm input.

Channel 35 Adaptation 250   Q

Store changed value?

◄   Indicated on display:

- Press -Q- button to confirm input.

Channel 35 Adaptation 250   →

Changed value is stored

◄   Indicated on display:

- End adaptation of the engine speed threshold by pressing the → button.

01-161

Distance driven since service

This function is used to input the distance in
miles since the last service.

Rapid data transfer	HELP
Select function XX	

◄   Indicated on display

- Press -1- and -0- and confirm by pressing the -Q- button.

Rapid data transfer	Q
10 - Adaptation	

◄   Indicated on display

- Press -Q- button to confirm input.

Adaptation
Input channel number XX

◄   Indicated on display:

- Press buttons -4- and -0-.

- Press -Q- button to confirm input.

Channel 40 Adaptation 8	→
Actual value Insp. in 100 Miles < - 1 3- >	

◄   Indicated on display: The display indicates the number of miles driven
     since the last service (here for example, 8 indicates 800 miles)

Notes:

♦ *Input of current specified value is only possible in units of 100 miles, therefore indication in display also changes in 100 mile units.*

♦ *Observe notes when replacing instrument cluster* ⇒ *.*

♦ *Values can only be input directly using the scan tool keypad.*