

The DTC are defined according to SAE J 1202 (P0...) and Manufacturer List Ferrari (P1...).

P0102	Mass Air Flow Circuit (HFM)	Low Input (min) 1 Check the wiring 2 Check Air mass flow between left and right. Difference not more 5kg/h 3 In Idle between 18-25 Kg/h
P0103	Mass Air Flow Circuit (HFM)	High Input (max) 1 Check the wiring 2 Check Air mass flow between left and right. Difference not more 5kg/h 3 In Idle between 18-25 Kg/h
P0112	Intake Air Temperature Circuit	Low Input (max) 1 Check the wiring Air flow meter 2 Ta* (30-60 °C) in hot condition
P0113	Intake Air Temperature Circuit	High Input (min) 1 Check the wiring Air flow meter
P0115	Engine Coolant Temperature Circuit	Malfunction (sig) 1 Check the wiring 2 Check CAN line 3 Check CAN line impedance-60 ohm 4 Check temperature between left and right. Has to be the same.
P0116	Engine Coolant Temperature Circuit	Range/Performance (plaus) 1 Check the wiring 2 Check CAN line 3 Check CAN line impedance-60 ohm 4 Check temperature between left and right Has to be the same.
P0117	Engine Coolant Temperature Circuit	Low Input (max) 1 Check the wiring 2 Check CAN line 3 Check CAN line impedance<60 ohm 4 Check temperature between left and right. Has to be the same.
P0118	Engine Coolant Temperature Circuit	High Input (min) 1 Check the wiring 2 Check CAN line 3 Check CAN line impedance-60 ohm 4 Check temperature between left and right Has to be the same.
P0121	Throttle Position Sensor Circuit	Range/Performance (ptaus) 1 Check the wiring 2 Check the value, hot condition -tol-U-2.8% ^Acc-pedaMW -high-99-102% *Acc4Mdal- 100%
P0130	O2 Sensor Circuit (Upstream Catalyst) (Bank 1, Sensor 1)	Malfunction (plaus) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<1.1%
P0131	O2 Sensor Circuit (Upstream Catalyst) (Bank 1, Sensor 1)	Low Voltage (min) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<1.1%
P0132	O2 Sensor Circuit (Upstream Catalyst) (Bank 1, Sensor 1)	High Voltage (max) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<1.1%
P0133	O2 Sensor Circuit (Upstream Catalyst) (Bank 1, Sensor 1)	Slow Response (min/max) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors

		and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<U%
P0134	02 Sensor Circuit (Upstream Catalyst) (Bank 1, Sensor 1)	No Activity Detected (sig) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<150ppm CO<1.1%
P0136	02 Sensor Circuit (Downstream Catalyst) (Bank 1, Sensor 2)	Malfunction (plaus) 1 Check the wiring 2 Check the signal (0.97-1.05) 3 check Injector and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<1.1%
P0138	02 Sensor Circuit (Downstream Catalyst) (Bank 1, Sensor 2)	High Voltage (max) 1 Check the wiring 2 Check the signal (0.97-1.05) 3 check injector and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<U%
P0139	02 Sensor Circuit (Downstream Catalyst) (Bank 1, Sensor 2)	Slow Response (plaus/min/max) 1 Check the wiring 2 Check the signal (0.97-1.05) 3 Check injector and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<1.1%
P0140	02 Sensor Circuit (Downstream Catalyst) (Bank 1, Sensor 2)	No Activity Detected (sig) 1 Check the wiring 2 Check the signal (0.97-1.05) 3 check injector and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<1.1%
P0150	02 Sensor Circuit (Upstream Catalyst) (Bank 2, Sensor 1)	Malfunction (plaus) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base with no lambda integrator
P0151	02 Sensor Circuit (Upstream Catalyst) (Bank 2, Sensor 1)	Low Voltage (min) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check Injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<1.1%
P0152	02 Sensor Circuit (Upstream Catalyst) (Bank 2, Sensor 1)	High Voltage (max) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<1.1%
P0153	02 Sensor Circuit (Upstream Catalyst) (Bank 2, Sensor 1)	Slow Response (min/max) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<U%
P0154	02 Sensor Circuit (Upstream Catalyst) (Bank 2, Sensor 1)	No Activity Detected (sig) 1 Check the wiring 2 Check the signal (0.97-1.03) 3 Check injectors and wiring 4 Check ignition coil and wiring 5 Check engine CO HC emission base HC<250ppm CO<U%
P0156	02 Sensor Circuit (Downstream Catalyst) (Bank 2, Sensor 2)	Malfunction (plaus) 1 Check the wiring

		<p>2 Check the signal (0.97-1.05)</p> <p>3 check injector and wiring</p> <p>4 Check ignition coil and wiring</p> <p>5 Check engine CO HC emission base HC<250ppm CO<1.1%</p>
P0158	02 Sensor Circuit (Downstream Catalyst) (Bank 2, Sensor 2)	<p>High Voltage (max) Check the wiring</p> <p>2 Check the signal (0.97-1.05)</p> <p>3 check injector and wiring</p> <p>4 Check ignition coil and wiring</p> <p>5 Check engine CO HC emission base HC<250ppm CO<1.1%</p>
P0159	02 Sensor Circuit (Downstream Catalyst) (Bank 2, Sensor 2)	<p>Slow Response (plaus/min/max)</p> <p>1 Check the wiring</p> <p>2 Check the signal (0.97-1.05)</p> <p>3 check injector and wiring</p> <p>4 Check ignition coil and wiring</p> <p>5 Check engine CO HC emission base HC<250ppm CO<1.1%</p>
P0160	02 Sensor Circuit (Downstream Catalyst) (Bank 2, Sensor 2)	<p>No Activity Detected (sig) Check the wiring</p> <p>2 Check the signal (0.97-1.05)</p> <p>3 check Injector and wiring</p> <p>4 Check ignition con* and wiring</p> <p>5 Check engine CO HC emission base HC<250ppm CO<1.1%</p>
P0221	Throttle Position Sensor Circuit (Bank 2)	<p>Range/Performance (plaus)</p> <p>1 Check the wiring</p> <p>2 Check the value: -k>w=I.-ZSH ->pcdiMr% •high-99-102% ->pedat-100%</p>
P0300	Random/Multiple Cylinder Misfire Detected	<p>Above Threshold (max)</p> <p>1 Check the wiring</p> <p>2 Check injector functionality in diagnosis mode and</p> <p>3 check ignition coil connection</p>
P0301	Cylinder 1 - Misfire Detected	<p>Above Threshold (max)</p> <p>1 Check the wiring</p> <p>2 check fuel tank level</p> <p>3 check fuel pressure</p> <p>4 check fuel pump</p> <p>5 Check injector functionality In diagnosis mode, switching off injection valve and checking HC emission base</p> <p>5 check ignition coil connection</p> <p>6 check spark plugs</p>
P0302	Cylinder 2 - Misfire Detected	<p>Above Threshold (max)</p> <p>1 Check the wiring</p> <p>2 check fuel tank level</p> <p>3 check fuel pressure</p> <p>4 check fuel pump</p> <p>5 Check injector functionality in diagnosis mode, switching off injection valve and checking HC emission base</p> <p>5 check ignition coil connection</p> <p>6 check spark plugs</p>
P0303	Cylinder 3 - Misfire Detected	<p>Above Threshold (max) ! Check the wiring</p> <p>2 check fuel tank level</p> <p>3 check fuel pressure</p> <p>4 check fuel pump</p> <p>5 Check injector functionality in diagnosis mode, switching off injection valve and checking HC emission base</p> <p>3 check Ignition coil connection 6 check spark plugs</p>
P0304	Cylinder 4 - Misfire Detected	<p>Above Threshold (max)</p> <p>1 Check the wiring</p> <p>2 check fuel tank level</p> <p>3 check fuel pressure</p> <p>4 check fuel pump</p> <p>5 Check injector functionality in diagnosis mode, switching off injection valve and checking HC emission base</p>

		5 check ignition coil connection 6 check spark clues
P0305	Cylinder 5 - Misfire Detected	Above Threshold (max) 1 Check the wiring 2 check fuel tank level 3 check fuel pressure 4 check fuel pump 5 Check injector functionality in diagnosis mode, switching off Injection valve and checking HC emission base 5 check Ignition coil connection 6 check spark plots
P0306	Cylinder 6 - Misfire Detected	Above Threshold (max) 1 Check the wiring 2 check fuel tank level 3 check fuel pressure 4 check fuel pump 5 Check injector functionality In diagnosis mode, switching off injection valve and checking HC emission base 5 check Ignition coil connection 6 check spark clues
P0307	Cylinder 7 • Misfire Detected	Above Threshold (max) 1 Check the wiring 2 check fuel tank level 3 check fuel pressure 4 check fuel pump 5 Check Injector functionality la diagnosis mode, switching off injection valve and checking HC emission base 5 Check Ignition coil connection 6 check spark pings
P0308	Cylinder 8 - Misfire Detected	Above Threshold (max) 1 Check the wiring 2 check fuel tank level 3 check fuel pressure 4 check fuel pump 5 Check injector functionality in diagnosis mode, switching off injection valve and checking HC emission base 5 check, ignition coil connection 6 Check spark pines
P0327	Knock Sensor 1 Circuit	Low Input (rain) 1 Check the wiring 2 Check sensor mounting
P0328	Knock Sensor 1 Circuit	High Input (max) 1 Check the wiring 2 Check sensor mounting
P0332	Knock Sensor 2 Circuit	Low Input (min) 1 Check the wiring 2 Check sensor mounting
P0333	Knock Sensor 2 Circuit	High Input (max) 1 Check the wiring 2 Check sensor mounting
P0335	Crankshaft Position Sensor Circuit	Malfunction (sig) 1 Check the wiring, DC sensor 2 Check fly-wheel mounting 4 check gap between sensor and flywheel 3 Check crankshaft signal and Camshaft signal with oscilloscope -----PG3 - . - - DC Number of teeth has to be 60-2
P0336	Crankshaft Position Sensor Circuit	Range/Performance (plaus) 1 Check the wiring, DG sensor 2 Check fly-wheel mounting 4 check gap between sensor and flywheel 3 Check crankshaft signal and Camshaft signal with oscilloscope

	 PC3 - _ - - - - DG Number of teeth has to be 60-2
P0341	Camshaft Position Sensor Circuit	Range/Performance (plaus) 1 Check the wiring, PG3 sensor 2 Check crankshaft signal and Camshaft signal with oscilloscope PC3 Number of teeth has to be 60-2
P0342	Camshaft Position Sensor Circuit	Low Input (min) 1 Check the wiring, PG3 sensor 2 Check crankshaft signal and Camshaft signal with oscilloscope PC3 - _ - - - - DG Number of teeth has to be (0-2
P0343	Camshaft Position Sensor Circuit	High Input (max) 1 Check the wiring, PG9 sensor 2 Check crankshaft signal and Camshaft signal with oscilloscope PG3 _ _ _ D G Number of teeth has to be 60-2
P0383	Crankshaft Position Sensor Circuit (Bank 2)	Malfunction (sig) 1 Check the wiring, DG sensor 2 Check fly-wheel mounting 4 check gap between sensor and flywheel 3 Check crankshaft signal and Camshaft signal with oscilloscope PG3 DG Number of teeth has to be 60-2
P0386	Crankshaft Position Sensor Circuit (Bank 2)	Range/Performance (plaus) 1 Check the wiring, DG sensor 2 Check flywheel mounting 4 Check gap between sensor and flywheel 3 Check crankshaft signal and Camshaft signal with oscilloscope PG3 - - - - - DC Number of teeth has to be 60-2
P0422	Main Catalyst Efficiency	Below Threshold (max) 1 check the exhaust emission 2 check if there is leakage in the exhaust system 3 check injector functionality 4 check ignition coil connection 5 check HC CO emission base engine HC<250ppm CO<1.1%
P0432	Main Catalyst Efficiency (Bank 2)	Below Threshold (max) 1 check the exhaust emission 2 check if there is leakage in the exhaust system 3 check injector functionality 4 check ignition coil connection 5 Check HC CO emission base engine HC<250ppm CO<1.1%
P0440	Evaporative Emission Control System	Malfunction (max) 1 run test of EVAP system monitoring function
P0442	Evaporative Emission Control System	Leak Detected (Small) (min) 1 run test of EVAP system monitoring function
P0446	Evaporative Emission Control System Vent Valve	Malfunction (max) 1 check the wiring

		2 check valve functionality
P0447	Evaporative Emission Control System Vent Valve	Open (sig) 1 check the wiring 2 check the valve functionality
P0446	Evaporative Emission Control System Vent Valve	Shorted (min) 1 check the wiring 2 check the valve functionality
P0449	Evaporative Emission Control System Vent Control	Malfunction (min) 1 check the wiring 2 check the valve functionality
P0450	Evaporative Emission Control System Pressure Sensor	Malfunction (plans) 1 check the wiring 2 check line characteristic V/Pressure*
P0452	Evaporative Emission Control System Pressure Sensor	Low Input (min) 1 check the wiring 2 check line characteristic V/Pressure
P0433	Evaporative Emission Control System Pressure Sensor	High Input (max) 1 check the wiring 2 check line characteristic V/Pressure
P0455	Evaporative Emission Control System	Leak Detected (gross) (mm/pressure) 1 run test of EVAP system monitoring function
P0500	Vehicle Speed Sensor	Malfunction (stg) 1 check the CAN line 2 check ABS/ASR ECU if there are fault regarding speed sensor 3 check the dashboard functionality and error
P0506	Idle Control System: Idle Speed	Lower Than Expected (max) 1 check minimum value electronic throttle body (1.5-3%) in hot condition
P0507	Idle Control System: Idle Speed	Higher Than Expected (min) 1 check minimum value electronic throttle body (<1.5-3%) in hot condition
P0561	System Voltage	Unstable (plans) 1 check battery voltage level 2 check battery connection, positive and ground 3 check alternator functionality 4 check Me7J ground connection
P0562	System Voltage	Low (min) 1 check battery voltage level 2 check battery connection, positive and ground 3 check alternator functionality 4 check Me7.3 ground connection
P0563	System Voltage	High (max) 1 check battery voltage level 2 check battery connection, positive and ground 3 check alternator functionality 4 check Me7 J ground connection
P0571	Brake Switch Information	Malfunction (plans) 1 check the wiring 2 check brake switch position
P0600	Serial Communication Link (CAN): Error Between ME7 >ccus	Malfunction (sag) 1 check CAN line 2 check CAN line impedance-60 ohm 3 check ME7 error
P0604	Internal Control Module Random Access Memory (RAM)	RAM Error (plans) 1
P0605	Internal Control Read Only Memory (ROM)	ROM Error (plans) 1
PI 102	O2 Sensor Heater Circuit (Upstream Catalyst Bank 1, Sensor 1)	Short to B+ (max) 1 Check the wiring 2 Check O2 sensor impedance, continuity and value. 3 check in diagnosis mode heating O2 sensor
PI 103	O2 Sensor Heater Circuit (Upstream Catalyst) (Bank 1, Sensor 1)	Output too Low (plans) 1 Check the wiring

		2Check 02 sensor impedance, continuity and value. 3 check in diagnosis mode hitting 02 sensor
PI 104	Mass Air Flow Circuit (HFM) (Bank 2)	Low Input (min) 1Check the wiring 2Check Air mass (low between hit and right. Difference not more Skg/h 3 in idle, hot condition Air mass flow has to be 18-25
PI 105	02 Sensor Heater Circuit (Downstream Cat.) (Bank 1, Sensor 2)	Short to B+ (max) 1Check the wiring 2Check 02 sensor impedance, continuity and value. 3 check in diagnosis mode beating 02 sensor
P0106	Mass Air Flow Circuit (HFM) (Bank 2)	High Input (max) 1 Check the wiring ZCheck Air mass flow between left and right. Difference not more Skg/h 3 hi idle, hot condition air mass flow has to be 18-25
PI 107	02 Sensor Heater Circuit (Upstream Catalyst) (Bank 2, Sensor 1)	Short to B+ (max) 1 Check the wiring 2 Check 02 sensor impedance, continuity and value, 3 check in diagnosis mode heating 02 sensor
PI110	02 Sensor Heater Circuit (Downstream Cat) (Bank 2, Sensor 2)	Short to B+ (max) 1Check the wiring 2 Check 02 sensor impedance, continuity and value. 3 check In diagnosis mode heating 02 sensor
PI 111	Intake Air Temperature Circuit (Bank 2)	Low Input (max) 1 Check (be wiring Air flow meter 2 Ta- (30-60 °C) in hot condition
PI 112	Intake Air Temperature Circuit (Bank 2)	High Input (min) 1 Check the wiring Air now meter 2 Ta« (30-60 °C) in hot condition
PI 113	02 Sensor Hester Circuit (Downstream Cat.) (Bank 2, Sensor 2)	Output too Low (plaus) 1Check the wiring 2Check 02 sensor impede nee, continuity and value. 3 check in diagnosis mode heating 02 sensor
PI 1 IS	02 Sensor Heater Circuit (Upstream Catalyst) (Bank 1, Sensor 1)	Short to Ground (min) 1Check the wiring 2Check 02 sensor impedance, continuity and value. 3 check in diagnosis mode heating 02 sensor
PI 116	02 Sensor Heater Circuit (Upstream Catalyst) (Bank 1, Sensor 1)	Open(sig) 1Check the wiring 2Check 02 sensor impedance, continuity and valac 3 check in diagnosis mode beating 02 sensor
PI 117	02 Sensor Healer Circuit (Downstream Cat.) (Bank 1, Sensor 2)	Short to Ground (min) 1Check the waring 2Check 02 sensor impedance, ctmtnnity and value. 3 check in diagnosis mode heating 02 sensor
PI 118	02 Sensor Heater Circuit (Downstream Cat) (Bank 1, Sensor 2)	Open (sig) 1Check the wiring 2Check 02 sensor impedance, continuity and value. 3 check in diagnosis mode heating 02 tensor
PI119	02 Sensor Heater Circuit (Upstream Catalyst) (Bank 2, Sensor 1)	Short to Ground (min) 1Check the wiring 2 Check 02 sensor impedance, continuity and value. 3 check la diagnosis mode heatiag 02 sensor
PI 120	02 Sensor Heater Circuit (Upstream Catalyst) (Bank 2, Sensor 1)	Open (sig) 1Check the wiring 2Check 02 sensor impedance, continuity and value. 3 check ht diagnosis mode heating 02 sensor

PU21	02 Sensor Heater Circuit (Downstream Cat) (Bank 2, Sensor 2)	Short to Ground (min) 1 Check the wiring 2 Check 02 sensor impedance, continuity and value. 3 check in diagnosis mode beating 02 sensor
PII22	02 Sensor Heater Circuit (Downstream Cat) (Bank 2, Sensor 2)	Open (sig) 1 Check the wiring 2 Check 02 sensor impedance, continuity and value. 3 check in diagnosis mode beating 02 sensor
PI 123	Long Term Fuel Trim Additive Air	System too Rich (mm) 1 Check the fuel pressure 2 Check HC CO emission with no lambda Integrator 3 Check injector and wiring 4 check ignition coil and wiring 5 check exhaust system leakage
PI 124	Long Term Fuel Trim Additive Air	System too Lean (max) (Check the fuel pressure 2 Check HC CO emission with no lambda integrator 3 Check injector and wiring 4 check ignition coil and wiring 5 check exhaust system leakage
PI125	Long Term Fuel Trim Additive Air (Bank 2)	System too Rich (min) 1 Check the fuel pressure 2 Check HC CO emission with no lambda integrator 3 Check injector and wiring 4 check ignition coil and wiring 5 check exhaust system leakage
PI 126	Long Term Fuel Trim Additive Air (Bank 2)	System too Lean (max) 1 Check the fuel pressure 2 Check HC CO emission with no lambda integrator 3 Check Injector and wiring 4 check ignition coil and wiring 5 check exhaust system leakage
PU31	Engine Coolant Temperature Circuit	Low Input (max) 1 Check the wiring, t mot sensor 2 Check T mot between left/right. Has to be the same 3 Check CAN line 4 Check CAN line impedance
PI 132	Engine Coolant Temperature Circuit	High Input (min) 1 Check the wiring, t mot sensor 2 Check T mot between left/right. Has to be the same 3 Check CAN line 4 Check CAN line impedance
PI 133	Engine Coolant Temperature Circuit	Malfunction (sig) 1 Check the wiring, t mot sensor 2 Check T mot between left/right Has to be the same 3 Check CAN line 4 Check CAN line impedance
PI 134	Engine Coolant Temperature Circuit	Range/Performance (plaus) 1 Check the wiring, t mot sensor 2 Check T mot between left/right 3 Check CAN line 4 Check CAN line impedance
PI 144	02 Sensor Heater Circuit (Downstream Cat.) (Bank I, Sensor 2)	Malfunction (plaus) 1 Check the wiring 2 Check 02 sensor impedance, continuity and value. 3 check in diagnosis mode heating 02 sensor
PU45	Input Signals for Charging Detection	Malfunction (min/max)
PI 146	Pedal Position Potentiometer Signal 1	Signal too High (max) 1 check the wiring, potentiometer 2 key on, engine off, output signal 0.65-0.85 -- » AccpedaHr% 3.7-3.9 -> AccDedar=100%
PI 147	Pedal Position Potentiometer Signal 1	Signal too Low (min) 1 check the wiring, potentiometer

		2 key on, engine off, output signal 0.65-085 -- »Acc.pedaMr% 3.7-3.9 ->Accpedai-100%
PI 148	Input Signals for Charging Detection (Bank 2)	Malfunction (min/max)
PI 149	Pedal Position Potentiometer Signal 1	Range/Performance (plaus) 1 check the wiring, potentiometer 2 key on, engine off, output signal 0.65-685 <"»Acc.pcdal-0% 3.7-3.9 ->AccpedaMO0%
PI150	Pedal Position Potentiometer Signal 2	Signal too High (max) 1 check the wiring, potentiometer 2 key on, engine off, output signal 0J3-0.42 - ^Accpedal-0% 1.85-1.95->Ace.ped*I-100%
PI 151	Pedal Position Potentiometer Signal 2	Signal too Low (min) 1 check the wiring, potentktnMter 2 key on, engine ofT, output signal 0.33-0.42 -- »Accpedal'=0Vo 1.85-1.95*AccpedaH100V.
PI 152	Long Term Fuel Trim Multiplicative, Lower (Bank 2)	System too Rich (min) ICheck the fuel pressure 2Check HC CO emission with no lambda integrator 3 Check injector and wiring 4 check Ignition coil and wiring 5 check exhaust system leakage
PI 153	Pedil Position Potentiometer Signal 2	Range/Performance (plaus) ICheck the feel p restart 2Check HC CO emission with no lambda integrator 3 Check injector and wiring 4 check ignition coil nnd wiring 5 check exhaust system leakage
PI154	Long Term Fuel Trim Multiplicative, Lower (Bank 2)	System too Lean (max) 1 Check the fuel pressure 2Check HC CO emisstaa with no lambda integrator 3 Check injector and wiring 4 check ignition coil nnd wiring 5 check exaurt system leakage
PUSS	Long Term Fuel Trim Multiplicative, Upper	System (oo Rich (min) 1 Check the fuel pressure 2Cbck HC CO emission with no lambda integrator 3 Check Injector and wiring 4 check ignition coil and wiring 5 check exhaust system leakage
PI 156	Long Term Fuel Trim Multiplicative, Upper	System too Lean (max) ICheck the fuel pressure 2Check HC CO emission with no lambda integrator 3 Check injector and wiring 4 check ignition coil nnd wiring 5 check exanst system leakage
PI 157	Long Term Fuel Trim Multiplicative, Upper (Bank 2)	System too Rich (min) ICheck the fuel pretsure 2Check HC CO emission with no lambda integrator 3 Check injector and wiring 4 check ignition coil and wiring 5 check exhaust system leakage
PI 158	Long Term Fuel Trim Multiplicative, Upper (Bank 2)	System too Lean (max) ICheck the fuel pressure 2Check HC CO emission with no lambda Integrator 3 Check injector and wiring 4 check ignition coil and wiriajg 5 check exhaust system leakage
PI159	Long Term Fuel Trim Multiplicative, Lower	System too Rich (min) 1 Check the fuel pressure 2Check HC CO emission with no lambda integrator 3 Check injector and wiring 4 check ignition coil and wiring 5 check exaust system leakage
PI 160	Long Term Fuel Trim Multiplicative. Lower	System too Lean (max) ICheck the fuel pressure ICheck HC CO emission with no lambda Integrator 3 Check injector and wiring

		<p>4 check ignition coil and wiring 5 check exhaust system leakage</p>
PI 161	DV-E Future: Change Detection without Adaptation (Bank 2)	<p>Malfunction (max) 1 reset DV-E adaptation value 2 key on and on again, engine off 3 read learning step counter. Has to be 9 and b_lrng>l, if no; -check throttle position: Low value 1-2 J%-->Accpedal-0% High value 99-102%-frAcc.pedal-100 - check the wiring, potentiometer - key on, engine off, output signal; 0.33-0.42 -->Accpedal-Oy. 1.85-1.95-* Accpedal-100% •battery voltage >9V -Tmot, Tans >5°C - Accpedal < 14% -Vehicle speed=OKm/h</p>
PI 162	DV-E Failure: Sprint Check "Opening" (Bank 2)	<p>Opening Spring defect (min/max) 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_lrng>l. If no; -check throttle position: Low value 1-2 J%--*Accpedal-H% High value 99-102%-tAcc.pedal-100 • Check the wiring, potentiometer - key on, engine off, output signal; (U3-0.42 -->Acc.pedal=0% 1.85-1.95-* Accpedal=100% - battery voltage >9V - Tmot, Tans > 5°C .Accpedal<14V. - Vehicle speed=OKm/h</p>
PI 163	DV-E Failure: Spring Check (Bank 2)	<p>Return Spring defect (max) 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_lrng>l. If no; -check throttle position: Low value 1-2.8% -<>Acc.pedal>% High value 99-102% ->Acc.pedal>=100 • check the wiring, potentiometer - key on, engine off, output signal; 0.33-4.42 -->Accpedal-H)V. 1.85-1.95->Accpedal=100Vo - battery voltage >9V -Tmot Tans >5°C -AccpedalK 14% - Vehicle speed=OKm/h</p>
PI 164	DV-E Failure: Limp Home Position (Bank 2)	<p>Out of Tolerance Range (plaus) 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_lrng>l, if no; •check throttle position: Low value 1-2.8%-->Act.pedal=Wr% High value 99-102%-->Acc.pedal=leX> - check the wiring, potentiometer - key on, engine off, output signal; 0.33-0.42 -->Accpedal-H)% 1.85-1.95->Accpedal-100% • battery voltage >9V • Tmot, Tans >5°C -AccpedalK 14% - Vehicle speed=OKm/h</p>
PI 165	DV-E Failure: UMA-Learning (Bank 2)	<p>Fault during first initialization (plaus) 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_lrng>l, If no; •check throttle position: Low value 1-2 J%-->AccHsedalM% High value 99-102%-->Accpedal-100 - check the wiring, potentiometer - key on, engine off, output signal; 0.33-0.42 -->Accpedal-0% 1.85-1.95->Accpedal<100%</p>

		<ul style="list-style-type: none"> - battery voltage >9V - Tmot, Teat > 5°C - Accpedal < 14% - Vehicle speed-OKm/h
PI 166	DV-E Failure: Amplifier Adjustment (Bank 2)	<p>Out of Tolerance Range (plaus)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_lrnfg-1, If no; <ul style="list-style-type: none"> •check throttle position: Low value 1-18% → Accpedal-0% High value 99-182V → Accpedal 100 <ul style="list-style-type: none"> - check the wiring, potentiometer - key on, engine off, output signal; 0J3-0.42 - » AccpedalH) % 1.85-1.95 → Accpedal-100% <ul style="list-style-type: none"> - battery voltage >9V - Tmot, Tans > 5°C - Accpedal < 14% - Vehicle speed=OKm/h
PI 167	DV-E Failure: Powerstage (Bank 2)	<p>Powerstage switched-off (plaus)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_jrnfg*!. if no; <ul style="list-style-type: none"> •check throttle position: Low value 1-2.8% → Acc.pedaH > % High value 99-102% → AccpdaM80 <ul style="list-style-type: none"> - check the wiring, potentiometer - key on, engine off, output signal; 0 J3-0.42 - ^ Accpedar-OVo 1.85-1.95* Actpedal-100% <ul style="list-style-type: none"> - battery voltage >9V - Tmot, Tans > 5°C - Accpedal < 14% - Vehicle speed^OKmrti
PI 168	Ambient Pressure Adaptation	Altitude Factor too Low (min)
PI 169	Ambient Pressure Adaptation	Altitude Factor too High (max)
PI 170	Throttle Position Poti 1	<p>Range/Performance (plaus)</p> <ol style="list-style-type: none"> 1 Check the wiring 2 Check the value, hot condition -low-1.1-2,8% - » A«.pedaH > % -high=99-102% -Mce.pedt-100%
PI 171	DV-E Failure: Position Deviation (Bank 2)	<p>Deviation too high (plaus)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_jrnfg*!, if no; <ul style="list-style-type: none"> -check throttle position: Low v»lu«U-2.8% → Accp*d«M)% High value 99-1v2% → Acr_pedal-100 <ul style="list-style-type: none"> - check the wiring, potentiometer - key on, engine off, output signal; 0J3-0.42 -- > AccpedaM) % 1A5-1.9S → Aix.nedal-100% <ul style="list-style-type: none"> - battery voltage >9V - Tmot, Tans > 5°C - Accpedal < 14% - Vehicle wedd-OKm/h
PI 172	Throttle Position Poti 1	<p>Signal too Low (min)</p> <ol style="list-style-type: none"> 1 Check the wiring 2 Check the value, hot condition -iow=I.1-MV. -*Acc.p«UM)% -oiBn»99-102% - > Acc.p*dar=100V.
PI 173	Throttle Position Poti 1	<p>Signal too High (max)</p> <ol style="list-style-type: none"> 1 Check the wiring 2 Check the value, hot condition -tow-1.1-2^% - > Accpedal-0% -high-99-102% - > AccpedaN100%
PI 174	Throttle Position Poti 2	<p>Range/Performance (plaus)</p> <ol style="list-style-type: none"> 1 Check the wiring

		2 Check the value, hot condition -low=1.1-2.8% ->Accpedal"0% -high<99-102% ->Aee.pedaM00%
PI 175	DV-E Failure: Control Range (Bank 2)	Controller at Limit (min/max) 1 reset DV-E adaptation value 2 key off and on again, engine eff 3 read learning step counter. Has to be 9 and b_lrnf>l, If no; -check throttle position: Low value 1.1-2J% ->Aci^pedaH)% High value 99-102% ->Acc.pedal-100 - check the wiring, potentiometer • key on, engine off, output signal; 0.33-0.42 -->Acc.ptdal-0% 1^S-1.9S->Accpedal-100% - battery voltage >9V -Tmot, Tans >S°C - Aecpedal<14% - Vehicle speed<0Km/b
PI 176	Throttle Position Poti 2	Signal too Low (min) 1 Check the wiring 2 Check the value, hot condition -lew1.1-24% ->AccpedaNr% -hiEh-99.102% ->Acc.p*d<l<]00%
PI 177	Throttle Position Poti 2	Signal too High (max) 1 Check the wiring 2 Check the value, hot condition -low-1.1-2J% ->AccpedaM)% -hhth-99-102%/. ^AccpedoMOOK
PI 178	DV-E Failure: Change Detection without Adaptation	Malfunction (max) 1 reset DV-E adaptation value 2 key off and an again, angina aff 3 read learning step counter. Has to be 9 and b_jraig-!, U no; -check throttle peaiuoa: Low value 1.1-2.8% --*Aec.pedaH>% High value 99-102%-Mcc.pedaMOQ - check the wiring, potentiometer - key on, engine off, output signal; 0.65-4.85 -->Accpedal=0% 3.7-3.9->Accpedar-100% - battery voltage >9V - Tmot, Tans > 5°C • AecpedaK 14% - Vehkletpedd-OKm/h
PU 79	DV-E Failure: Spring Check 'X'pening"	Opening Spring defect (min/max) 1 reset DV-E adaptation vahM 2 key off aad on again, engine off 3 read learning step counter. Has to be 9 and b_jrafg<=l, if no; -check throttle position: Low vsuel.1-2.8%-MccpediM>% High value 99-102%*Ace.pedal-100 - check the wiring, potentiometer - key on, engine off, output signal; 0.65-0.85 •->AccpedalH>% 3.7-3.9->Accpedal-100% • battery voltage >9V -Tmot, Tans >S°C - AecpedaK 14% - Vehicle ipedd-OKm/h
PI 180	DV-E Failure: Spring Check	Return Spring defect (max) 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_lrnf>l, if no; •check throttle position: Low vaiuel.1-2.8%.->Accpedal-0% High value 99-102%-Mccpedat<100 - Check the wiring, potentiometer - key on, engine off, output signal; 0.65-0.85 -->AccpedaM>% 3.7-3.9->Acc.pedal-100^/o - battery voltage >9V -Tmot, Tans >5°C -AecpedaK 14% -Vehicle speedd-OKm/h

PI 181	DV-E Failure: Limp Home Position	<p>Out of Tolerance Range (plaus)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and tie9andb_lrn*r<l,if no; <p>-check throttle position: Low v»luel.1-2JJ%--»Acc-pe<Ui-0V. High value 99-102% *Accpedef-100</p> <ul style="list-style-type: none"> - check the wiring, potentiometer - key on, engine off, output signal; 0.65-0.85 - <p>»AccpedaHr% 3.7-3.9-»Acc4>edal=100% - battery voltage >9V -Tmot, Tans >5°C</p> <ul style="list-style-type: none"> • AecpedaK 14% • Vehicle speed-OKnVh
PI 182	DV-E Failure: UMA-Leanung	<p>Fault during first initialization (plaus)</p> <ol style="list-style-type: none"> 1 reset BV.E adaptation valae 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and bjrnf-1, if no; <p>■check throttle position: Low valuel.1-2.8%--»Anup«U 1-0% High value 99-102% ^Accpedal-100</p> <ul style="list-style-type: none"> - check the wiring, potentiometer - key on, engine off, output signal; 0.65-4)45 - <p>»AccpedaH>% 3.7-3.9->Accpedal»100% - battery voltage >9V ■ Tmot, Tans > 5°C - AecpedaK 14%</p> <ul style="list-style-type: none"> - Vehicle sptdd-OKm/h
PI 183	DV-E Failure: Amplifier Adjustment	<p>Out of Tolerance Range (plaus)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key off and en again, engine off 3 read learning step counter. Has to be 9 and bjrnf-1, if no; <p>-check throttle position: Low valuel.1-2.8 %--»Accped«M)% High value 99-102% ♦♦Acc.pedaf-100</p> <ul style="list-style-type: none"> - check the wiring, potentiometer - key on, engine off, output signal; 0.65-0.85 - <p>»Accpedal=0% 3.7-3.9-»Accp*dal-100% • battery voltage >9V -Tmot, Tans >5°C - Accpedel < 14%</p> <ul style="list-style-type: none"> • Vehicle speed-OKm/h
PI 184	DV-E Failure: Powerstage	<p>Powerstage switched-off (plaus)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation Tame 2 lory off and on again, engine off 3 read leaning step counter. Hat to be 9 and bJrnf-1, if no; <p>-cbech throttle position: Low v»l»el.I-2.8%-*AccpedaH)% High value 99-102% *Accpedal«100</p> <ul style="list-style-type: none"> • check the wiring, potentiometer - key on, engine off, output signal; 0.65-0.85 - <p>*Accp©ttaH>y. 3.7-3.9* Accpedat-100% • battery voltage >9V - Tmet, TIM > 5°C - Accpedal < 14%</p> <ul style="list-style-type: none"> ■ Vehicle ipedd-OKm/h
PI 185	DV-E Failure: Position Deviation	<p>Deviation too high (plaus)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and bjrnf-1, if no; <p>-check throttle position: Low valuel.)-2J%- *Accpedar-0% High value 99-102% *Accpedal-100 -check the wiring, potentiometer</p> <ul style="list-style-type: none"> - key on, engine off, output signal; 0.65-0.85 - <p>*Accpedat-0% 3.7-3.9* AccpedaM 00%</p>

		<ul style="list-style-type: none"> • battery voltage >9V - Tmot, Tans > 5°C • Accpedal<14% - Vehicle speed<OKm/h
PI 186	DV-E Failure: Control Range	<p>Controller at Limit (min/max)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and <p>bjmf=1, if no;</p> <ul style="list-style-type: none"> •check throttle position: Low value 1-2.8% *Accpedal-0% High value 99-102% *Accpedal-100 - check the wiring, potentiometer - key on, engine off, output signal; 0.65-0.85 - *Accpedal-0% 3.7-3.9*Acc.pedal-100% • battery voltage >9V - Tmet, Tans > 5°C • Accpedal < 14% - Vehicle speed>0Kin/b
PI1S7	DV-E Failure: Stop of Check Due to Wrong Ambient Condition	<p>Conditions not fulfilled (min/max)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and <p>bjmf=1, if no; . •check throttle position:</p> <p>Low value 1-2.8% *Accpedal-100</p> <p>High value 99-102% *Accpedal-100</p> <ul style="list-style-type: none"> - check the wiring, potentiometer - key on, engine off, output signal; 0.65-0.85 - *Acc.pedal 3.7-3.9 *Acc.pedal-100% - battery voltage >9V -Tmot, Tans >5°C - Accpedal < 14% - Vehicle speed=flKm/h
PI 188	DV-E Failure: UMA-Learning Repeat Case	<p>Malfunction (plans)</p> <ol style="list-style-type: none"> 1 reset DV-E adaptation value 2 key. off and on again, engine off 3 read learning step counter. Has to be 9 and <p>bjmf=1, if no;</p> <ul style="list-style-type: none"> -check throttle position: Low value 1-2.8% *Acc.pedal-100 High value 99-102% *Acc.pedal-100 • check the wiring, potentiometer • key on, engine off, output signal; 0.65-0.85 - *Acc.pedal 3.7-3.9 * Acc.pedal-100% - battery voltage >9V -Tmot, Tans >5°C -Acc.pedal<14% - Vehicle speed=OKm/h
PI 189	Pedal Position Potentiometer Signal	<p>Range/Performance (plans)</p> <ol style="list-style-type: none"> 1 check the wiring, potentiometer 2 key on, engine off, output signal 0.65-0.85 - <p>*Accpedal-0% 3.7-3.9 *Acc.pedal-100%</p>
PI 190	Throttle Position Pot 1 (Bank 2)	<p>Signal too High (max) •check the wiring -</p> <p>VE33-VE29-5V</p> <p>-Wped->0-> VE31-VE28-0.4-0.9V VE34-VE28-4.1H.8V</p> <p>-Wped=100% VE31-VE2*»4.0-4.8V VE34-VE28-0.4-1.9V</p>
PI191	Throttle Position Pot 1 (Bank 2)	<p>Signal too Low (min) •check the wiring -VE33-VE29-5V</p> <p>-Wped-0-> VE31-VE28 -0.4^).9V VE34-VE28- 4.W.8V</p> <p>-Wped-100% VE31-VX28-4.a-4JV VE34-VE28e0.44.9V</p>
PI 192	Throttle Position Pot 1 (Bank 2)	<p>Range/Performance (plans) •check me wiring -</p> <p>VE33-VE29-5V</p> <p>-Wpedr-0-> VE31-VE28 "0-4-0.9V VE34-VE28-4.0-4.SV</p>

		-Wpcd=100% VE31-VE2S-4X-4.8V VE34-VE28-0.4-0.9V
PI 193	Throttle Portion Poti 2 (Bank 2)	Signal too High (max) -check the wiring -VE33-VE29-5V -WpedHr* VE31-VE28 -0.44-0.9V VE34-VE28-4.0-4.8V -Wped=100% VE31-VE28-4.0-4.8V Vt34-VE28H1.4-0.9V
PI 194	Throttle Position Poti 2 (Bank 2)	Signal too Low (min) -check the wiring -VE33-VE29=5V Wped=0-> VE31-VE28M1.4-0.9V VE34-VE28-4.0-4.8V -Wped=100% VE31-VE28-4.rM.8V VI34-VE2fHM-0.9V
PI 195	Throttle Position Poti 2 (Bank 2)	Range/Performance (plaus) •check the wiring -VE33.VE29-5V -Wped=0-> VE31-VX28 =0.4-0.9V VE34-VE28- 4.0-4.8V -Wped=100% VE31-VE28-4.0-4.8V VE34-VE2fHI.4-0.9V
PI 196	DV-E Failure: Stop of Check Due to Wrong Amb. Cond. (Bank 2)	Conditions not fulfilled (min/max) -check the wiring -VE33-VE29*5V -Wped=0-> VE31-VE28-0.4-0.9V VE34-VE28-4.0-4.8V -Wped=100% VE31-VE2S<>4.9-4JV VE34-VE28-0.4-0.9V
PI 197	DV-E Failure: UMA-Learnmg Repeat Case (Bank 2)	Malfunction (plaus) 1 reset DV-E adaptation value 2 key off and on again, engine off 3 read learning step counter. Has to be 9 and b_lrnfg>1, if no; •check throttle position: Low valu<1.1-2.8%-->AccpedaM>% High value 99-102%-S-AccpedaMQo • check the wiring, potentiometer - key on, engine off, output signal; 0.33-0.42 -^Accpedai-0% J.8S-1.95->Acc.p*da1-100% -battery voltage >9V -Tmot, Tans >5°C -AecpedaK 14% • Vehicle tpedd-OKm/h
PU99	Ambient Pressure Adaptation (Bank 2)	Attitude Factor too Low (min)
P1200	Ambient Pressure Adaptation (Bank 2)	Attitude Factor too High (max)
P1213	Injector Circuit No. 1 (Bank 1)	Short to B+ (max) ■Check the wiring •check functionality in diagnosis mode
P1214	Injector Circuit No. 2 (Bank 1)	Short to B+ (max) Check the wiring -check functionality in diagnosis mode
P1215	Injector Circuit No. 3 (Bank 1)	Short to B+(max) Check the wiring -check functionality in diagnosis mode
P1216	Injector Circuit No. 4 (Bank i)	Short to B+ (max) Check the wiring -check functionality in diagnosis mode
P1217	Injector Circuit No. 3 (Bank 2)	Short to B+ (max) Check the wiring •check functionality in diagnosis mode
P1218	Injector Circuit No. 6 (Bank 2)	Short to B+ (max) Check the wiring •check functionality m diagnosis mode
P1219	Injector Circuit No. 7 (Bank 2)	Short to B+ (max) Check the wiring -check functionality in diagnosis

		mode
P1220	Injector Circuit No. 8 (Bank 2)	Short jpB+ (max) Check the wiring -check functionality in diagnosis mode
PI 223	Injector Circuit No. 1 (Bank 1)	Short to Ground (min) Check the wiring -check functionality in diagnosis mode
P1226	Injector Circuit No. 2 (Bank 1)	Short to Oround (min) Check the wiring -check functionality in diagnosis mode
P1227	Injector Circuit No. 3 (Bank 1)	Short to Ground (min) Check the wiring -check functionality in diagnosis mode
P1228	Injector Circuit No. 4 (Bank I)	Short to Ground (min) Check the wiring •check functionality in diagnosis mode
P1229	Injector Circuit No. 5 (Bank 2)	Short to Ground (min) Check the wiring ■check functionality in diagnosis mode
P1230	Injector Circuit No. 6 (Bank 2)	Short to Ground (mm) Check the wiring -check functionality in diagnosis mode
P1231	injector Circuit No. 7 (Bank 2)	Short to Ground (min) Check the wiring •check functionality in diagnosis mode
P1232	Injector Circuit No. 8 (Bank 2)	Short to Ground (min) Check the wiring ■check functionality in diagnosis mode
P1237	Injector Circuit No. 1 (Bank 1)	Open (sig) Check the wiring •check functionality in diagnosis mode
P1238	Injector Circuit No. 2 (Bank 1 >	Open (sig) Check the wiring -check functionality in diagnosis mode
P1239	Injector Circuit No. 3 (Bank I)	Open (sig) Check the wiring -check functionality m diagnosis
P1240	injector Circuit No. 4 (Bank I)	Open (sig) Check the wiring -chock functionaUty in diagnosis mode
P124I	Injector Circuit No. 3 (Bank 2)	Open (sig) Check the wiring -check functionality In diagnosis made
P1242	Injector Circuit No. 6 (Bank 2)	Open (sig) Check the wiring -check functionality in diagnosis mode
PI 243	Injector Circuit No. 7 (Bank 2)	Open (sig) Check the wiring -check functional Uy in diagnosis mode
P1244	injector Circuit No. 8 (Bank 2)	Open (sig) Check the wiring -check functionsHfy In diagnosis mode
PI 267	Function Monitoring: Safety Fuel Cut-Off	Range/Performance (plaus)
P1268	Function Monitoring: Torque Comparison	Range/Performance (plaus)

P1269	Function Monitoring: Safety Fuel Cut-Off (Bank 2)	Range/Performance (plaus)
P1270	Function Monitoring: Torque Comparison (Bank 2)	Range/Performance (plaus)
P1296	Target Torque Liraitator	Limitation active (max)
P1297	Target Torque Limiator (Bank 2)	Limitation active (max)
P1324	Alignment Between Camshaft and Crankshaft Signal	Mech. Adjusted (min/max) 1 Check the wiring, PG3 sensor 2 Check crankshaft signal and Camshaft signal with oscilloscope -----PG3 - - - - - DG Number of teeth has to be 60-2 2 Check crankshaft signal and Camshaft signal with oscilloscope when variable camshaft is active
P1340	Alignment Between Camshaft and Crankshaft Signal (Bank 2)	Mech. Adjusted (min/max) 1 Check the wiring, PG3 seaser 2 Check crankshaft signal and Camshaft signal with oscilloscope -- PG3 Number of teeth has to be 60-2 2 Check crankshaft signal and Camshaft signal with oscilloscope when variable camshaft is active
P1382	Knock Sensor 2 Circuit (Bank 2)	Low Input (min) Check the wiring Check if the sensor is fixed good
P1383	Knock Sensor 1 Circuit (Bank 2)	Low Input (nun) Check the wiring Check if the sensor is fixad good
P1384	Knock Sensor 1 Circuit (Bank 2)	High Input (max) Check the wiring Check if the sensor is fixed good
P1383	Knock Sensor 2 Circuit (Bank 2)	High Input (max) Check the wiring Check if the sensor is fixad good
P1386	Knock Control Zero Test, <i>Offset</i> , Testpulas	Range/Performance (plaus) Check the wiring Check if the sensor is fixed Rood
P1387	Knock Control Zero Test, Offset, Testpulse (Bank 2)	Range/Performance (plaus) Check the wiring Check If the sensor is fixed good
P1389	Camshaft Position Sensor Circuit (Bank 2)	Range/Performance (plaus) 1 Check the wiring, PG3 sensor 2 Check crankshaft signal and Camshaft signal with occiUoscopa - PG3 ----- - - DG Number of teeth has to be 60-2 2 Check crankshaft signal and Camshaft signal with oscilloscope when variable camshaft is active
P139I	Camshaft Position Sensor Circuit (Bank 2)	Low Input (min) 1 Check the wiring, PG3 sensor 2 Check crankshaft signal and Camshaft signal with oscilloscope -----PG3 - - , - - - DG Number of teeth has to be 60-2 2 Check crankshaft signal and Camshaft signal with oscilloscope when variable camshaft is active
PI 392	Camshaft Position Sensor Circuit (Bank 2)	High Input (max) 1 Check the wiring, PG3 sensor 2 Check crankshaft signal and Camshaft signal with oscilloscope ----- PG3 - - - - - DG Number of teeth has to be 60-2 2 Check crankshaft signal and Camshaft signal with oscilloscope when variable camshaft is active
P1410	Evaporative Emission Control System Purge Control Valve Circuit	Short to B+ (max) Check the wiring Check functionality in dhtgosis mode
P1412	Evap. Em. Control System Purge Control Valve Circuit (Bank 2)	Short to B+ (max) Check the wiring Check functionality in diagosis mode
P1425	Evaporative Emission Control System Purge Control Valve Circuit	Short to Ground (min) Check the wiring

		Check functionality In diagnosis mode
PI426	Evaporative Emission Control System Purge Control Valve Circuit	Open (sig) Check the wiring Check functionality in diagnosis mode
PI427	Evap. Em. Control System Purge Control Valve Circuit (Bank 2)	Short to Ground (min) Check the wiring Check functionality in diagnosis mode
PI428	Evap. Em. Control System Purge Control Valve Circuit (Bank 2)	Open (sig) Check the wiring Check functionality in diagnosis mode
PI438	Evaporative Emission Control System (Bank 2)	Malfunction (max) 1 run test of EVAP system monitoring function
PI440	Evaporative Emission Control System (Bank 2)	Leak Detected (Small) (min) Check fuel tank leakage 1 run test of EVAP system monitoring function
PI441	Evaporative Emission Control System (Bank 2)	Leak Detected (gross) (mitvplaw) Check fuel tank leakage 1 run test of EVAP system monitoring function
PI442	Secondary Air Injection System (Bank 2)	Malfunction (plaus) Not present
PI443	Secondary Air Injection System (Bank 2)	Incorrect Flow Detected (mm) Not present
PI44S	Catalyst Temperature (Vescovini)	Range/Performance (plaus/min/max) Check the wiring Check Vescovini ECU functionality Check ternocouple functionality
PI446	Catalyst Protection Active	Active (max) Check wiring injector Check wiring ignition coil Check all injector functionality Check engine emission base CO HC Check fuel tank level Check Vescovini tea Check thermocouple
PI44g	Catalyst Bypass Flap Circuit	Malfunction (sig/min/max) Check wiring Check the valve Check vacuum leakage Check functionality in diagnosis mode
PI 449	Catalyst Temperature (Vescovini) (Bank 2)	Range/Performance (plaus/mln/mtk) Check the wiring Check Vescovini ECU functionality Check thermocouple functionality
PI450	Secondary Air Pump Circuit	Short to B+ (max) Not present
PI451	Secondary Air Pump Circuit	Short to Ground (mm) Not present
PI452	Secondary Air Pump Circuit	Open (tig) Not present
PI4S4	Catalyst Protection Active (Bank 2)	Active (max) Check wiring Injector Check wiring Ignition coil Check all injector functionality Check engine emission base CO HC
PI455	A/C Compressor Control Circuit	Open (sig) Check the wiring Check functionality in diagnosis mode
PI4S6	A/C Compressor Control Circuit	Short to B+ (max) Check the wiring Check functionality in diagnosis mode
PI457	A/C Compressor Control Circuit	Short to Ground (min) Check the wiring Check functionality in diagnosis mode
PI461	Catalyst Bypass Flap Circuit (Bank 2)	Malfunction (sig/min/max) Check wiring Check the valve Check vacuum leakage Check functionality in diagnosis mode
PI462	Evaporative Emission Control System Vent Valve (Bank 2)	Malfunction (sig/min/max) Check the wiring Check valve functionality
PI463	Evaporative Emission Control System Pressure Sensor (Bank 2)	Malfunction (plaus) Check the wiring Check pressure sensor P/V

P1463	Evaporative Emission Control System Pressure Sensor (Bank 2)	Low Input (mm) Check the wiring Check pressure sensor P/V
P1466	Evaporative Emission Control System Pressure Sensor (Bank 2)	High Input (max) Check the wiring Check pressure sensor P/V
P1481	Secondary Air Valve	Leakage (max) Not present
P1481	Secondary Air Valve (Bank 2)	Leakage (max) Not present
P1501	Fuel Pump Relay Circuit	Short to Ground (min) Check the wiring Check functionality in diagnosis mode
P1502	Fuel Pump Relay Circuit	Short to B+ (max) Check the wiring Check functionality in diagnosis mode
P1504	Fuel Pump Relay Circuit (Bank 2)	Short to Ground (min) Check the wiring Check functionality in diagnosis mode
P1505	Fuel Pump Relay Circuit (Bank 2)	Short to B+ (max) Check the wiring Check functionality in diagnosis mode
P1506	Fuel Pump Relay Circuit (Bank 2)	Open (sig) Check the wiring Check functionality in diagnosis mode
P1512	Intake Manifold Switching Valve 1, Powerstage	Short to B+ (max) Check the wiring Check functionality in diagnosis mode
P1515	Intake Manifold Switching Valve 1, Powerstage	Short to Ground (min) Check the wiring Check functionality in diagnosis mode
P1516	Intake Manifold Switching Valve 1, Powerstage	Open (sig) Check the wiring Check functionality in diagnosis mode
P1318	Idle Control System; Idle Speed (Bank 2)	Lower Than Expected (max) •check in idle (hot condition) air flow mass: between 18-25 -rpm-1060 +/-40
P1319	Idle Control System: Idle Speed (Bank 2)	Higher Than Expected (min) •check in idle (hot condition) air flow mass: between 18-25 -rpm=1060 +/-40
P1520	Camshaft Control	Passive Pos.n. reached (plans) Check the wiring Check the valve functionality Check at 22°C resistance:20*7-10hm
P1521	Camshaft Control	Active Pos.n. reached (min) Check the wiring Check the valve functionality Check at 22°C resistance:20*7-20hm
P1522	Camshaft Control	Passive Pos.n. reached (max) Check the wiring Check the valve functionality Check at 22°C resistance:30*7-20hm
P1526	Camshaft Control Circuit	Short to B+ (max) Check the wiring Check the valve functionality Check at 22°C resistance:20*7-20am
P1527	Camshaft Control Circuit	Short to Ground (min) Check the wiring Check the valve functionality Check at 22°C resistance:20*7-20hm
P1528	Camshaft Control Circuit	Open (sig) Check the wiring Check the valve functionality Check at 22°C resistance:20*7-20hm
P1329	Camshaft Control (Bank 2)	Passive Pos.n. reached (plans) Check the wiring Check the valve functionality Check at 22°C resistance:20*7-20hm
P1530	Camshaft Control (Bank 2)	Active Pos.n. reached (min) Check the wiring Check the valve functionality Check at 22°C resistance:20*7-20hm
P1531	Camshaft Control (Bank 2)	Passive Pos.n. reached (max) Check the wiring Check the valve functionality Check at 22°C resistance:20*7-20hm
P1534	Camshaft Control Circuit (Bank 2)	Short to B+ (max) Check the wiring Check the valve functionality Check at 23°C resistance:20*7-20am
P1535	Camshaft Control Circuit (Bank 2)	Short to Ground (min)

		Check the wiring Check the valve functionality Check at 22°C resistance:20*7-20ohm
P1536	Camshaft Control Circuit (Bank 2)	Open (sig) Check the wiring Check the valve functionality Check at 22°C resistance:28*7-20ohm
P1537	Vehicle Speed Sensor (Bank 2)	Malfunction (sig) Check CAN line Check ABS/ASR error
P1541	Fuel Pump Relay Circuit	Open (sig) Check the wiring Check functionality In diagnosis mode
P1561	System Voltage (Bank 2)	Unstable (plaus) Check battery voltage Check ground connection
P1562	System Voltage (Bank 2)	Low (min) Check battery voltage Check ground connection
P1563	System Voltage (Bank 2)	High (max) Check battery voltage Check ground connection
P1369	Brake Switch Information (Bank 2)	Malfunction (plaus) Check the wiring Check ABS/ASR error Check brake switch position
P1570	Immobilizer	(plaus) Check the wiring
P1571	Immobilizer	Active (sig) Check the wiring
P1372	Immobilizer (Bank 2)	(plaus) Check the wiring
P1573	Immobilizer (Bank 2)	Active (sig) Check the wiring
P1586	Engine Off-Request from Electronic Clutch ECU	Fatal Gearbox Error (sig) Check Marelli FI ECU error
P1387	^Engine Off-Request from Electronic Clutch ECU (Bank 2)	Fatal Gearbox Error (sig) Check Marelli FI ECU error
P1593	Intake Manifold Switching Valve 2, Powerstage	Open (sig) Check the wiring Check valve functionality
P1594	Intake Manifold Switching Valve 2, Powerstage	Short to Ground (min) Check the wiring Check the valve functionality
P1595	Intake Manifold Switching Valve 2, Powerstage	Short to B+ (max) Check the wiring Check the valve functionality
P1604	Internal Control Module Random Access Memory (RAM) (Bank 2)	RAM Error (plaus)
P1605	Internal Control Read Only Memory (ROM) (Bank 2)	ROM Error (plaus)
P1606	Rough Road Signal	Range/Performance (plaus)
P1607	Rough Road Signal (Bank 2)	Range/Performance (plaus)
P1626	CAN-interface: Timeout ASR	Malfunction (sig) Check CAN line Check CAN line impedance60ohm
P1627	CAN-interface: Timeout Electronic Clutch (KUP)	Malfunction (plaus) Check CAN line Check CAN line Impedance60ohm Check FI ecu error
P1628	Monitoring Function: 2-ECU-Concept	Malfunction (plaus) Check the wiring Check CAN line impedance60ohm
P1629	Controller Monitoring ECU Reset	Malfunction (plaus)
P1630	ECU Selection Bank 1+2	Malfunction (sig)
P1631	CAN-interface: Timeout ASR (Bank 2)	Malfunction (sig) Check the wiring Check ABS/ASR error Check CAN line impedance60ohm
P1632	CAN-interface: Timeout Electronic Clutch (KUP) (Bank 2)	Malfunction (plaus) Check the CAN line Check CAN impedance= 60 ohm . Check Marelli FI ecu error
P1633	ECU Selection Bank 1+2 (Bank 2)	Malfunction (sig)
P1634	CAN-Error Between ME7-ecus (Bank 2)	Malfunction (sig) Check CAN line
P1635	Monitoring Function: 2-ECU-Concept (Bank 2)	Malfunction (plaus)
P1636	Controller Monitoring ECU Reset (Bank 2)	Malfunction (plaus)
P1639	Pedal Position Potentiometer Moving Detection Fault	Unplaus. Moving detection (plaus)
P1654	CAN-interface: Internal Fault	Malfunction (sig)

PI674	CAN-interface: Timeout Dashboard	Malfunction (sig) Check CAN line Check CAN line >mpedence*60ohm Check Dashboard error
PI675	CAN-interface: Timeout Dashboard (Bank 2)	Malfunction (sig) Check CAN line Check CAN line Irappedence-60ohm Check Dashboard error