

## J - PIN VOLTAGE CHARTS - VR6

### Article Text

1993 Volkswagen Passat

For Volkswagen Technical Site: <http://vw.belcom.ru>

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Wednesday, March 22, 2000 10:18PM

### ARTICLE BEGINNING

1993 ENGINE PERFORMANCE  
Volkswagen Pin Voltage Charts

Passat GLX

### INTRODUCTION

Pin voltage charts are supplied to reduce diagnostic time. Checking pin voltages at ECU/ECM determines whether ECU/ECM is receiving and transmitting proper voltage signals. Charts may also help determine if ECU/ECM harness has an electrical short or open.

NOTE: Unless stated otherwise in testing procedures, perform all voltage tests using a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance. Voltage readings may vary slightly due to battery condition or charging rate.

### ECU PIN VOLTAGES (PASSAT GLX - MOTRONIC)

ECU PIN VOLTAGES (PASSAT GLX - MOTRONIC)

XX

Component/Circuit (VAG 1598 Terminal No.)	(1) Test Conditions & Additional Steps	Specified Value Or Test Result
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ECU NOT CONNECTED TO VAG 1598/18

Voltage Supply -

Control Unit (1 & 54)	..... Ignition Off	..... Battery Voltage
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Voltage Supply - Control

Module Relay (1 & 23)	... (2) Ignition Off	... Battery Voltage
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Wiring To Fuel Pump

(6 & 55 - Jumper)	..... Ignition On	..... Fuel Pump Must Operate
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Heated Oxygen (O2)

Sensor Relay (1 & 28 -

Briefly Jumper)	..... (2) Ignition On	..... Relay Must Operate (Click)
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Malfunction Indicator

Light (5 & 10 - Jumper)	... Ignition On	.. MIL Must Illuminate
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Ground Wire No. 7 -

M/T (7 & 23)	..... Ignition Off	..... Battery Voltage
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Wiring To Starter Relay -

A/T (1 & 7)	..... Select "P", Disconnect Ignition Coil Power Output	
	Stage & Operate Starter	... App. 2 Volts Less Than Battery Voltage

Vehicle Speed Sensor

(1 & 65)	..... Ignition On, Select "D" & Raise & Rotate
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Left Front Wheel ..... Fluctuates  
Between Zero &  
4 Volts Min.

#### Wiring For A/C

(39 & 55) ..... Ignition On,  
A/C Switch On ..... Battery Voltage

#### Wiring To A/C

##### Compressor

(37 & 38 - Jumper) .. Ignition On ..... A/C Magnetic  
Clutch Operates

#### Fuel Injector No. 1

(23 & 24) ..... Ignition Off ..... 15-21.5 Ohms

#### Fuel Injector No. 2

(3 & 23) ..... Ignition Off ..... 15-21.5 Ohms

#### Fuel Injector No. 3

(23 & 26) ..... Ignition Off ..... 15-21.5 Ohms

#### Fuel Injector No. 4

(4 & 23) ..... Ignition Off ..... 15-21.5 Ohms

#### Fuel Injector No. 5

(23 & 25) ..... Ignition Off ..... 15-21.5 Ohms

#### Fuel Injector No. 6

(2 & 23) ..... Ignition Off ..... 15-21.5 Ohms

#### EVAP Solenoid Valve I

(23 & 31) ..... Ignition Off ..... 40-80 Ohms

#### Coolant Temperature

Sensor (14 & 33) .... (3) Ignition Off ..... (3)

#### Wiring To White DLC

(1 & 21) (4) ..... Ignition Off ..... 1.5 Ohms Max.

#### Wiring To White DLC

(2 & 43) (4) ..... Ignition Off ..... 1.5 Ohms Max.

#### Wiring To O2 Sensor

(20 & 42) ..... Disconnect Sensor  
Connector & Jumper  
Terminals No. 3 & 4 ..... 1.5 Ohms Max.

#### Wiring To O2 Sensor

(20 & 42) .... Reconnect Sensor  
Connector ..... Infinity (Open)

#### Throttle Position

Sensor (33 & 41) ..... Ignition Off ..... 1750 Ohms

#### Throttle Position

Sensor (33 & 40) .. Throttle Valve Closed ..... 1150 Ohms

#### Throttle Position

Sensor (33 & 40) .. Throttle Valve Opened ..... Resistance  
Must Increase

#### Throttle Position

Sensor (40 & 41) .. Throttle Valve Closed ..... 2700 Ohms

#### Throttle Position

Sensor (40 & 41) .. Throttle Valve Opened ..... Resistance  
Must Decrease

#### Wiring To Hall Effect

Sensor (1 & 44) .... Disconnect Sensor  
Connector & Jumper

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	Terminals No. 1 & 2	.....	1.5 Ohms Max.
Wiring To Hall Effect			
Sensor (1 & 23)	.....	Jumper Terminals	
	No. 1 & 3	.....	1.5 Ohms Max.
Wiring To Ignition			
Coil Power Output			
Stage (8 & 55)	....	Disconnect Output	
		Stage Connector &	
		Jumper Terminals	
	No. 1 & 2	.....	1.5 Ohms Max.
Wiring To Ignition			
Coil Power Output			
Stage (8 & 38)	....	Jumper Terminals	
	No. 2 & 3	.....	1.5 Ohms Max.
Wiring To Knock			
Sensor I			
(33 & 34) (5)	.....	Disconnect Sensor	
		Connector	Infinity (Open)
Wiring To Knock			
Sensor I			
(33 & 34) (5)	.....	Jumper Terminals	
	No. 1 & 2	.....	1.5 Ohms Max.
Wiring To Knock			
Sensor I			
(34 & 56) (5)	.....	Jumper Terminals	
	No. 1 & 3	.....	1.5 Ohms Max.
Intake Air Temperature			
Sensor (33 & 36)	... (3)	Ignition Off	(3)
Idle Air Control			
Valve (27 & 53)	.....	Ignition Off	6-12 Ohms
Wiring To Knock			
Sensor II			
(7 & 33) (6)	.....	Disconnect Sensor	
		Connector	Infinity (Open)
Wiring To Knock			
Sensor II			
(7 & 33) (6)	.....	Jumper Terminals	
	No. 2 & 3	.....	1.5 Ohms Max.
Wiring To Knock			
Sensor II			
(56 & 57) (6)	.....	Jumper Terminals	
	No. 1 & 3	.....	1.5 Ohms Max.
Wiring To MAF			
Sensor (1 & 16)	.....	Disconnect Sensor	
		Connector & Jumper	
		Terminals No. 1 & 2	..... 1.5 Ohms Max.
Wiring To MAF			
Sensor (1 & 17)	.....	Jumper Terminals	
	No. 1 & 3	.....	1.5 Ohms Max.
Wiring To MAF			
Sensor (56 & 59)	....	Jumper Terminals	
	No. 1 & 4	.....	1.5 Ohms Max.

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#### Wiring To MAF

Sensor (1 & 23) ..... Jumper Terminals  
No. 1 & 5 ..... 1.5 Ohms Max.  
Engine Speed Sensor  
(67 & 68) (7) ..... Ignition Off ..... 500-700 Ohms  
Engine Speed Sensor  
(56 & 67) (7) ..... Ignition Off ..... Infinity (Open)  
Engine Speed Sensor  
(56 & 68) (7) ..... Ignition Off ..... Infinity (Open)  
EGR Frequency Valve  
(9 & 56 - Jumper) ... Jumper Terminals  
No. 30 & 55  
Of Test Box ..... Valve Must  
Briefly Click

#### Wiring To EGR

Frequency Valve  
(23 & 30) ..... Disconnect Valve  
Connector & Jumper  
Terminals No. 1 & 2 ..... 1.5 Ohms Max.  
EGR Temperature  
Sensor (15 & 33) ..... (3) ..... (3)

- (1) - TESTING CONDITIONS: Disconnect harness connector from ECM.  
Connect Test Box (VAG 1598/18) to ECM harness connector,  
leaving ECM disconnected.
- (2) - With ignition off, jumper terminals No. 9 and No. 55 of the  
test box.
- (3) - Refer to I - SYS/COMP TESTS article.
- (4) - These are terminal connectors at data link connector.
- (5) - 3-pin connector is located at rear of engine mount.
- (6) - 3-pin Black connector is located next to starter.
- (7) - 3-pin White connector is located next to starter.

AA

**END OF ARTICLE**