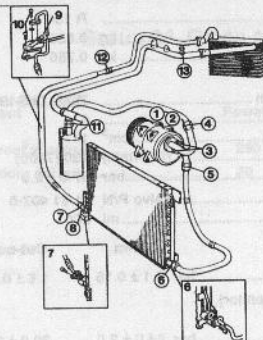


Pocket data booklet
Cars

700, 850, 900
1991 - 1997

VOLVO

Tightening torque



87016555

	Nm	ft.lb
1. Screws, brackets/engine anchorage	20	15
2. Screws, compressor brackets	40	30
3. Screws, compressor pipe flange	24	18
4. Connection to compressor	60	44
5. Connection from compressor	45	33
6. Connection to condenser	20	15
7. Connection from condenser	20	15
8. Connection, pressure monitor	10	7
9. Connection, pressure monitor	8	6
10. Junction	20	15
11. Connection from receiver/drier	30	22
12. Expansion valve	30	22
13. Pressostat, plastic seat	3	2
steel seat	8	6

Diagnostic trouble codes

Contents

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A2	FUEL SYSTEM	5
A3	ABS	12
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Note!

For model year 1996 and later, the diagnostic socket in the engine compartment has been replaced with a coupling tab inside the car, for connection to the Volvo System Tester.
Error codes with explanatory text are shown directly on the instrument's display window, so the new codes will not be listed in the pocket data booklet in the future.

TRANSMISSION (A1)**SYSTEM:**

AW 30-43 / AW 50-42

MODE: 1

- 111 - No faults found by diagnostic system.
- 112 - Solenoid S1 short-circuit to supply.
- 113 - Transmission control module (TCM) fault.
- 114 - Program selector open-circuit or short-circuit to supply.
- 121 - Solenoid S1 short-circuit to ground or control module fault.
- 122 - Solenoid S1 open-circuit.
- 123 - Solenoid STH short-circuit to supply.
- 124 - Program selector faulty or short-circuit to ground.
- 131 - Solenoid STH open-circuit, short-circuit to ground or control module fault.
- 132 - Transmission control module (TCM) fault.
- 134 - Faulty load signal from fuel system.
- 141 - Oil temp. sensor short-circuit to ground.
- 142 - Oil temp. sensor open-circuit.
- 143 - Kick-down switch faulty or short-circuit to ground.
- 211 - Transmission control module (TCM) fault.
- 212 - Solenoid S2 short-circuit to supply.
- 213 - Throttle position (TP) signal too high.
- 221 - Solenoid S2 short-circuit to ground or control module fault.
- 222 - Solenoid S2 open-circuit.
- 223 - Throttle position (TP) signal too low.
- 231 - Throttle position (TP) signal irregular.
- 232 - Speedometer signal absent.
- 233 - Speedometer signal faulty.
- 235 - Oil temperature too high.
- 245 - Torque limiting signal short-circuit or open-circuit.
- 311 - Engine speed signal from gearbox absent.
- 312 - Engine speed signal from gearbox faulty.
- 313 - Gear position sensor signal faulty.
- 321 - Gear changing too slow.
- 322 - Incorrect gear change ratio.
- 323 - Lock-up slipping or not engaged.
- 331 - Solenoid SL short-circuit to supply.
- 332 - Solenoid SL open-circuit or control module fault.
- 333 - Solenoid SL short-circuit to ground or control module fault.

MODE: 2

- 144 - Gear selector in position R OK.
- 214 - Gear selector in position D OK.
- 224 - Gear selector in position 3 OK.
- 234 - Gear selector in position L OK.
- 241 - Gear selector in position N OK.
- 242 - Gear selector in position P OK.
- 243 - Undefined signal from program selector.
- 244 - Economy position OK.
- 314 - Sport position OK.
- 324 - Winter position OK.
- 334 - Brake light switch OK.
- 341 - Kick-down switch OK.

MODE: 3

- Solenoid S1 operating.
- Solenoid S2 operating.
- Solenoid SL operating.
- Solenoid STH operating.
- Indicating LED in combination instr. flashes.
- Malfunction Indicator Lamp (MIL) flashes.
- Drive compensation and torque control signals are tested with engine idling.
- Engine speed changes.

MODE: 4

- 311 - Normal speed
- 312 - x2 speed
- 313 - x10 speed
- 342 - Solenoid S1
- 343 - Solenoid S2
- 344 - Solenoid SL
- 411 - Solenoid STH
- 412 - Indicating lamp
- 414 - Drive compensation (P&N)
- 422 - Torque control (TC2)
- 423 - Torque control (TC1)
- 431 - Malfunc.Indic.Lamp (MIL)
- 432 - Torque control (TCT)

MODE: 5

- 115 - Oil temp.
- 125 - Throttle signal status
- 135 - Engagement time status
- 424 - Speed
- 434 - Gearbox rpm
- 444 - Throttle opening

MODE: 6

- 125 - Reset throttle signal
- 135 - Reset engagement time

FUEL SYSTEM (A2)

SYSTEM:

- LH 2.4 MFI system
- LH 3.2 MFI system
- REGINA MFI system
- MOTRONIC 1.8 MFI system
- MOTRONIC 4.3 SFI system
- FENIX 5.2 MFI system

MODE: 1

- 111 - No faults found by diagnostic system.
- 112 - Engine control module (ECM) fault.
- 113 - FENIX 5.2,
 - LH 3.2: Short term fuel trim upper limit.
 - LH 2.4,
 - REGINA: Short term fuel trim upper or lower limit.
 - MOTR. 1.8: Injectors, group 1 faulty signal.
- 115 - MOTR. 1.8: Injectors, group 2 faulty signal.
- FENIX 5.2,
 - MOTR. 4.3: Injector, cylinder 1, faulty signal.
- 121 - LH 3.2,
 - LH 2.4,
 - MOTR. 1.8,
 - MOTR. 4.3: Mass air flow (MAF) sensor signal absent or faulty.
 - FENIX 5.2,
 - REGINA:
 - Manifold absolute pressure (MAP) sensor signal absent or faulty.
 - Intake air temp. (IAT) sensor signal absent or faulty.
 - 122 - Engine coolant temp. (ECT) sensor signal absent or faulty.
 - 123 - Injector, cylinder 2, faulty signal.
 - 125 -
 - 131 - LH 3.2,
 - LH 2.4:
 - MOTR. 1.8,
 - MOTR. 4.3: RPM sensor signal absent.
 - 132 - Battery voltage too low or too high.
 - 133 - Throttle position (TP) switch faulty at idling.
 - 135 - Injector, cylinder 3, faulty signal.
 - 143 - Front knock sensor (KS) signal, absent or faulty.
 - 144 - Load signal absent or faulty.
 - 145 - Injector, cylinder 4, faulty signal.
 - 152 - Air pump valve signal absent or faulty.
 - 153 - Rear oxygen sensor (HO2S) signal, absent or faulty.

- 154 - Leak in EGR-system.
 155 - Injector, cylinder 5, faulty signal.
 211 - CO potentiometer signal absent or faulty.
- 212 - LH 3.2,
 LH 2.4,
 MOTR. 1.8,
 FENIX 5.2,
 REGINA: Oxygen sensor (HO2S) signal absent or faulty.
 MOTR. 4.3: Front oxygen sensor (HO2S) signal, absent or faulty.
- 213 - Throttle position (TP) switch signal faulty at full load.
- 214 - FENIX 5.2: RPM sensor signal.
 MOTR. 1.8,
 MOTR. 4.3: RPM sensor signal absent intermittently.
- 221 - REGINA: Long term fuel trim upper or lower limit.
 FENIX 5.2,
 LH 3.2,
 LH 2.4,
 MOTR. 1.8: Long term fuel trim upper limit at part load.
- 222 - REGINA: System relay signal absent or faulty.
 FENIX 5.2: Main relay signal absent or faulty.
- 223 - REGINA,
 FENIX 5.2,
 LH 3.2,
 LH 2.4,
 MOTR. 1.8: Idle air control (IAC) valve signal absent or faulty.
 MOTR. 4.3: Idle air control (IAC) valve signal opening absent or faulty.
- 225 - FENIX 5.2,
 MOTR. 4.3: A/C pressure sensor signal absent or faulty.
- 231 - FENIX 5.2,
 LH 3.2,
 MOTR. 1.8: Long term fuel trim lower limit at part load.
 LH 2.4,
 MOTR. 4.3,
 REGINA: Long term fuel trim upper or lower limit at part load.
- 232 - FENIX 5.2,
 LH 3.2,
 MOTR. 1.8: Long term fuel trim upper limit at idling.
 LH 2.4,
 MOTR. 4.3,
 REGINA: Long term fuel trim upper or lower limit at idling.
- 233 - Long term idle air trim outside control range.

- 235 - EGR-controller signal absent or faulty.
 241 - EGR-system flow fault.
 243 - Throttle position (TP) sensor signal outside voltage range.
 245 - Idle air control (IAC) valve signal closing absent or faulty.
 311 - Speedometer signal absent.
 312 - No knock enrichment signal from ignition control module (ICM).
 313 - EVAP valve signal absent or faulty.
 314 - Camshaft position (CMP) sensor signal absent or faulty.
 315 - EVAP system.
 321 - Cold-start valve signal short-circuit to ground or absent.
 322 - Mass Air Flow (MAF) sensor burnoff signal too low.
 323 - Malfunction Indicator Lamp (MIL) signal faulty.
 325 - Loss of memory.
 335 - Request for Malfunction Indicator Lamp (MIL) from AW 50-42.
 342 - A/C relay control signal faulty.
 343 - Fuel pump relay control signal faulty.
 344 - Exhaust gas temp. sensor signal absent or faulty.
 411 - Throttle position (TP) sensor signal outside voltage range.
 412 - Short-circuit in full-throttle switch.
 413 - EGR temperature sensor signal absent or faulty.
 414 - Boost pressure control, boost pressure too high.
 416 - Boost pressure reduced from AW 50-42.
 425 - Rear oxygen sensor (Ho2S), trim
 432 - Temp. warning in control module box level 1.
 433 - Rear knock sensor (KS) signal absent or faulty.
 435 - Front oxygen sensor (HO2S) slow.
 436 - Rear oxygen sensor (HO2S) max. compensation.
 442 - Air pump relay signal absent or faulty.
 443 - Catalytic converter (TWC) efficiency, low.
 444 - Acceleration sensor.
 451 - Misfire, excessive emission cyl. 1.
 452 - Misfire, excessive emission cyl. 2.
 453 - Misfire, excessive emission cyl. 3.
 454 - Misfire, excessive emission cyl. 4.
 455 - Misfire, excessive emission cyl. 5.
 511 - Long term fuel trim lower limit at idling.
 512 - Short term fuel trim lower limit.
 513 - Temperature warning control module box level 2.
 514 - Engine cooling fan faulty at half speed.
 515 - Engine cooling fan faulty at full speed.

- 521 - FENIX 5.2, MOTR. 4.3 Oxygen sensor (HO2S) heating faulty.
Heating front oxygen sensor (HO2S) faulty.
Heating rear oxygen sensor (HO2S) faulty.
- 522 - Signal to engine cooling fan in control module box short-circuit to supply.
- 523 - Torque control signal to gearbox faulty.
- 524 - Final stage, group A.
- 531 - Final stage, group B.
- 532 - Final stage, group C.
- 533 - Final stage, group D.
- 534 - Turbocharger (TC) control valve.
- 535 - EVAP valve.
- 541 - Misfire emission level more than one cyl.
- 542 - Misfire emission level at least one cyl.
- 543 - Misfire catalytic converter (TWC) damage more than one cyl.
- 544 - Misfire catalytic converter (TWC) damage at least one cyl.
- 545 - Misfire resulting in catalytic converter (TWC) damage cyl. 1.
- 551 - Misfire resulting in catalytic converter (TWC) damage cyl. 2.
- 552 - Misfire resulting in catalytic converter (TWC) damage cyl. 3.
- 553 - Misfire resulting in catalytic converter (TWC) damage cyl. 4.
- 554 - Misfire resulting in catalytic converter (TWC) damage cyl. 5.
- 555 -

MODE: 2

- 114 - A/C control OK.
- 124 - Gear control on/off P/N position OK.
- 134 - A/C compressor engagement OK.
- 141 - RPM sensor signal OK.
- 331 - Engine speed (RPM) signal from ignition control module OK.
- 332 - FENIX 5.2,
LH 3.2: Throttle position (TP) sensor at idling OK.
MOTR. 1.8,
MOTR. 4.3:
LH 2.4,
REGINA: Throttle (TP) switch at idling OK.
- 333 - FENIX 5.2,
LH 3.2,
MOTR. 1.8,
MOTR. 4.3: Throttle position (TP) sensor at wide open throttle (WOT) OK.
LH 2.4,
REGINA: Throttle (TP) switch at wide open throttle (WOT) OK.
- 342 - Camshaft position sensor (CMP) OK.
- 343 - Vehicle speed sensor (VSS) signal OK.

MODE: 3

LH 2.4

Warning: Engine cooling fan about to run (A/C only, not 240).
 Engine cooling fan runs at half speed for 3 secs.
 (A/C only, not 240).
 Engine cooling fan runs at full speed for 3 secs.
 (A/C only, not 240).

Injectors operate at 13 Hz.
 Idle air control (IAC) valve operates at 1 Hz.
 EVAP canister solenoid operates at 2 Hz.
 (16-valve engines only)
 Cold-start injector operates at 13 Hz.
 (2-valve engines only)

LH 3.2

Air pump relay operates.
 Air pump valve operates.
 Injectors operate at 13 Hz.

MOTR. 1.8

Idle air control (IAC) valve operates at 1 Hz.
Warning: Engine cooling fan about to run.
 EGR controller operates at 2.5 Hz.
 Air pump operates.
 Engine cooling fan operates at half speed for 3 secs.
 Engine cooling fan operates at full speed for 3 secs.
 Injectors operate at 13 Hz.

Idle air control (IAC) valve operates at 1 Hz.
 A/C relay operates at 1 Hz.
 EGR controller operates at 2.5 Hz.
 RPM signal simulates.

REGINA

Injectors operate at 13 Hz.
 Idle air control (IAC) valve operates at 1 Hz.
 Cold-start valve operates at 13 Hz.
 Auxiliary relay operates at 1 Hz.
 Fuel pump runs.

MOTR. 4.3

Warning: Engine cooling fan about to run.
 EGR controller.
 Turbocharger (TC) control valve.
 EVAP valve.
 Engine cooling fan at half speed.
 Engine cooling fan at full speed.
 Injectors.
 Idle air control (IAC) valve.
 A/C relay.
 RPM signal simulated.

MODE: 4

311 - FENIX 5.2 Normal speed
 312 - FENIX 5.2 x2 speed
 313 - FENIX 5.2 x10 speed

115 - FENIX 5.2 Injector, cyl. 1
 125 - FENIX 5.2 Injector, cyl. 2
 135 - FENIX 5.2 Injector, cyl. 3
 145 - FENIX 5.2 Injector, cyl. 4
 152 - FENIX 5.2 Air pump valve
 155 - FENIX 5.2 Injector, cyl. 5
 222 - FENIX 5.2 Main relay
 223 - FENIX 5.2 Idle air control (IAC) valve
 235 - FENIX 5.2 EGR controller
 342 - FENIX 5.2 A/C relay
 343 - FENIX 5.2 Fuel pump relay
 442 - FENIX 5.2 Air pump relay
 514 - FENIX 5.2 Engine cooling fan half speed
 515 - FENIX 5.2 Engine cooling fan full speed
 523 - FENIX 5.2 Fan control module box

ABS (A3)

SYSTEM:

ABS 850
ABS 700/900

MODE: 1

- 111 - No faults found by diagnostic system.
- 121 - Left front wheel sensor, circuit fault below 40 km/h (25 mph).
- 122 - Right front wheel sensor, circuit fault below 40 km/h (25 mph).
- 123 - Left rear wheel sensor, circuit fault below 40 km/h (25 mph).
- 124 - Right rear wheel sensor, circuit fault below 40 km/h (25 mph).
- 125 - Faulty signal from at least one wheel sensor for prolonged period.
- 135 - Control module fault.
- 141 - Faulty pedal sensor, short-circuit to ground or supply.
- 142 - ABS 850: Faulty brake light switch, open-circuit or short-circuit.
ABS 700/900: Faulty brake light switch, open-circuit.
- 143 - Control module fault.
- 144 - Brake discs have been overheated.
- 151 - Left front wheel sensor, open-circuit or short-circuit to supply.
- 152 - Right front wheel sensor, open-circuit or short-circuit to supply.
- 155 - Rear axle sensor, open-circuit or short-circuit to supply.
- 211 - Left front wheel sensor, signal absent when moving off.
- 212 - Right front wheel sensor, signal absent when moving off.
- 213 - Left rear wheel sensor, signal absent when moving off.
- 214 - Right rear wheel sensor, signal absent when moving off.
- 215 - Valve relay, open-circuit or short-circuit.
- 221 - Left front wheel sensor, signal absent in ABS function.
- 222 - Right front wheel sensor, signal absent in ABS function.
- 223 - Left rear wheel sensor, signal absent in ABS function.
- 224 - Right rear wheel sensor, signal absent in ABS function.
- 231 - Left front wheel sensor, signal absent.
- 232 - Right front wheel sensor, signal absent.
- 235 - Rear axle sensor, signal absent.
- 311 - Left front wheel sensor, open-circuit or short-circuit.
- 312 - Right front wheel sensor, open-circuit or short-circuit.
- 313 - Left rear wheel sensor, open-circuit or short-circuit.
- 314 - Right rear wheel sensor, open-circuit or short-circuit.

- 321 - Left front wheel sensor, intermittent disturbance at speeds of more than 40 km/h (25mph).
- 322 - Right front wheel sensor, intermittent disturbance at speeds of more than 40 km/h (25mph).
- 323 - Left rear wheel sensor, intermittent disturbance at speeds of more than 40 km/h (25mph).
- 324 - Right rear wheel sensor, intermittent disturbance at speeds of more than 40 km/h (25mph).
- 411 - ABS 850: Left front wheel inlet valve, open-circuit or short-circuit.
ABS 700/900: Left front wheel valve, open-circuit or short-circuit.
- 412 - ABS 850: Left front wheel return valve, open-circuit or short-circuit.
- 413 - ABS 850: Right front wheel inlet valve, open-circuit or short-circuit.
ABS 700/900: Right front wheel valve, open-circuit or short-circuit.
- 414 - Right front wheel return valve, open-circuit or short-circuit.
- 415 - Rear valve, open-circuit or short-circuit.
- 421 - Rear inlet valve, open-circuit or short-circuit.
- 422 - Rear return valve, open-circuit or short-circuit.
- 423 - TRACS valve, open-circuit or short-circuit.
- 424 - TRACS pressure switch, faulty or short-circuit.
- 441 - Control module fault.
- 442 - Pump pressure too low.
- 443 - ABS 850: Pump motor, electrical or mechanical fault.
ABS 700/900: Pump motor/relay, electrical or mechanical fault.
- 444 - No supply to hydraulic unit valves.

MODE: 4

- 311 - Normal speed
- 312 - x2 speed
- 313 - x10 speed

TCU (A5)

SYSTEM:

TCU

MODE: 1

- 111 - No faults found by diagnostic system.
- 242 - Turbocharger (TC) control valve signal absent or faulty.
- 312 - No knock signal from ignition control module.
- 342 - A/C blocking relay signal absent or faulty.
- 421 - Boost pressure signal in control module faulty.
- 423 - Throttle position (TP) sensor signal outside voltage range.
- 424 - Fuel control module load signal absent or faulty.
- 431 - Radiator temp. sensor signal absent or faulty.

MODE: 3

Warning: Engine cooling fan about to run.

Engine cooling fan half speed for 3 secs. LED displays steady beam.

Engine cooling fan full speed for 3 secs. LED displays steady beam.

Turbocharger (TC) control valve operates at 2 Hz.

A/C blocking relay operates at 1 Hz.

IGNITION (DI) SYSTEM (A6)

SYSTEM:

EZ 129K
EZ 116K
REX

MODE: 1

- 111 - No faults found by diagnostic system.
- 112 - Ignition control module (ICM) fault.
- 123 - Engine coolant temperature signal from engine control module (ECM) absent or faulty.
- 131 - RPM sensor signal absent.
- 142 - Ignition control module (ICM) fault.
- 143 - EZ 129K: Front knock sensor (KS) signal absent or faulty.
- EZ 116K:
REX: Knock sensor (KS) signal absent or faulty.
- 144 - Engine control module (ECM) load signal absent or faulty.
- 154 - Leak in EGR-system.
- 214 - RPM sensor signal absent intermittently.
- 224 - Engine coolant temperature (ECT) signal absent or faulty.
- 234 - No throttle position (TP) switch signal at idling.
- 241 - EGR system flow faulty.
- 243 - Throttle position (TP) sensor signal absent or faulty.
- 311 - Vehicle speed sensor (VSS) signal absent or faulty.
- 314 - Camshaft position sensor (CMP) signal absent or faulty.
- 324 - Camshaft position sensor (CMP) signal absent intermittently.
- 411 - Engine control module (ECM) throttle position (TP) sensor signal absent or faulty.
- 413 - EGR temp. sensor signal faulty.
- 432 - High temperature in control module box level 1.
- 433 - Rear knock sensor (KS) signal absent or faulty.
- 513 - High temperature in control module box level 2.

MODE: 2

- 141 - RPM sensor signal OK.
- 334 - Throttle position (TP) switch at idling OK.
- 342 - Camshaft position sensor (CMP) OK.
- 343 - Vehicle speed signal OK.
- 344 - Throttle position (TP) sensor OK.

MODE: 3

EZ 129 K

Warning: Engine cooling fan about to run.

Variable-flow inlet manifold solenoid valve operates at 2 Hz (1993 models).

Engine cooling fan operates at half speed for 3 secs. (15 secs. -1992 models).

Engine cooling fan operates at full speed for 3 secs. (15 secs. -1992 models).

EGR controller operates at 2.5 Hz.

Variable-flow inlet manifold solenoid valve operates at 2 Hz (1992 models).

Engine speed signal simulated at 50 Hz.

EZ 116 K

EGR controller operates at 2 Hz.

COMBINED INSTRUMENT (A7)

SYSTEM:

COMBI

MODE: 1

111 - No faults found by diagnostic system.

112 - Fuel gauge sensor short-circuit.

113 - Fuel gauge sensor open-circuit.

121 - Temperature signal interval too short.

122 - Temperature signal interval too long.

123 - Digital output 48 pulse short-circuit to supply.

131 - Digital output 12 pulse short-circuit to supply.

132 - No rpm sensor signal.

133 - Tank signal to trip computer short-circuit to supply.

MODE: 3

Fuel gauge indicates half tank.

Engine coolant temperature gauge on edge of red sector.

Speedometer needle in vertical position.

Odometer augmented to 500 m.

Tachometer needle in vertical position.

MODE: 4

151 - Set counters to zero

311 - Normal speed

312 - x2 speed

313 - x10 speed

MODE: 5

112 - Odometer

114 - Odometer manip. time

121 - Mileage since service

122 - Months since service

123 - Eng. hours since service

124 - Speedometer type

131 - Service cond. mileage

132 - Service condition months

133 - Serv. cond. eng. hours

MODE: 6

112 - Odometer

124 - Speedometer type

131 - Serv. cond. mileage

132 - Service condition time

133 - Serv. cond. eng. hours

CLIMATE CONTROL, ECC 850 (B1)

SYSTEM:

ECC (850)

MODE: 1

- 111 - No faults found by diagnostic system.
- 121 - Outside temperature sensor, short-circuit to ground.
- 122 - Outside temperature sensor, open-circuit or short-circuit to supply.
- 123 - Interior temperature sensor, driver's side, short-circuit to ground.
- 124 - Interior temperature sensor, driver's side, open-circuit or short-circuit to supply.
- 125 - Interior temperature sensor, passenger side, short-circuit to ground.
- 126 - Interior temperature sensor, passenger side, open-circuit or short-circuit to supply.
- 131 - Duct temperature sensor, driver's side, short-circuit to ground.
- 132 - Duct temperature sensor, driver's side, open-circuit or short-circuit to supply.
- 133 - Duct temperature sensor, passenger side, short-circuit to ground.
- 134 - Duct temperature sensor, passenger side, open-circuit or short-circuit to supply.
- 135 - Engine coolant temp. no frequency signal.
- 141 - Temperature selector, driver's side, faulty control signal.
- 143 - Temperature selector, passenger side, faulty control signal.
- 145 - Air distribution selector, faulty control signal.
- 151 - Blower speed selector, control signal absent or too high.
- 152 - Blower speed selector control signal, short-circuit to ground.
- 211 - Shutter motor position sensor, driver's side, open-circuit or short-circuit to supply.
- 212 - Shutter motor position sensor, driver's side, short-circuit to ground.
- 221 - Shutter motor position sensor, passenger side, open-circuit or short-circuit to supply.
- 222 - Shutter motor position sensor, passenger side, short-circuit to ground.
- 231 - Ventilation shutter motor position sensor, open-circuit or short-circuit to supply.
- 232 - Ventilation shutter motor position sensor, short-circuit to ground.
- 233 - Floor defrost shutter motor position sensor, open-circuit or short-circuit to supply.
- 234 - Floor defrost shutter motor position sensor, short-circuit to ground.
- 235 - Recirculation shutter motor position sensor, open-circuit or short-circuit to supply.
- 236 - Recirculation shutter motor position sensor, short-circuit to ground.

- 311 - Shutter motor driver's side, short-circuit to ground or supply.
- 312 - Shutter motor passenger side, short-circuit to ground or supply.
- 313 - Ventilation shutter motor, short-circuit to ground or supply.
- 314 - Floor defrost shutter motor, short-circuit to ground or supply.
- 315 - Recirculation shutter motor, short-circuit to ground or supply.
- 321 - Shutter motor driver's side, active too long.
- 322 - Shutter motor passenger side, active too long.
- 323 - Ventilation shutter motor, active too long.
- 324 - Floor defrost shutter motor, active too long.
- 325 - Recirculation shutter motor, active too long.
- 411 - Heater blower, overcurrent or inhibit.
- 412 - Interior temp. sensor fan, driver's side, short-circuit to ground.
- 413 - Interior temp. sensor fan, driver's side, no control voltage.
- 414 - Interior temp. sensor fan, driver's side, operation inhibited.
- 415 - Interior temp. sensor fan, passenger side, short-circuit to ground.
- 416 - Interior temp. sensor fan, passenger side, no control voltage.
- 417 - Interior temp. sensor fan, passenger side, operation inhibited.
- 418 - Power stage, no control signal.
- 419 - Incorrect diagnostic signal from power stage.
- 420 - Control module program memory fault.
- 511 - Self-adjustment of shutter motor limit positions not performed.

MODE: 2

- 112 - Solar sensor signal OK.
- 113 - Speedometer signal OK.

MODE: 4

- 311 - Normal speed
- 312 - x2 speed
- 313 - x10 speed

111 - A/C relay control

999 - Adjust shutter motors

CRUISE CONTROL (B2)**SYSTEM:**

CRUISE 700/900/800

MODE: 1

- 111 - No faults found by diagnostic system. Speed has exceeded 35 km/h.
- 112 - Vehicle speed signal incorrect.
- 122 - Speed has not exceeded 35 km/h or no vehicle speed signal.
- 211 - Power supply or control module fault.
- 212 - Vacuum pump or regulator circuit fault.

MODE: 2

- 113 - ON/OFF switch, brake and clutch valve OK.
- 123 - RESUME switch OK.
- 131 - SET+ switch OK.
- 132 - Brake light switch OK.
- 213 - SET- switch OK.
- 223 - Start inhibitor switch OK.
- 311 - Several simultaneous signals.

MODE: 4

- 311 - Normal speed
- 312 - x2 speed
- 313 - x10 speed

MODE: 5

- 111 - Cause of disengagement

SRS (B5)**SYSTEM:**

SRS

MODE: 1

- 111 - No faults found by diagnostic system.
- 112 - Sensor module fault.
- 127 - SRS lamp, open-circuit or short-circuit.
- 211 - Steering wheel module, short-circuit in wiring circuit.
- 212 - Steering wheel module, open-circuit in wiring circuit.
- 213 - Steering wheel module, short-circuit to supply.
- 214 - Driver's air bag, short-circuit to ground.
- 221 - Passenger air bag, short-circuit in wiring circuit.
- 222 - Passenger air bag, open-circuit in wiring circuit.
- 223 - Passenger air bag, short-circuit to supply.
- 224 - Passenger air bag, short-circuit to ground.
- 231 - Left belt tensioner, short-circuit in wiring circuit.
- 232 - Left belt tensioner, open-circuit in wiring circuit.
- 233 - Left belt tensioner, short-circuit to supply.
- 234 - Left belt tensioner, short-circuit to ground.
- 241 - Right belt tensioner, short-circuit in wiring circuit.
- 242 - Right belt tensioner, open-circuit in wiring circuit.
- 243 - Right belt tensioner, short-circuit to supply.
- 244 - Right belt tensioner, short-circuit to ground.

MODE: 4

- 311 - Normal speed
- 312 - x2 speed
- 313 - x10 speed

POWER SEAT (B6)**SYSTEM:**

POWER SEAT

MODE: 1

111 - No faults found by diagnostic system.

112 - Position sensor, motor 1, signal absent or faulty.

114 - Motor 4, faulty lead.

121 - Position sensor, motor 2, signal absent or faulty.

122 - Position sensor, motor 3, signal absent or faulty.

123 - Motor 1 runs although button not operated.

131 - Motor 2 runs although button not operated.

132 - Motor 3 runs although button not operated.

133 - Motor 4 runs although button not operated.

143 - Motor 1 runs in wrong direction.

144 - Motor 2 runs in wrong direction.

211 - Position sensor, motor 4, signal absent or faulty.

214 - Motor 3 runs in wrong direction.

224 - Motor 4 runs in wrong direction.

321 - Fault in stored memory position 3.

322 - Fault in stored memory position 2.

323 - Fault in stored memory position 1.

331 - Motor 1, faulty lead.

332 - Motor 2, faulty lead.

333 - Motor 3, faulty lead.

414 - Faulty limit position calibration.

MODE: 4

T12 - Calibration, 800 seat

T13 - Calibration, 900 seat

311 - Normal speed

312 - x2 speed

313 - x10 speed

421 - Calibr. M1 and M4 front

422 - Calibr. M2 and M3 front

423 - Enable limit pos. calibr.

431 - Calibr. M1 and M4 rear

432 - Calibr. M2 and M3 rear

441 - Set seat type to 800

442 - Set seat type to 900

444 - Store limit positions

CLIMATE CONTROL, ECC 900 (Control Panel)**SYSTEM:**

ECC (900)

MODE: 1

111 - No faults discovered by diagnostic system.

Ambient temperature sensor (on fan housing)

121 - Short circuit to ground.

122 - Break or short circuit to battery supply.

Interior temperature sensor (in roof light unit)

131 - Short circuit to ground.

132 - Break or short circuit to battery supply.

Coolant temperature sensor (at heat exchanger).

141 - Short circuit to ground.

142 - Break or short circuit to battery supply.

Generator

151 - D+ signal fault in generator.

Solar sensor (in loudspeaker grille).

161 - Note! use a lamp to light up the sensor.

If this is not done, an error code is shown even if the sensor is OK.

Servo motor/Potentiometer

211 - Break or short circuit to ground.

212 - Short circuit to battery supply.

Servo motor drive

213 - Tab 17 or 18 incorrectly connected to battery supply.

Servo motor

214 - Motor incorrectly active too long (blocked motor or cut in electric power supply to motor) (> 10 sek)

ECC Control

231 - Error in temperature setting switch.

Fan motor

233 - Excessively high current during fan motor startup (turns slow or is stuck)

Power stage

24x - Coupling tab wrongly connected to battery supply.

Relevant outputs:

- 241 - Water valve
- 242 - B/L
- 243 - Vent
- 244 - Rec
- 245 - Defr
- 246 - Floor
- 247 - Fan max. relay
- 248 - Compressor
- 249 - Engine cooling fan relay

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