

QUICK REFERENCE GUIDE
VAD Pro-901
Measuring Block Combinations



Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
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Block #	Val 1	Val 2	Val 3	Val 4	Val 5	Val 6	Val 7	Val 8	Val 9	Val 10	Select
000	Coolant Temp	Engine Load	Engine Speed	Throttle Angle	IAC	IAC Learning	Lamda 1	Lamda 2	Lamda Adp 1	Lamda Adp 2	
	Coolant Temp	Engine Load	Engine Speed	ECM Voltage	Throttle Angle	Idle Regulation	Idle Stab.	O2 Control	O2 Learn Idle	O2 Learn P.L.	

Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
001	Engine Speed	Coolant Temp	Lamda 1	Lamda 2	
	/min	°C	%	%	
	Engine Speed	Coolant Temp	O2 Sensor	Adjustment	
	/min	°C	%	XXXXXXXX	
				0 Temp Low	
				1 RPM High	
				2 Throttle Open	
				3 Lamda Fault	
				4 Idline (F60)	
				5 A/C Comp On	
002	Engine Speed	Engine Load	Injection Duration	Air Mass	
	/min	%	ms	g/s	
	Engine Speed	Engine Load	Injection Duration	Intake Manifold Pressure	
	/min	%	ms	mbar	
003	Engine Speed	Air Mass	Throttle Angle	Ignition Angle	
	/min	g/s	%	°KW	
	Engine Speed	Intake Manifold Pressure	Throttle Angle	Ignition Angle	
	/min	mbar	%	°KW	
004	Engine Speed	Battery Voltage	Coolant Temp	Intake Air Temp	
	/min	V	°C	°C	

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Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
005	Engine Speed	Engine Load	Vehicle Speed	Operating Condition	
	/min	%	km/h	text	
006	Engine Speed	Engine Load	Intake Air Temp	Altitude Correction	
	/min	%	°C	%	
007	Engine Speed	Engine Load	Intake Manifold Pressure	Brake Booster	
	/min	%	mbar	mbar	
008	Brake Condition	Supply Voltage	Brake Vacuum Condition	Brake Booster	
	Text	V	Text	mbar	
	Brake Condition	Supply Voltage	Brake Booster	Brake Vacuum Condition	
	Text	V	mbar	Text	
009					
010	Engine Speed	Engine Load	Throttle Angle	Ignition Angle	
	/min	%	%	OT	
011	Engine Speed	Coolant Temp	Intake Air Temp	Ignition Angle	
	/min	°C	°C	OT	
012	Engine Speed	Engine Load	Crank Tooth	Crank Tooth	
	/min	%	Number	Number	
013					
014	Engine Speed	Engine Load	Misfire Count	Misfire Rec	
	/min	%	Number	Text	
015	Cyl 1 Count	Cyl 2 Count	Cyl 3 Count	Misfire Rec	
	num	num	num	Text	
016	Cyl 4 Count	Cyl 5 Count	Cyl 6 Count	Misfire Rec	
	num	num	num	Text	
017	Cyl 7 Count	Cyl 8 Count	Cyl 9 Count	Misfire Rec	
	num	num	num	Text	
018	Misfire Low	Misfire High	Misfire Low	Misfire High	
	num	num	%	%	
019	Cyl 10 Count	Cyl 11 Count	Cyl 12 Count	Misfire Rec	
	num	num	num	Text	

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Block #	E.Q. 1		E.Q. 2		E.Q. 3		E.Q. 4		Select
020	Cyl 1 Retard		Cyl 2 Retard		Cyl 3 Retard		Cyl 4 Retard		
	°KW		°KW		°KW		°KW		
021	Cyl 5 Retard		Cyl 6 Retard		Cyl 7 Retard		Cyl 8 Retard		
	°KW		°KW		°KW		°KW		
022	Engine Speed		Engine Load		Cyl 1 Retard		Cyl 2 Retard		
	/min		%		°KW		°KW		
023	Engine Speed		Engine Load		Cyl 3 Retard		Cyl 4 Retard		
	/min		%		°KW		°KW		
024	Engine Speed		Engine Load		Cyl 5 Retard		Cyl 6 Retard		
	/min		%		°KW		°KW		
025	Engine Speed		Engine Load		Cyl 7 Retard		Cyl 8 Retard		
	/min		%		°KW		°KW		
026	Knock Sense 1		Knock Sense 2		Knock Sense 3		Knock Sense 4		
	V		V		V		V		
027	Knock Sense 5		Knock Sense 6		Knock Sense 7		Knock Sense 8		
	V		V		V		V		
028	Engine Speed		Engine Load		Coolant Temp		Result		
	/min		%		°C		Test		
029									
030	O2 Bank 1,1		O2 Bank 1,2		O2 Bank 2,1		O2 Bank 2,2		
	XXX		XXX		XXX		XXX		
	0	Control Active	0	Control Active	0	Control Active	0	Control Active	
	1	Sensor Ready	1	Sensor Ready	1	Sensor Ready	1	Sensor Ready	
	2	Sensor Heater	2	Sensor Heater	2	Sensor Heater	2	Sensor Heater	
	O2 Bank 1,1		O2 Bank 1,2						
	XXX		XXX						
	0	Control Active	0	Control Active					
1	Sensor Ready	1	Sensor Ready						
2	Sensor Heater	2	Sensor Heater						
031	O2 Bank 1,1		O2 Bank 1,2		O2 Bank 2,1		O2 Bank 2,2		
	V		V		V		V		
	O2 Bank 1,1		O2 Bank 1,2						
	V		V						
	B1 Lamda Acct		B1 Lamda Spec		B2 Lamda Acct		B2 Lamda Spec		
	B1 Lamda Acct		B1 Lamda Spec						

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Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
032	O2 Idle 1,1	O2 P.L. 1,1	O2 Idle 2,1	O2 P.L. 2,1	
	%	%	%	%	
	O2 Idle 1,1	O2 P.L. 1,1			
033	Bank 1	Bank 1	Bank 2	Bank 2	
	%	V	%	V	
	Bank 1	Bank 1			
034	Engine Speed	B1 Exh. Gas	B1 Duration	B1 Aging Test	
	/min	°C	s	Text	
	Bank 1	Bank 1			
035	Engine Speed	B2 Exh. Gas	B2 Duration	B2 Aging Test	
	/min	°C	s	Text	
	Engine Speed	B2 Exh. Gas	B2 Factor	B2 Aging Test	
036	O2 Bank 1,2	Result	O2 Bank 2,2	Result	
	V	Text	V	Text	
	O2 Bank 1,2	Result			
037	Engine Load	O2 Bank 1	B1 TV Shift	Result	
	%	V	ms	Text	
	Engine Load	O2 Bank 1	B1 Lamda	Result	
038	Engine Load	O2 Bank 2	B2 TV Shift	Result	
	%	V	ms	Text	
	Engine Load	O2 Bank 2	B2 Lamda	Result	
039	Air Mass	Bank 1 Sensor	Bank 2 Sensor	Result	
	g/s	V	V	Text	
	O2 Heat B 1+2	Condition	O2 Heat B 1+2	Condition	
040	kOhm	Text	kOhm	Text	
	O2 Heater B 1,1	Condition B 1,1	O2 Heater B 1,2	Condition B 1,2	
	kOhm	Text	kOhm	Text	
041	O2 Header B 2,1	Condition B 2,1	O2 Heat B 2,2	Condition B 2,2	
	Ohm	Text	Ohm	Text	
	Engine Speed	B1 Exh. Gas	B1 O2 Sensor	B1 Aging	
042	/min	°C	V	Text	
	Engine Speed	B2 Exh. Gas	B2 O2 Sensor	B2 Aging	
	/min	°C	V	Text	
043	B1 Nox Mem	B1 Result	B2 Nox Mem	B2 Result	
	num	Text	num	Text	
	Engine Speed	B1 Cat Temp	B1 Cat Meas	B1 Result	
044	/min	°C	num	Text	
	B1 Ampl Ratio	B1 Exc. Diag.	B1 Test Time	B1 Result	
				Text	
045	Engine Speed	B2 Cat Temp	B2 Cat Meas	B1 Result	
	/min	°C	num	Text	
	B2 Ampl Ratio	B2 Exc. Diag.	B2 Test Time	B1 Result	
046				Text	
	Bank 1 BDE	# Test Steps	Exo Temp Incr	Result	
	num	num	°C	Text	
047	Bank 2 BDE	# Test Steps	Exo Temp Incr	Result	
				Text	
	Ampl Ratio	TWC Temp	TWC Test Time	Result	
048				Text	
	Speed Actual	Speed Spec.	A/C System	A/C Comp.	
	/min	/min	Text	Text	
049	Speed Actual	Speed Spec.	Drive Range	Supply	
	/min	/min	Text	V	
	Speed Actual	Speed Spec.	A/C Readiness	Rear Def.	
050	/min	/min	Text	Text	
	Speed Actual	Speed Spec.	Voltage	Gen. Load	
	/min	/min	V	%	

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Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
054	Engine Speed	Op. Cond.	Accel Pos	Throttle Angle	
	/min	Text	%	%	
055	Engine Speed	Idle Air Cont	IAC Learning	Op Cond	
	/min	%	%	XXXXX	
				0	A/C Comp
				1	Driving Range
				2	A/C Ready
				3	Rear Def.
				4	Steering Stop
	Engine Speed	Idle Air Cont	IAC Learning	Op Cond	
	/min			XXXXX	
				0	A/C Comp
			1	Driving Range	
			2	A/C Ready	
			3	Rear Def.	
			4	Steering Stop	
056	Speed Actual	Speed Spec.	Idle Air Cont	Op Cond	
	/min	/min	%	XXXXX	
				0	A/C Comp
				1	Driving Range
				2	A/C Ready
				3	Rear Def.
				4	Steering Stop
	Speed Actual	Speed Spec.	Mass Air Delta	Op Cond	
	/min	/min			
	Speed Actual	Speed Spec.	Cont Torq Chg	Op Cond	
/min	/min				
057	Speed Actual	Speed Spec.	A/C Comp	Recr D.C.	
	/min	/min	Text	%	
058	Engine Speed	Engine Load	Bearing 1 R	Bearing 2 L	
	/min	/min	Text	Text	
059					
060	Throttle Angle	Throttle Angle	Op Cond	Adp Cond	
	%	%	Text	Text	
	Throttle Angle	Throttle Angle	Adp Step	Adp Cond	
	%	%	num	Text	
	Throttle Angle	Throttle Angle	Throttle Adapt	Op Cond	
%	%		Text		
061	Engine Speed	Supply Voltage	Throttle Control	Op Cond	
	/min	V	%	XXXXX	
				0	A/C Comp
				1	Driving Range
				2	A/C Ready
				3	Rear Def.
Engine Speed	Supply Voltage	Throttle Control	Op Cond		
/min	V	%	XXXXX		
062	Throttle 1	Throttle 2	Accel Ped 1	Accel Ped 2	
	%	%	%	%	

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Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
063	Accel Ped Pos	Accel Ped Learned	Switch	Result	
	%	%	Text	Text	
064	Pot. 1 Lower	Pot. 2 Lower	Air Gap 1	Air Gap 2	
	V	V	V	V	
065					
066	Speed Actual	Switch Pos.	Speed Spec.	Switch Pos.	
	km/h	XXXXXXX	km/h	XXXXXXX	
		0 Brake Light		0 Cruise On	
		1 Brake Pedal		1 Cruise Mem	
		2 Clutch		2 Cruise Decel	
		3 Cruise Free		3 Cruise Accel	
		4 ADR Free			
	Speed Actual	Switch Pos.	Speed Spec.	Switch Pos.	
	km/h	XXXXXXX	km/h	XXXXXXX	
		0 Brake Light		0 Cruise On	
		1 Brake Pedal		1 Cruise Tipping	
	2 Clutch		2 Cruise Decel		
	3 Cruise Free		3 Cruise Accel		
	4 ADR Free		4 Cruise Set		
			5 Cruise Resume		
	Speed Actual	Switch Pos.	Speed Spec.	Switch Pos.	
	km/h	XXXXXXX	km/h	XXXXXXX	
067					
068					
069					
070	Fuel Tank Vent	Lambda Dev.	Idle Air Cont	Result	
	%	%	%	Text	
	Fuel Tank Vent	Lambda Dev.	Idle Air Cont	Result	
	%	%	g/s	Text	
071	Reed	DTC	Test Status	Result	
	Text	Text	Text	Text	
072					
073					
074	EGR Null	EGR Max Stop	Pot Value	Result	
	V	V	V	Text	
075	Engine Speed	EGR Temp	EGR Temp Diff	Result	
	/min	°C	°C	Text	
	Engine Speed	Intake Man Pres	Man Pres Diff	Result	
	/min	mbar	mbar	Text	
076	Engine Speed	Engine Load	Open Degree	EGR Duty Cycle	
	/min	%	%	%	
	Engine Speed	Intake Man Pres	Opening Deg	EGR Duty Cycle	
	/min	mbar	%	%	
077	Engine Temp	Lamda Dev	Value 3	Result	
	°C			Text	
	Engine Speed	B1 Air Mass	B1 Rel Air Mass	B1 Result	
	/min	g/s	%	Text	

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Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
	O2 Cntl Dev	O2 Cntl Dev	Coolant Temp	Result	
			°C	Text	
078	Engine Speed	B2 Air Mass	B2 Rel Air Mass	B2 Result	
	/min	g/s	g/s	Text	
079					
080					
	EQ95	mm	°	mm	
081					
	EQ95	mm	°	bar	
082					
	EQ95	EQ 122	EQ 122	EQ 122	
083					
084					
085					
086	OBD-II Readiness	Cycling Flags	Cycling Flags	Cycling Flags	
	XXXXXXXX	XXXXXXX	XXXXXXXX		
087	Ready Bits	Error Bits	Error Bits	Error Bits	
	XXXXXXXX	XXXXXXX	XXXXXXXX		
088	Engine Speed	Coolant Temp	O2 Control	O2 Status	
	/min	°C			
	???	???	???	???	
	XXXXXXXX	XXXXXXX	XXXXXXXX		
089	MIL Distance	Tank Empty	Value 3	Value 4	
090	Engine Speed	Cam Adjust	Cam Adj B1	Cam Adj B2	
	/min	Text	*KW	*KW	
	Engine Speed	Duty Cycle	Cam Adj B1	Cam Adj B2	
	/min	%	*KW	*KW	
091	Engine Speed	Engine Load	B1 Cam Adj	B1 Cam Adj	
	/min	%	Text	*KW	
	Engine Speed	Duty Cycle	B1 Cam Adj	B1 Cam Adj	
	/min	%	*KW	*KW	
092	Engine Speed	Engine Load	B2 Cam Adj	B2 Cam Adj	
	/min	%	Text	*KW	
	Engine Speed	Duty Cycle	B2 Cam Adj Spec	B2 Cam Adj Act	
	/min	%	*KW	*KW	
093	Engine Speed	Engine Load	Phase Pos 1	Phase Pos 2	
	/min	%	*KW	*KW	
	Engine Speed	Phase I. Pos 2	Phase E. Pos 1	Phase E. Pos 2	
	/min	*KW	*KW	*KW	
094	Engine Speed	Cam Adjust	B1 Result	B2 Result	
	/min	Text	Text	Text	
	Engine Speed	Phase I. Pos	B1 Result	B2 Result	
	/min	*KW	Text	Text	
095	Engine Speed	Engine Load	Coolant Temp	Status	
	/min	%	°C	Text	
096	Engine Speed	Cam Adjust	Result B1	Result B2	
	/min	Text	Text	Text	
	Engine Speed	Phase E. Pos	Result B1	Result B2	
	/min	*KW	Text	Text	
097	Engine Speed	Engine Load	Temp	I-Air Change Over	
	/min	%	°C	Text	
	Engine Speed	Engine Load	Pressure	I-Air Change Over	
	/min	%	mbar	Text	
098	Engine Speed	B2 Cam D.C.	Adjust Spec	Adjust Actual	
	/min	%	*KW	*KW	
	Throttle Angle	TP Sensor (G127)	Op. Cond	Adp. Cond.	
	<°		Text	Text	
099	Engine Speed	Coolant Temp	Lambda Reg.	Lambda Reg.	
	/min	°C	%	Text	
	Engine Speed	Engine Load	Coolant Temp	O2 Control	
	/min	%	°C		

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Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
100	Compl Tests	Coolant Temp	Running Duration	OBD Status	
	XXXXXXXX	°C	s	XXXXXXXX	
	0 Cat Not Compl.			0 No Warm Up	
	1 Head Cat Not Compl.			1 Warm Up Done	
	2 EVAP Not Compl.			2 Not Used	
	3 Sec. Air Not Compl.			3 Not Used	
	4 A/C Not Compl.			4 >0 DTC	
	5 O2 Not Compl.			5 Trip Comp.	
	6 O2 Heat Not Compl			6 Duty Cycle Comp.	
7 EGR Not Compl			7 MIL On		
101	Engine Speed	Engine Load	Inj. Duration	Air Mass	
	/min	%	ms	g/s	
102	Engine Speed	Engine Load	Inj. Duration	Intake Manifold Pres	
	/min	%	ms	mbar	
103	Engine Speed	Coolant Temp	Intake Air Temp	Inj. Duration	
	/min	°C	°C	ms	
104	Engine Speed	Air Mass IAC	LFR-Offset	Result	
	/min	g/s	num	Text	
105	Start Engine Temp	Temp Adapt 1	Temp Adapt 2	Temp Adapt 3	
	°C	%	%	%	
106	Engine Speed	Engine Load	Coolant Temp	Shut Off	
	/min	%	°C	Text	
107	Engine Speed	Lamda Reg B1	Lamda Reg B2	Result	
	/min	%	%	Text	
108					
109					
110	Engine Speed	Coolant Temp	Ave Inj Time	Throttle Angle	
	/min	°C	ms	%	
111	Boost Adapt 1	Boost Adapt 2	Boost Adapt 3	Boost Adapt 4	
	%	%	%	%	
	Engine Speed	Coolant Temp		Text	
112	Exhaust Temp 1	Enrich Factor	Exhaust Temp 2	Enrich Factor 2	
	°C	%	°C	%	
113	Engine Speed	Engine Load	Throttle Angle	Air Pres	
	/min	%	%	mbar	
114	Spec Load w/o Corr	Spec Load w/ Corr	Actual Load	W/G Duty Cycle	
	%	%	%	%	
115	Engine Speed	Engine Load	Spec. Boost	Actual Boost	
	/min	%	mbar	mbar	
116	Engine Speed	Fuel Corr	Temp Corr	Air Temp Corr	
	/min	%	%	%	
117	Engine Speed	Gas Pedal Pos	Throttle Angle	Boost Spec	
	/min	%	%	mbar	

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Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select	
118	Engine Speed	Intake Air Temp	Boost Duty Cycle	Boost Pressure		
	/min	°C	%	mbar		
119	Engine Speed	Boost Adapt	Boost Duty Cycle	Boost Pressure		
	/min	%	%	mbar		
120	Engine Speed	Spec. Torque	Curr Torque	Status		
	/min	Nm	Nm	Text		
121						
122	Engine Speed	Req. Torque	Actual Torque	Status		
	/min	Nm	Nm	Text		
	Engine Speed	Trans. Moment	Engine Moment	Status		
	/min	Nm	Nm	Text		
123						
124						
125	Trans Status	ABS Status	Inst Status	Airbag Status		
	Text	Text	Text	Text		
126			Airbag			
	Text	Text	Text	Text		
127			St. Wheel			
	Text	Text	Text	Text		
128						
	num	mg/H	num	Text		
129						
	<°C	<°C	???	???		
130	Outlet Temp	Radiator Temp	Therm D.C.	Result		
	°C	°C	%	Text		
131	Outlet Temp	Outlet Spec.	Radiator Temp	Therm D.C.		
	°C	°C	°C	%		
	Crank Pos.	Section Corr.	Value 3	Value 4		
132	Outlet Spec.	Eng/Rad Diff	Heater Pre-Run	Status		
	°C	°C	%	XXXXXXXX		
				0		System Error
				1		Thermo. Active
				2		Cooling Active
				3		Control Dev.
				4		Fan 2 Active
			5	Fan 1 Active		
	Pos. Disc. Adapt	Eng Spd Sec 2	Eng Spd Sec 3	Eng Spd Sec 4		
133						
	Evap Open	Adapt Tank Vent	Tank Loading	Flowing Rate		
134	Oil Temp	Ambient Temp	Intake Air Temp	Outlet Temp		
	°C	°C	°C	°C		
	TV Shift	Corr. Status	Value 3	Value 4		
135	Outlet Spec.	Fan 1 D.C.	Fan 2 D.C.	Result		
	°C	%	%	Text		
	Throttle Cl.	Throttle Dr. Cl.	Throttle Op.	Throttle Dr. Op.		
136	Fan Relay1	Fan Relay 2	Fan Relay 3	Fan Relay 4		
	Text	Text	Text	Text		
	Throttle Adapt	Throttle Max	Emerg Air Thr.	Throttle Min.		
137	A/C Inlet	A/C Comp	A/C Pressure	A/C Fan		
	Text	Text	Text	%		
	Leak Diag.	Error Msg.	System Status	Diag. Status		

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138	Eng Spd. Low	Eng Spd. High	Misfire Sum	Misfire Status	
139	Eng Load Low	Eng Load High	Misfire Sum	Misfire Status	
140	DSV D.C.	Spec Rail	Actual Rail	Result	
	%	bar	bar	Text	
	MIL Status	Dr. Cycle Long	Time Driving	Dr. Cycles	
141	Rail Pres	Rail Pres	Rail Pres	Rail Pres	
	bar	bar	bar	bar	
	Laek Diag	Leak Diag Min	leak Diag Attmps	Diag Status	
142	Throttle Pos	T.P. Min	T.P. Max	Status	
143					
144					
145	B 1 Exh Model	B 1 Exh Meas	B 2 Exh Meas	Result	
	°C	°C	°C	Text	
146					
	num	mg/H	num	WSC	
147	BDE Flap Actual	BDE Flap Spec	LBK Offset	Adapt Cond	
	%	%	V	Text	
148	mg/H	s	mg/H	num	
149					
150					
151					
152					
153					
154					
155					
156					
157					
158					
159					
160	Don't Know	Don't Know	Don't Know	Don't Know	
161	Don't Know	Don't Know	Don't Know	Don't Know	
162					
...					
201	O2 Dwell	Value 2	Value 3	O2 Period	
202					
203					

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Block #	E.Q. 1	E.Q. 2	E.Q. 3	E.Q. 4	Select
204	Engine Speed	Man. Pressure	Cmd. Pressure	Press @ Inter	
205					
206					
207					
208	Engine Speed	Throttle Opening	Dr. 2 Opening	Press @ Inter	
...					
221	Throttle Opening	Ignition Timing	Coolant Temp	Intake Temp	
...					
250	num	num	*KW	???	
251					
252					
253					
254	num	num	num	num	