

01-187

## Read Measuring Value Block (scan tool function 08) for transmissions with hydraulic control -E17-

### Note:

For transmissions with hydraulic control -E18/2-,  
"Read Measuring Value Block" ⇒ [page 01-228](#)

### WARNING!

**To avoid accidents during measuring and test  
drives, observe safety precautions ⇒ [page  
01-34](#) .**

### Procedure

- Connect VAS 5051 tester or V.A.G 1551 Scan Tool (ST) and select Transmission Control Module (TCM) using "address word" 02 ⇒ [page 01-36](#) . Ignition must remain switched on.

Rapid data transfer

HELP

Select function XX



Indicated on display

- Press PRINT button to turn on ST printer. Indicator lamp in button must light up.
- Press buttons -0- and -8- to select "Read Measuring Value Block" and press -Q- button to confirm input.

Read measuring value block **Q**  
Enter display group number XXX

⚡ When indicated on display:

- Enter desired display group number, display group overview, ⇒ [page 01-189](#) .
- Press Q button to confirm input.

Read measuring value block 1 **→**  
1 2 3 4

⚡ Indicated on display (example) for display group 001:

**Notes:**

- ◆ *Explanation of values in the individual display fields ⇒ [Test table page 01-194](#) .*
- ◆ *Display can be printed out when printer is switched on.*
- ◆ *To switch to a different display group, proceed as follows:*

Display group	V.A.G 1551	VAS 5051 tester
Higher	Press button -3-	Press ▲ button.
Lower	Press button -1-	Press ▼ button.

- If specified values are obtained in all display fields, press → button.

Rapid data transfer **HELP**  
Select function XX

⚡ Indicated on display (function selection):

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## Overview of selectable display group numbers for transmission with hydraulic control -E17-

Indicated on display (example)			
Display fields:	Display group no.	Display field	Description
<b>1 2 3 4</b>   J J J			
Read measuring value block 1 →  <b>0 RPM 0 RPM 0 RPM 4</b>	001	1  2  3  4	Engine speed (RPM)  Sensor for Transmission RPM -G182-  Transmission Vehicle Speed Sensor -G38-  Driving range selected
Read measuring value block 2 →  <b>0 0 % 0 RPM 4</b>	002	1  2  3  4	Dynamic code number  Throttle valve value  Transmission Vehicle Speed Sensor -G38-  Driving range selected
Read measuring value block 3 →  <b>PN active 0 km/h 12.8 V</b>	003	1  2  3  4	Brake  "P" "N" lock  Speed  Supply voltage pin 54, 55

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<b>Indicated on display (example)</b>			
<b>Display fields:</b>	<b>Display group no.</b>	<b>Display field</b>	<b>Description</b>
<b>1 2 3 4</b> 			
Read measuring value block 4 →  <b>21.0 ° C P 1000</b>	004	1  2  3  4	ATF temperature  Selector lever position  Multi-function switch position  On Board Diagnostic (OBD) <sup>1)</sup> information  Request for engine intervention <sup>2)</sup>
Read measuring value block 5 →  <b>0 0 0 4</b>	005	1  2  3  4	Solenoid valve 1 -N88-  Solenoid valve 2 -N89-  Solenoid valve 3 -N90-  Driving range selected
Read measuring value block 6 →  <b>0.747A 0.747A 0.747A 4</b>	006	1  2  3  4	Specified current of solenoid valve 4 -N91-  Specified current of solenoid valve 5 -N92-  Specified current of solenoid valve 6 -N93-  Driving range selected

1) Only for vehicles with CAN-bus. For information about which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, engine/transmission allocation, ratios, equipment](#)

2) Only for vehicles without CAN-bus. For information about which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, engine/transmission allocation, ratios, equipment](#)

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<b>Indicated on display (example)</b>			
<b>Display fields:</b>	<b>Display group no.</b>	<b>Display field</b>	<b>Description</b>
<b>1 2 3 4</b> 			
Read measuring value block 7 →  <b>21.0 ° C 0.747A TC on 0 RPM</b>	007	1  2  3  4	ATF temperature  Specified current of solenoid valve 7 -N94-  Torque converter clutch  Torque converter slip speed
Read measuring value block 8 →  <b>0 % 5 %</b>	008	1  2  3  4	Kick down switch  Throttle valve value  Engine torque in Nm <sup>1)</sup>  Throttle valve duty cycle in % <sup>2)</sup>  Deceleration mode/engine under load
Read measuring value block 9 →  <b>100 Nm 350 Nm 0 RPM 0%</b>	009 <sup>1)</sup>	1  2  3  4	Engine torque (actual)  Maximum torque  Engine speed (RPM)  Throttle valve value

1) Only for vehicles with CAN-bus. For information about which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, engine/transmission allocation, ratios, equipment](#)

2) Only for vehicles without CAN-bus. For information about which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, engine/transmission allocation, ratios, equipment](#)

01-192

<b>Indicated on display (example)</b>			
<b>Display fields:</b>	<b>Display group no.</b>	<b>Display field</b>	<b>Description</b>
<b>1 2 3 4</b> 			
Read measuring value block 9 →  <b>100 Nm 0 RPM 0 % 0.00 ms</b>	009 <sup>2)</sup>	1 2 3 4	Engine torque (actual) Engine speed (RPM) Throttle valve value Fuel consumption signal
Read measuring value block 10 →  <b>0,00 0 RPM 4</b>	010	1 2 3 4	Torque increase in torque converter Engine speed (RPM) Gear selected Anti-Slip Regulation (ASR)
Read measuring value block 11 →  <b>D M-switch up button Compr. ON</b>	011	1 2 3 4	Selector lever position Tiptronic recognition Tiptronic Switch -F189- Air conditioning kick down

<sup>2)</sup> Only for vehicles without CAN-bus For information on which vehicles are equipped with CAN-bus



⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, engine/transmission allocation, ratios, equipment](#)

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**Notes:**

- ◆ *When the printer is switched on, the contents of the display will be printed out on the scan tool log.*
- ◆ *If specified values are not obtained in all display fields:*
  - Press → button.

Rapid data transfer

HELP

Select function XX



Indicated on display

01-194

**Test table for transmissions with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. Value on V.A.G 1551 display	Corrective actions
001	1	Engine speed (RPM)	with engine running	approx. 0...8200 RPM	- Perform electrical test ⇒ <a href="#">page 01-273</a> - Check identification of Transmission Control Module (TCM) ⇒ <a href="#">page 01-273</a> , replace if necessary - Check DTCs of Engine Control Module (ECM) and if necessary check identification
	2	Sensor for transmission RPM - G182-	while driving, with gear selected <sup>1)</sup>	RPM	- see DTC table, DTC number 17100 / P0716 ⇒ <a href="#">page 01-45</a>
	Continue ▼			R	
1M		approx. 0...10			

<sup>1)</sup> While driving, a second mechanic is required to read specifications.

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## Only for transmission with hydraulic control -E17-

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
001	2	Sensor for Transmission RPM -G182-	1	approx. 0...10	- Perform electrical test ⇒ <a href="#">page 01-273</a>
			With engine under load		
			1	approx. 0...300	- Read measuring value block, Display group number 007 and determine which elements are faulty or not activated while driving
			In deceleration mode		
			2	approx. 0...4000 <sup>1)</sup>	
			3	approx. 0...8200 <sup>1)</sup>	
4	approx. 0...8200 <sup>1)</sup>				
5	approx. 0...8200 <sup>1)</sup>				
Continue ▼					

1) Indication should mimic the current engine speed in display field 1, i.e. when engine speed increases or decreases, transmission input RPM should increase or decrease.

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**Only for transmission with hydraulic control E17**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
001	3	Transmission Vehicle Speed (VSS) sensor -G38- <sup>2)</sup>	While driving, with gear selected <sup>1)</sup>	... RPM <sup>3)</sup>	- See appropriate DTC for Transmission Vehicle Speed Sensor (VSS) -G38- (also called sensor for transmission output RPM -G195-) <sup>2)</sup>
			R	approx. 0...2000	- Perform electrical test ⇒ <a href="#">page 01-273</a>
			1M, 1	approx. 0...1200	
			2	approx. 0...4000	
			3	approx. 0...5800	
			4	approx. 0...8200	- Read measuring value block, display group number 007
Continue ▼			5	approx. 0...8200	- Determine while driving which elements are faulty and which aren't active

**Notes and footnotes for display field 1 to 3 of display group number 001 are on the next page.**

- 1) While driving, a second mechanic is required to read specifications.
- 2) Also referred to as the sensor for transmission output RPM -G195-.
- 3) Indication should mimic the engine speed in display field 1, i.e. when engine speed increases or decreases, transmission RPM (output RPM) should increase or decrease.

***Notes for display group number 001, display field 1 to 3;***

- ◆ *Test conditions: Shifting process must be finished. Vehicle must not be in deceleration mode (no down-hill driving or engine braking).*

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**Only for transmission with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions	
001	4	Gear selected	while driving <sup>1)</sup> Selector lever position		- Check solenoid valves. See display group number 005 and 006	
				"N"	"1"..."5" <sup>2)</sup>	- See DTC table, DTC numbers of appropriate solenoid valves
				"R"	"R"	- Check selector lever position. Display group number 004
				"D"	"1" "2" "3" "4" "5"	
				"4"	"1" "2" "3" "4"	
				"3"	"1" "2" "3"	
				"2"	"1M" "2"	

**Notes and footnotes for display field 4 of display group number 001 are on the next page.**

- 1) While driving, a second mechanic is required to read specifications.
- 2) Transmission Control Module (TCM) is equipped with an automatic gear follower. The forward gear is indicated that the TCM would activate in selector lever position "D".

***Note on selected gear :***

- ◆ *Faulty solenoid valves or other diagnostic malfunctions can prevent the selection of certain gears.*



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**Only for transmission with hydraulic control -E17-**

<b>Display group No.</b>	<b>Display field</b>	<b>Description</b>	<b>Test requirements</b>	<b>Spec. value on V.A.G 1551 display</b>	<b>Corrective actions</b>	
002	1	Dynamic code number (of dynamic shifting program)	Under normal driving conditions <sup>1)</sup>	Min. value (very economical)	0	Determined by driving style and street conditions (acceleration, accelerator pedal movement, speed and load)
				Max. value (very sporty)	240	
				Warm-up program is active	241	Shifting avoided whenever possible
				Anti-Slip Regulation (ASR) active	242	
				Tiptronic recognition activated	243	
				Cruise control system characteristic map	244	Only for USA, not applicable yet

- 1) While driving, a second mechanic is required to read specifications.

**Only for transmission with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
002	2	Throttle valve value	While standing idle	0...1 %	When accelerating from idle to Wide Open Throttle (WOT), %-value increases steadily.
			Wide Open Throttle (WOT)	99...100 %	- Perform electrical test ⇒ <a href="#">page 01-273</a> - See respective DTCs of Throttle Position (TP) sensor - G69-
	3	Transmission Vehicle Speed (VSS) sensor - G38- <sup>2)</sup>	While driving <sup>1)</sup>	0...8200	- See appropriate DTC for VSS -G38- (-G195-) <sup>2)</sup> - See display group number 001
	4	Gear selected	See display group number 1, display field 4		

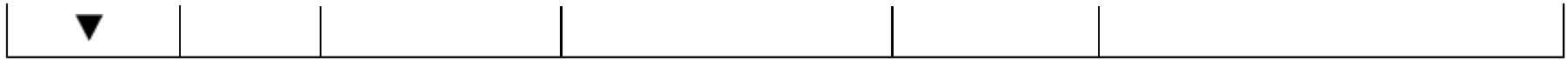
<sup>1)</sup> While driving, a second mechanic is required to read specifications.

<sup>2)</sup> Also referred to as sensor for transmission output RPM -G195-.

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## Only for transmission with hydraulic control -E17-

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
003	1	Brake light switch -F-	Brake not operated	-	- See appropriate DTCs for brake light switch -F-
			Brake activated	Brake	- Perform electrical test ⇒ <a href="#">page 01-273</a>
	2	Shift lock solenoid -N110- <sup>2)</sup>	While standing brake not operated	P N active	- See appropriate DTC for shift lock solenoid -N110- <sup>2)</sup>
			brake activated	P N not selected	- Check shift lock solenoid -N110-. Perform electrical test ⇒ <a href="#">page 01-273</a>
	3	Speed	While driving <sup>1)</sup>	...km/h	Speedometer display and value on V.A.G1551 may deviate slightly from each other.  - If necessary, check Speedometer Vehicle Speed sensor (VSS) -G22-
	Continue				



- 1) While driving, a second mechanic is required to read specifications.
- 2) Shift lock solenoid -N110- is also referred to as shift lock  $\Rightarrow$  solenoid -N110-.

01-203

**Only for transmission with hydraulic control -E17-**

Display group number	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
003	4	Supply voltage, terminal 15	While standing	min. 10.0 V	- Perform electrical test ⇒ <a href="#">page 01-273</a>
				max. 16.0 V	- See DTC table, DTC 00532 ⇒ <a href="#">page 01-45</a>
004	1	ATF temperature	While standing with engine running.	... °C	- Perform electrical test ⇒ <a href="#">page 01-273</a> - See appropriate DTCs for Transmission Fluid (ATF) Temperature sensor -G93-
Continue ▼					

**Notes for ATF temperature:**

◆ Recognized temperature of minus 50° C indicates a short circuit to Ground (GND)

- ◆ *Recognized temperature of minus 180° C indicates a short circuit to B+ or an open circuit*

01-204

## Only for transmission with hydraulic control -E17-

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions	
004	2	Selector lever position - (Multi-function Transmission Range (TR) switch -F125-)	While standing	P	P	- Check TR switch -F125-. Display group no. 004
			Selector	R	R	- Perform electrical test ⇒ <a href="#">page 01-273</a>
			lever	N	N	Check for agreement with indication in instrument cluster
			in	D	D	
				4	4	
				3	3	- If necessary adjust selector lever bowden cable
				2	2	⇒ <a href="#">Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 37, shift mechanism, repairing</a>
Continue ▼						



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## Only for transmission with hydraulic control -E17-

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions	
004	3	Multi-function Transmission Range (TR) switch -F125-	while standing	Selector lever position	L1 L2 L3 L4	- See appropriate DTC for TR switch -F125- <sup>1)</sup>
				P	1000	- Check TR switch -F125-
				R	0100	- Perform electrical test ⇒ <a href="#">page 01-273</a>
				N	1110	
				D	1011	- If necessary adjust selector lever bowden cable
				4	0111	⇒ <a href="#">Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 37, shift mechanism, repairing</a>
				3	0001	
				2	0010	
Continue ▼						

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**Notes for display field 3 of display group number 004:**

- ◆ *Input signals of Multi-function Transmission Range (TR) switch -F125- can be checked at the Transmission Control Module (TCM).*

	<b>Display field 3: (from left to right)</b>			
	L 1	L 2	L 3	L 4
<b>Wiring connection to TCM - J217-</b>	Terminal 36 of - J217-	Terminal 8 of -J217-	Terminal 37 of - J217-	Terminal 9 of -J217-

01-207

**Only for transmission with hydraulic control -E17-**

Display group number	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
004  without CAN-bus	4	Engine intervention  (ignition intervention)	While driving <sup>1)</sup>  Engine speed signal OK		- See DTC table, DTC 00545, 18192 and 18193 ⇒ <a href="#">page 01-45</a>
			is  switched on	Engine interv.	- Perform electrical test ⇒ <a href="#">page 01-273</a> - Check wire connection to Engine Control Module (ECM)
			is  switched off	-	- Only replace Transmission Control Module (TCM) -J217- if necessary ⇒ <a href="#">page 01-11</a>

<sup>1)</sup> While driving, a second mechanic is required to read specifications.

**Notes for display field 4 of display group number 004 are on the next page:**

**Notes for display field 4 of display group number 004:**

- ◆ *This display field 4 is only valid for vehicles without CAN-bus, refer to next page for vehicles with CAN-bus. A)*
- ◆ *Engine intervention is only activated during the shifting process. Depending on the driving situation, engine intervention may only be activated briefly, i.e. the relatively slow data transfer to the V.A.G1551 can miss this brief engine intervention under certain driving conditions.*

A) There is a distinction made between vehicles with and without CAN-bus. For information on which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, unit allocation, ratios, equipment](#)

01-209

**Only for transmission with hydraulic control -E17-**

Display group number	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
004  with CAN-bus	4	Information of On Board Diagnostic (OBD)  Indicated on display from left to right	While driving <sup>1)</sup>		not applicable
				Malfunction display	
			switched off	0	
		Trip	completed	1	
			not completed	0	
		Transmission warm-up	completed	1	
			not completed	0	
		Engine start	recognized	1	
			not recognized	0	

<sup>1)</sup> While driving, a second mechanic is required to read specifications.

**Notes for display field 4 of display group number 004 ⇒ see next page**

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**01-210****Notes for display field 4 of display group number 004:**

- ◆ *This display field 4 is only valid for vehicles with CAN-bus, refer to previous display field 4 for vehicles without CAN-bus.*  
A)

A) There is a distinction made between vehicles with and without CAN-bus. For information on which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, aggregate allocation, ratios, equipment](#)

01-211

**Only for transmission with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
005	1	Solenoid valve 1 - N88- <sup>2)</sup>	while driving <sup>1)</sup> Gear selected		- See appropriate DTC for solenoid valve 1 -N88- <sup>2)</sup>
				R, 5, 2, 1, 1M	1
				3, 4	0
	2	Solenoid valve 2 - N89- <sup>3)</sup>	while driving <sup>1)</sup> Gear selected		- See appropriate DTC for solenoid valve 2 -N89- <sup>3)</sup>
				3, 2, 1	1
				R, 1M, 4, 5	0
Continue ▼					

<sup>1)</sup> While driving, a second mechanic is required to read specifications.

<sup>2)</sup> Solenoid valve 1 -N88- is also referred to as shift valve 1 ⇒ solenoid valve 1 -N88-

<sup>3)</sup> Solenoid valve 2 -N89- is also referred to as shift valve 2 ⇒ solenoid valve 2 -N89-

01-212

**Only for transmission with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
005	3	Solenoid valve 3 - N90- <sup>2)</sup>	While driving <sup>1)</sup> Gear selected		- See appropriate DTC for solenoid valve 3 -N90- <sup>2)</sup>
				3, 4, 5	
				R, 1, 1M, 2	0
	4	Gear selected	See display group number 1, display field 4		

<sup>1)</sup> While driving, a second mechanic is required to read specifications.

<sup>2)</sup> Solenoid valve 3 -N90- is also referred to as shift valve 3 ⇒ solenoid valve 3 -N90-

**Notes for display group number 5, display field 1 to 3;**

◆ *Un-switched solenoid valves are indicated with "0", switched solenoid valves are indicated with "1".*

◆ *Variable switching solenoid valves are indicated with "X".*



01-213

**Only for transmission with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
006	1	Specified current of solenoid valve 4 -N91- <sup>2)</sup>	While driving <sup>1)</sup>		- See DTC table, DTC 00264 ⇒ <a href="#">page 01-45</a>
				min. 0.1 A	- Perform electrical test ⇒ <a href="#">page 01-273</a>
				max. 0.8 A	
	2	Specified current of solenoid valve 5 -N92- <sup>3)</sup>	While driving <sup>1)</sup>		- See DTC table, DTC 266 ⇒ <a href="#">page 01-45</a>
				min. 0.1 A	- Perform electrical test ⇒ <a href="#">page 01-273</a>
				max. 0.8 A	
Continue ▼					

<sup>1)</sup> While driving, a second mechanic is required to read specifications.

<sup>2)</sup> Solenoid valve 4 -N91- is also referred to as pressure control valve 1 for auto. transmission -N215-.

<sup>3)</sup> Solenoid valve 5 -N92- is also referred to as pressure control valve 2 for auto. transmission -N216-.

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**Only for transmission with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
006	3	Specified current of solenoid valve 6 -N93- <sup>2)</sup>	While driving <sup>1)</sup>		- See DTC table, DTC 268 ⇒ <a href="#">page 01-45</a>
				min. 0.1 A	- Perform electrical test ⇒ <a href="#">page 01-273</a>
				max. 0.8 A	
	4	Gear selected	See display group number 1, display field 4		

<sup>1)</sup> While driving, a second mechanic is required to read specifications.

<sup>2)</sup> Solenoid valve 6 -N93- is also referred to as pressure control valve 3 for auto. transmission -N217-.

**Notes for specified current of solenoid valves:**

◆ *Faulty solenoid valves or clutches or other malfunctions can prevent shifting into certain gears.*

01-215

## Only for transmission with hydraulic control -E17-

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions	
007	1	ATF temperature	While standing with engine running. When temperature sensor is faulty, a replacement value is transmitted.	... °C	- Check Transmission Fluid (ATF) Temperature sensor - G93-; perform electrical test ⇒ <a href="#">page 01-273</a>	
	2	Specified current of solenoid valve 7 -N94- <sup>2)</sup>	While driving <sup>1)</sup>	min.	0.1 A	- See DTC table, DTC 270 ⇒ <a href="#">page 01-45</a>
				max	0.8 A	- Perform electrical test ⇒ <a href="#">page 01-273</a>
	3	Torque converter lock-up clutch	While driving <sup>1)</sup>		TC open	- See DTC table, DTC 1192 ⇒ <a href="#">page 01-45</a>
					TC control	- Perform electrical test ⇒ <a href="#">page 01-273</a>
					TC closed	
Continue						

- 1) While driving, a second mechanic is required to read specifications.
- 2) Solenoid valve 7 -N94- is also referred to as pressure control valve 4 for auto. transmission -N218-.

01-216

**Only for transmission with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions	
007	4	Torque converter slip speed	hile driving 1)	TC open	0.....standstill RPM	- See DTC table, DTC 00297, 00660 and 01192 ⇒ <a href="#">page 01-45</a>
				TC control (last shift operation at least 20 sec ago)	20...120 RPM	- Determine which element is faulty or not activated, transmission with shift elements  ⇒ <a href="#">Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 37, transmission with shift elements</a>
				TC closed	0...10 RPM	- Check plausibility between engine, transmission input- and transmission speed; Display group number 001

1) While driving, a second mechanic is required to read specifications.

**Notes for display field 4 of display group number 004 are on the next page:**

***Test requirements for torque converter slip speeds:***

- ◆ *"TC closed": Shifting process must be complete (wait at least 1 sec.), the Torque Converter (TC) must be closed and the accelerator pedal value must be constant.*
- ◆ *"TC control": Indicated values are valid for the regulating condition of the throttle converter (control). Under inconvenient conditions (e.g. accelerating on a hill), this condition is not reached until 20 seconds after the shifting process has been completed. During this regulating phase, slip values of up to 350 RPM can be reached.*
- ◆ *Excessive torque slip speeds can also indicate slipping clutches or non-activated shifting elements.*

01-218

## Only for transmission with hydraulic control -E17-

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions	
008	1	Kick down switch -F8-	Kick-down	Kick down	- Check kick down switch, perform electrical test ⇒ <a href="#">page 01-273</a>	
			activated	Kick down		
			not operated	-		
Continue ▼	2	Throttle valve value <sup>1)</sup>	while standing	idle	0...1 %	When accelerating from idle to Wide Open Throttle (WOT), %-value increases steadily.
				Wide Open Throttle (WOT)	99...100 %	- Perform electrical test ⇒ <a href="#">page 01-273</a> - See DTC table, DTC 00518 and 00638 ⇒ <a href="#">page 01-45</a>

01-219

**Only for transmission with hydraulic control -E17-**

Display group No.	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
008	3 <sup>3)</sup>  without CAN-bus	Throttle valve duty cycle	While idle standing	smaller than 30%	When accelerating from idle to Wide Open Throttle (WOT), %-value increases steadily.  - Perform electrical test ⇒ <a href="#">page 01-273</a> - See DTC table, DTC 00518 and 00638 ⇒ <a href="#">page 01-45</a>
			Wide Open Throttle (WOT)	more than 70%	
Continue ▼	3 <sup>2)</sup>  with CAN-bus	Engine torque	While driving <sup>1)</sup>	Nm	The signal for actual engine torque is transmitted by the Engine Control Module (ECM) to the Transmission Control Module (TCM) via the CAN-bus wiring.

**Notes and footnotes for display group number 008 are on the next page.**



01-220

**Only for transmission with hydraulic control E17**

Display group number	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions	
008	4	Signal for deceleration/engine under load	While driving 1)	Deceleration mode	Deceleration	For declines or delay (engine brake)
				Engine under load	-	Engine is under load in normal driving conditions.

1) While driving, a second mechanic is required to read specifications.

2) Only for vehicles with CAN-bus For information on which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, unit allocation, ratios, equipment](#)

3) Only for vehicles without CAN-bus For information on which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, unit allocation, ratios, equipment](#)

01-221

## Only for transmission with hydraulic control -E17-

Display group number	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
009  with CAN-bus	1	Engine torque (actual)	while driving <sup>1)</sup>	...Nm	The signal for actual engine torque is transmitted by the Engine Control Module (ECM) to the Transmission Control Module (TCM) via the CAN-bus wiring.
	2	Maximum torque	while driving <sup>1)</sup>	...Nm	The engine torque required (reduced) by the TCM during the shifting process <sup>2)</sup>
	3	Engine RPM	with engine running	approx. 0...8200  RPM	- See DTC table, DTC 529 and 543 ⇒ <a href="#">page 01-45</a>
	4	Throttle valve value	while standing	Idle <sup>1)</sup>	0...1 %
			Wide Open Throttle (WOT)	99...100 %	- See DTC table, DTC 518 ⇒ <a href="#">page 01-45</a>

***Notes and footnotes for display group number 009 for vehicles with CAN-bus are on the next page.***

- 1) While driving, a second mechanic is required to read specifications.
- 2) While driving in one gear, the indicated shifting torque remains constantly high, since no torque reduction is required.

**Notes for display group number 009;**

◆ *This display group number 009 is only valid for vehicles with CAN-bus, refer to display group number 009 on next page for vehicles without CAN-bus. A)*

A) There is a distinction made between vehicles with and without CAN-bus. For information on which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, unit allocation, ratios, equipment](#)

01-223

**Only for transmission with hydraulic control E17**

Display group number	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
009  without CAN-bus	1	Engine torque (actual)	While driving <sup>1)</sup>	Nm	Engine torque is calculated by the Transmission Control Module (TCM) based on fuel consumption signal and engine speed signal.
	2	Engine RPM	With engine running	approx. 0...8200  RPM	- See DTC table, DTC 529 and 543 ⇒ <a href="#">page 01-45</a> - Perform electrical test ⇒ <a href="#">page 01-273</a>
	3	Throttle valve value	See display group number 2, display field 2		
	4	Fuel consumption signal (high time)	While driving <sup>1)</sup>	ms	Not applicable

<sup>1)</sup> While driving a second mechanic is required to read specifications.

**Notes for display group number 009 ⇒ see next page;**

**Notes for display group number 009;**

- ◆ *This display group number 009 is only valid for vehicles without CAN-bus, refer to previous display group number 009 for vehicles with CAN-bus. A)*
- ◆ *For vehicles with motronic injection and ignition systems, engine torque is transmitted by the Engine Control Module (ECM). For these vehicles, the fuel consumption display is omitted or always indicates "00ms".*

A) There is a distinction made between vehicles with and without CAN-bus. For information on which vehicles are equipped with CAN-bus

⇒ [Repair Manual, 5 Spd. Automatic Transmission 01V, Repair Group 00, engine codes, aggregate allocation, ratios, equipment](#)

01-225

**Only for transmission with hydraulic control -E17-**

Display group number	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
010	1	Torque increase in torque converter	While driving <sup>1)</sup>	1...2,17	Calculated by the Transmission Control Module (TCM) from the torque converter slip speed
	2	Engine speed (RPM)	With engine running	approx. 0...8200  RPM	- Perform electrical test ⇒ <a href="#">page 01-273</a> - See DTC table, DTC 529 and 543 ⇒ <a href="#">page 01-45</a>
	3	Gear selected	See display group number 1, display field 4		
	4	Anti-Slip Regulation (ASR)	While driving <sup>1)</sup>	activated ASR active <hr/> not activated -	Only activated by the ASR control module when necessary

<sup>1)</sup> While driving, a second mechanic is required to read specifications.

01-226

**Only for transmission with hydraulic control -E17-**

Display group number	Display field	Description	Test requirements	Spec. value on V.A.G 1551 display	Corrective actions
011	1	Selector lever position	See display group number 004, display field 2		
	2	Tiptronic Switch - F189-	Selector lever in tiptronic gate	M switch	- Perform electrical test ⇒ <a href="#">from page 01-273</a>
			Selector lever not in tiptronic gate	-	
	3	Tiptronic Switch - F189-	Selector lever in tiptronic gate, select gears		- Perform electrical test ⇒ <a href="#">from page 01-273</a>
			Shift up <sup>3)</sup>	Up switch	
			Shift down <sup>2)</sup>	Down switch	
	4	Air conditioning kick down	While driving <sup>1)</sup>	activated	Comp. OFF
not activated				Comp. ON	

**Notes and footnotes for display group number 11 are on the next page.**



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**01-227**

- 1) While driving, a second mechanic is required to read specifications.
- 2) Operate down-switch (-) by shifting selector lever toward rear. For vehicles equipped with a tiptronic sport steering wheel, down switch must also be operated by pressing the lower left or right button (-) on the steering wheel in order to check it's function.
- 3) Operate up-switch (+) by shifting selector lever toward front. For vehicles equipped with a tiptronic sport steering wheel, up-switch must also be operated by pressing the upper left or right button (+) on the steering wheel in order to check it's function.