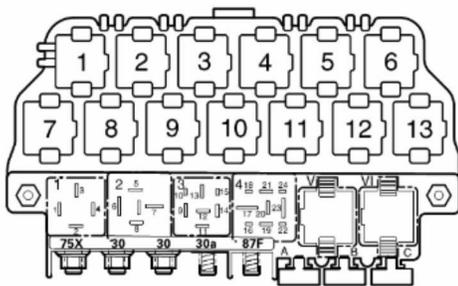


**FIG : New Beetle 1,9L-Engine - Turbo Diesel Fuel Injection
(DFI)/66kW, code ALH, from January 1998 (1999)**

1,9L-Engine - Turbo Diesel Fuel Injection (DFI)/66 kW, code ALH,

from August 1998

Deviate relay location and fuseplacements as well as the locations of multiple connectors see section "component locations".



97-21956

Relay location on the thirteen position auxiliary relay panel, above relay panel:

- 10** Glow Plug Relay (180)
- 12** Power Supply (Terminal 30, B+) Relay (109)

Relay panel:

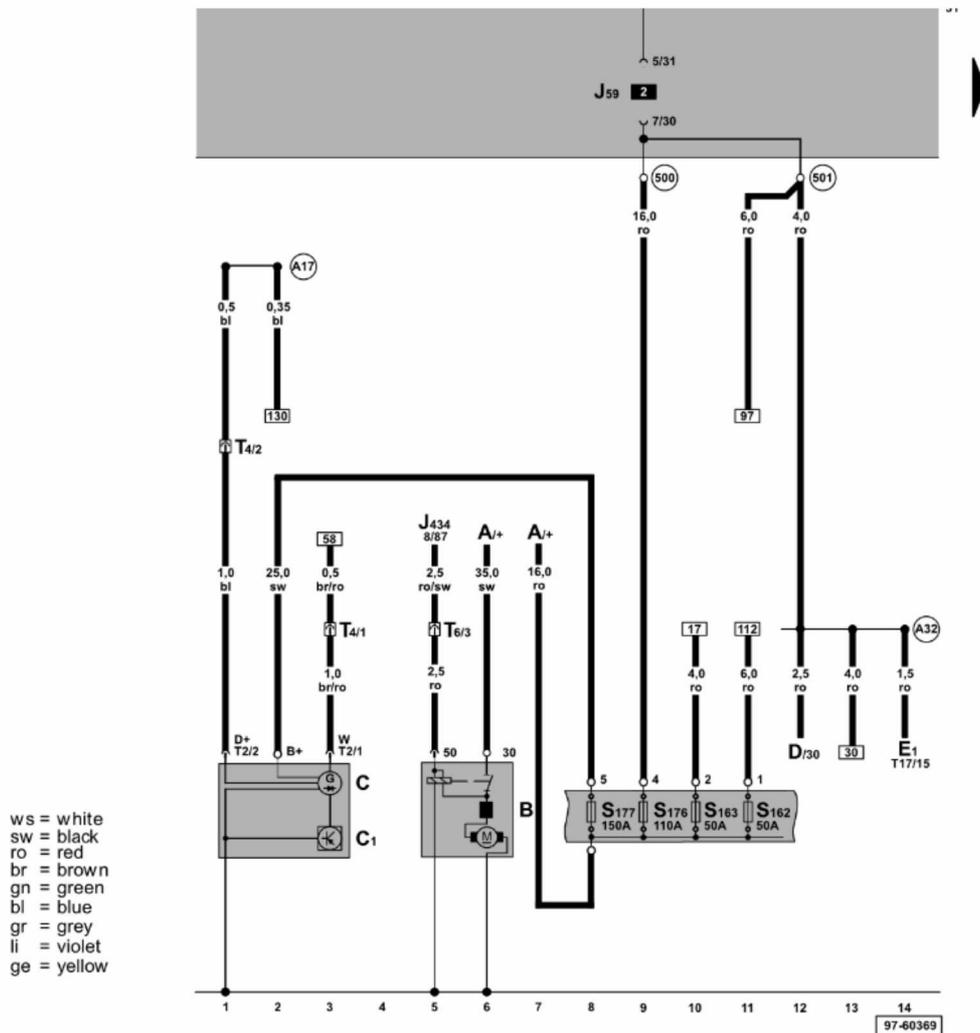
- 2** Load Reduction Relay (100)

Note: Number in parentheses indicates production control number stamped on relay housing.

Fuse colors

30 A - green
25 A - white
20 A - yellow
15 A - blue
10 A - red
7,5 A - brown
5 A - beige

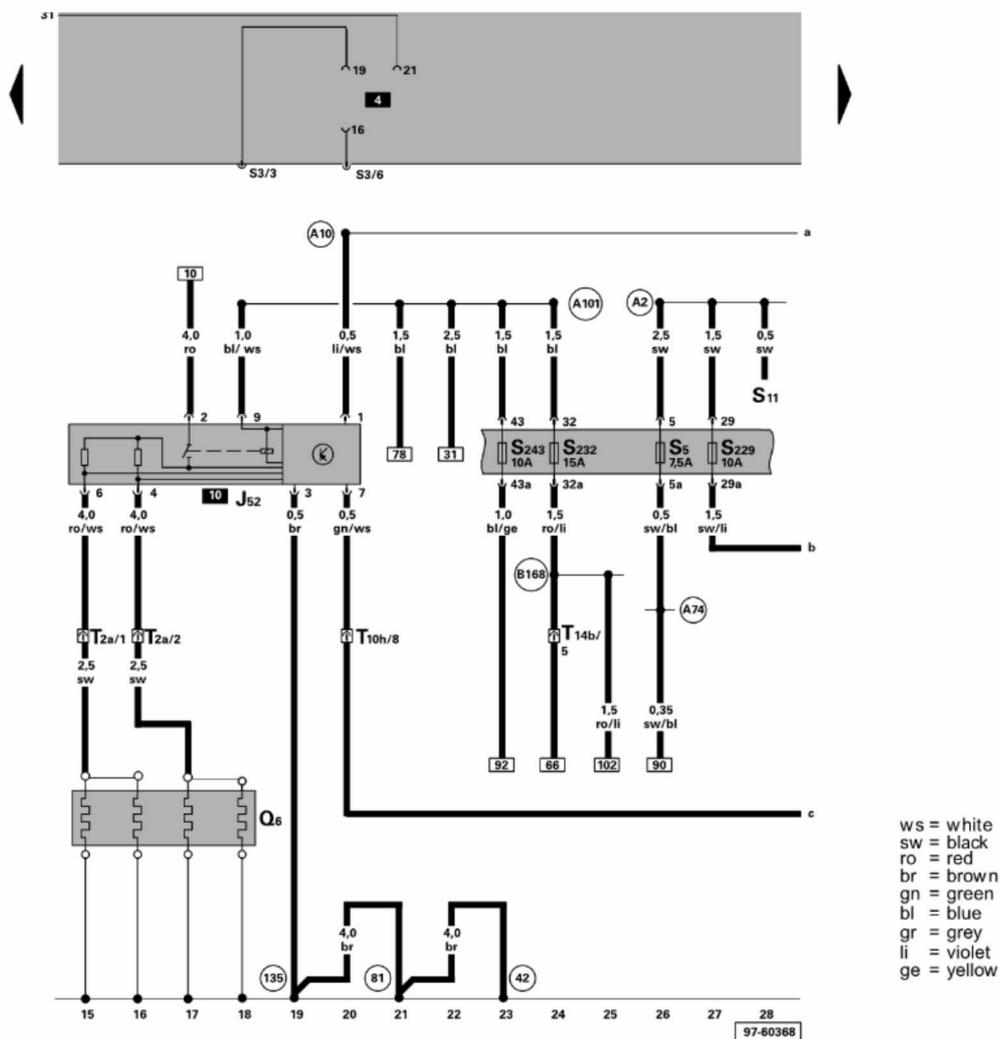
FIG : Starter, generator (GEN) (1999)



- A - Battery
- B - Starter
- C - Generator (GEN)
- C1 - Voltage Regulator (VR)
- D - Ignition/Starter Switch
- E1 - Light switch
- J59 - Load Reduction Relay
- J434 - Locking relay for starter (clutch pedal switch)
- S162 - Fuse -1- in fuse bracket/battery
- S163 - Fuse -2- in fuse bracket/battery
- S176 - Fuse -4- (30), in fuse bracket/battery
- S177 - Fuse -5- (30), in fuse bracket/battery
- T2 - Double Connector
- T4 - 4-Pin Connector, in engine compartment, left
- T6 - 6-Pin Connector, brown, behind instrument panel, left

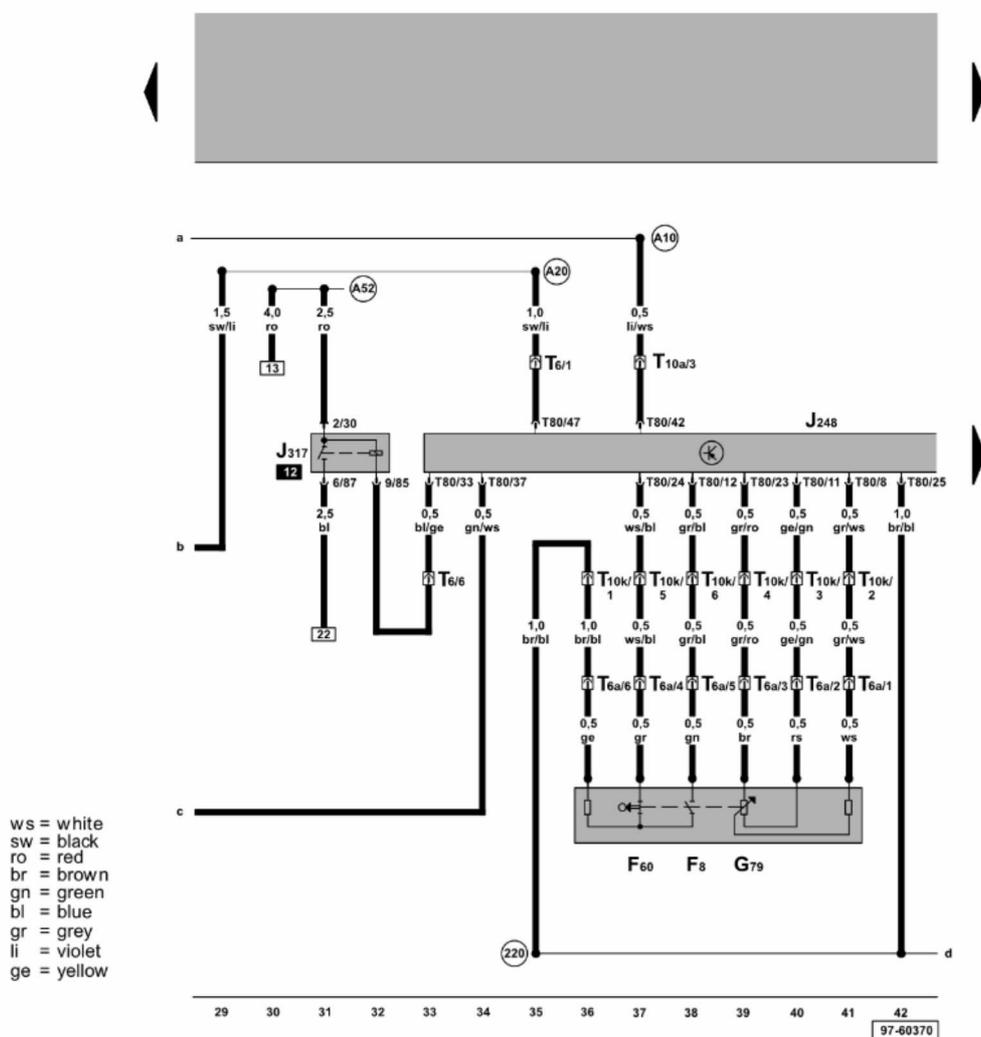
- T17 - 17-Pin Connector,
- (500) - Threaded connection -1- (30) on the relay plate
- (501) - Threaded connection -2- (30) on the relay plate
- (A17) - wire connection (61), in instrument panel wiring harness
- (A32) - plus connection (30), in instrument panel wiring harness

FIG : Glow plugs (engine), glow plug relay (1999)



- J52 - Glow Plug Relay (180), on the thirteen position auxiliary relay panel, above relay panel
- Q6 - Glow plugs (engine)
- S5 - Fuse 5 in fuse holder
- S11 - Fuse 11 in fuse holder
- S229 - Fuse 29 in fuse holder
- S232 - Fuse 32 in fuse holder
- S243 - Fuse 43 in fuse holder
- T2a - Double Connector, in engine compartment, left
- T10h - 10-Pin Connector, black, behind instrument panel, left
- T14b - 14-Pin Connector, in plenum chamber
- (42) - Ground connection, beside steering column
- (81) - Ground connection -1-, in instrument panel wiring harness
- (135) - Ground connection -2-, in instrument panel wiring harness
- A2 - plus connection (15), in instrument panel wiring harness
- A10 - wire connection (glow plug control) in instrument panel wiring harness
- A74 - Connector (15a - fuse 5), in instrument panel wiring harness
- A101 - Connector -3- (87), in instrument panel wiring harness
- B168 - Connection (86) in passenger compartment wiring harness

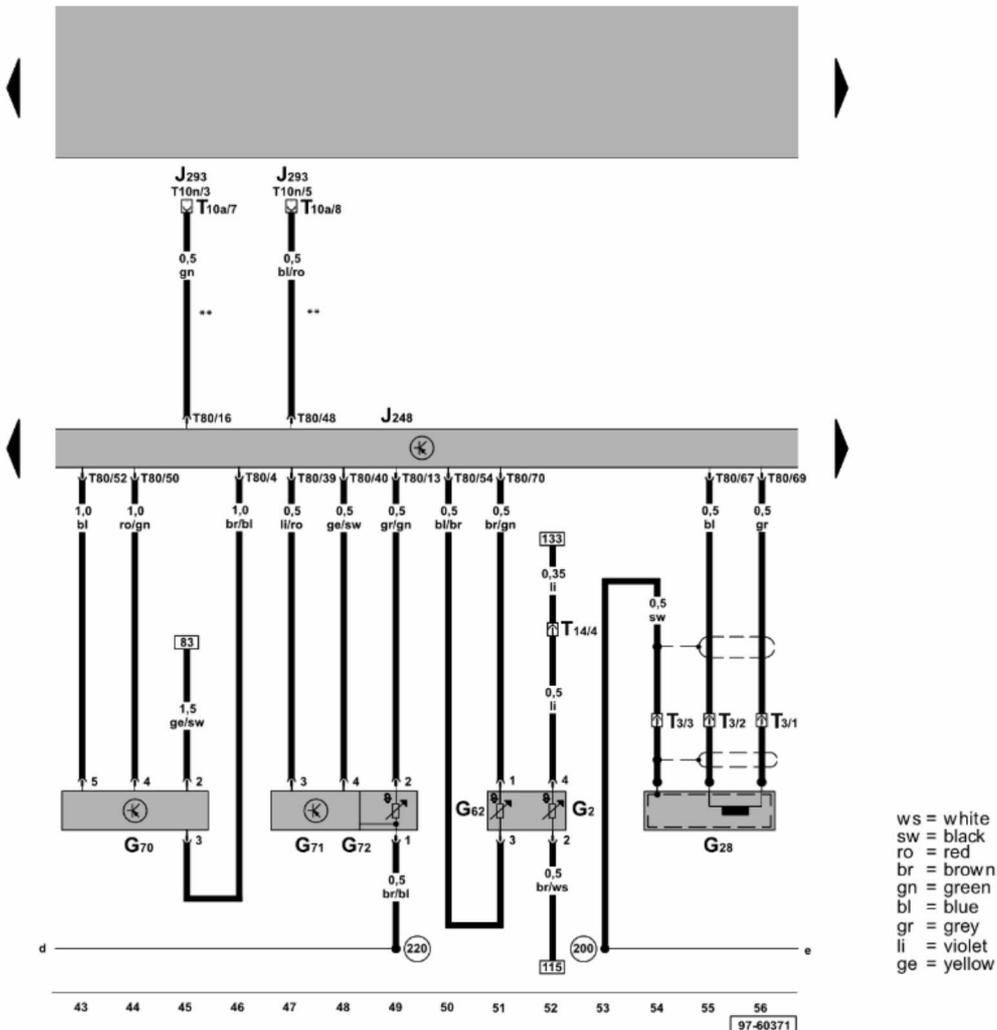
FIG : Diesel direct fuel injection (DFI) engine control module (ECM), power supply (terminal 30, B) relay, kick down switch, closed throttle position (CTP) swi (1999)



- F8 - Kick Down Switch
- F60 - Closed Throttle Position (CTP) Switch
- G79 - Throttle Position (TP) Sensor
- J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), behind instrument panel, left
- J317 - Power Supply (Terminal 30, B+) Relay
- T6 - 6-Pin Connector, red, behind instrument panel, left
- T6a - 6-Pin Connector, behind instrument panel, left
- T10a - 10-Pin Connector, orange, behind instrument panel, left
- T10k - 10-Pin Connector, blue, behind instrument panel, left
- T80 - 80-Pin Connector, at -J248-

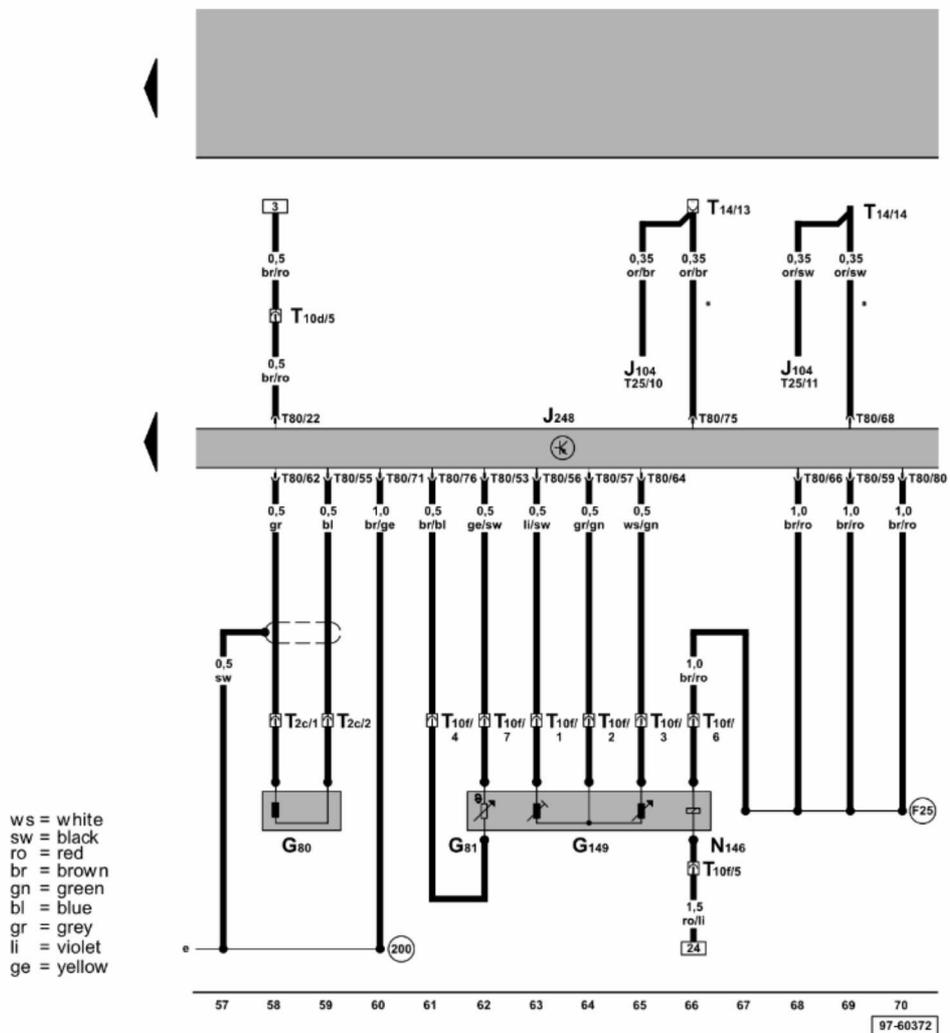
- (220) - Ground connection (sensor ground), in engine compartment wiring harness
- (A10) - wire connection (glow plug control) in instrument panel wiring harness
- (A20) - wire connection (15a), in instrument panel wiring harness
- (A52) - plus connection (30), in instrument panel wiring harness

FIG : Diesel direct fuel injection (DFI) engine control module (ECM), mass air flow (MAF) sensor, manifold absolute pressure (MAP) sensor, intake air temperatur (1999)



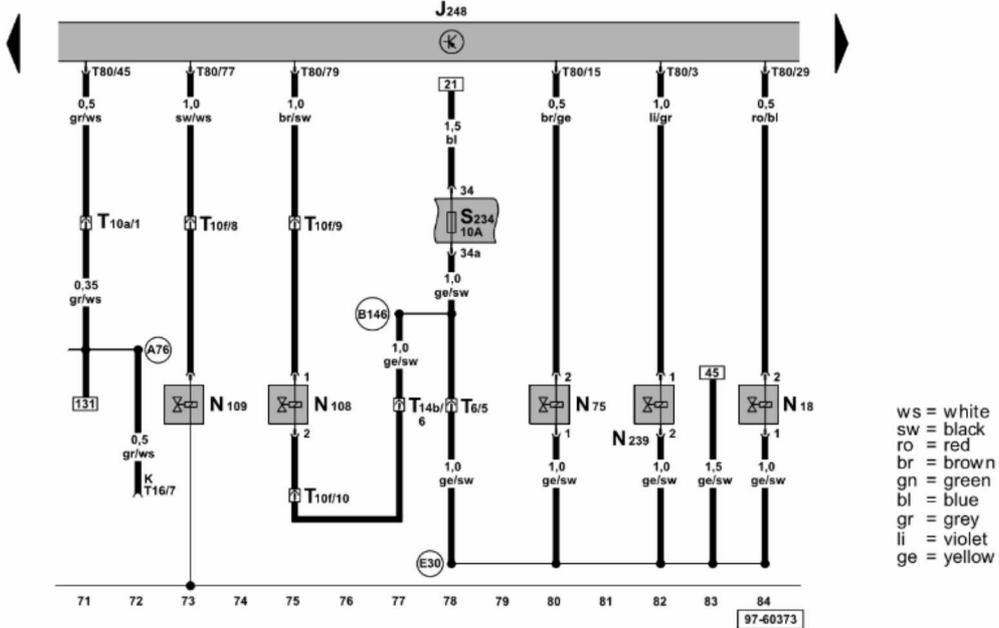
- G2 - Engine Coolant Temperature (ECT) Sensor
 - G28 - Engine Speed (RPM) Sensor
 - G62 - Engine Coolant Temperature (ECT) Sensor
 - G70 - Mass Air Flow (MAF) Sensor
 - G71 - Manifold Absolute Pressure (MAP) Sensor
 - G72 - Intake Air Temperature (IAT) Sensor
 - J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), behind instrument panel, left
 - J293 - Coolant FC (Fan Control) Control Module
 - T3 - 3-Pin Connector, on engine, front
 - T10a - 10-Pin Connector, orange, behind instrument panel, left
 - T10n - 10-Pin Connector, on J293
 - T14 - 14-Pin Connector (in center plenum chamber)
 - T80 - 80-Pin Connector, at -J248-
- (200) - Ground connection (shielding), in engine compartment wiring harness
 - (220) - Ground connection (sensor ground), in engine compartment wiring harness
 - ** - A/C Connection
 - - - Automatic transmission only

FIG : Diesel direct fuel injection (DFI) engine control module (ECM), needle lift sensor, fuel temperature sensor, modulation piston displacement sensor, quanti (1999)



- G80 - Needle Lift Sensor
- G81 - Fuel Temperature Sensor
- G149 - Modulating Piston Displacement Sensor
- J104 - ABS Control Module (w/EDL), center
- J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), behind instrument panel, left
- N146 - Quantity Adjuster
- T2c - Double Connector, on engine, front
- T10d - 10-Pin Connector, green, behind instrument panel, left
- T10f - 10-Pin Connector, on engine, front
- T14 - 14-Pin Connector (in center plenum chamber)
- T25 - 25-Pin Connector
- T80 - 80-Pin Connector, at -J248-
- (200) - Ground connection (shielding), in engine compartment wiring harness
- (F25) - Wire connection -1-, in Diesel Direct Fuel Injection (DFI) system wiring harness
- * - DATA-Bus connection

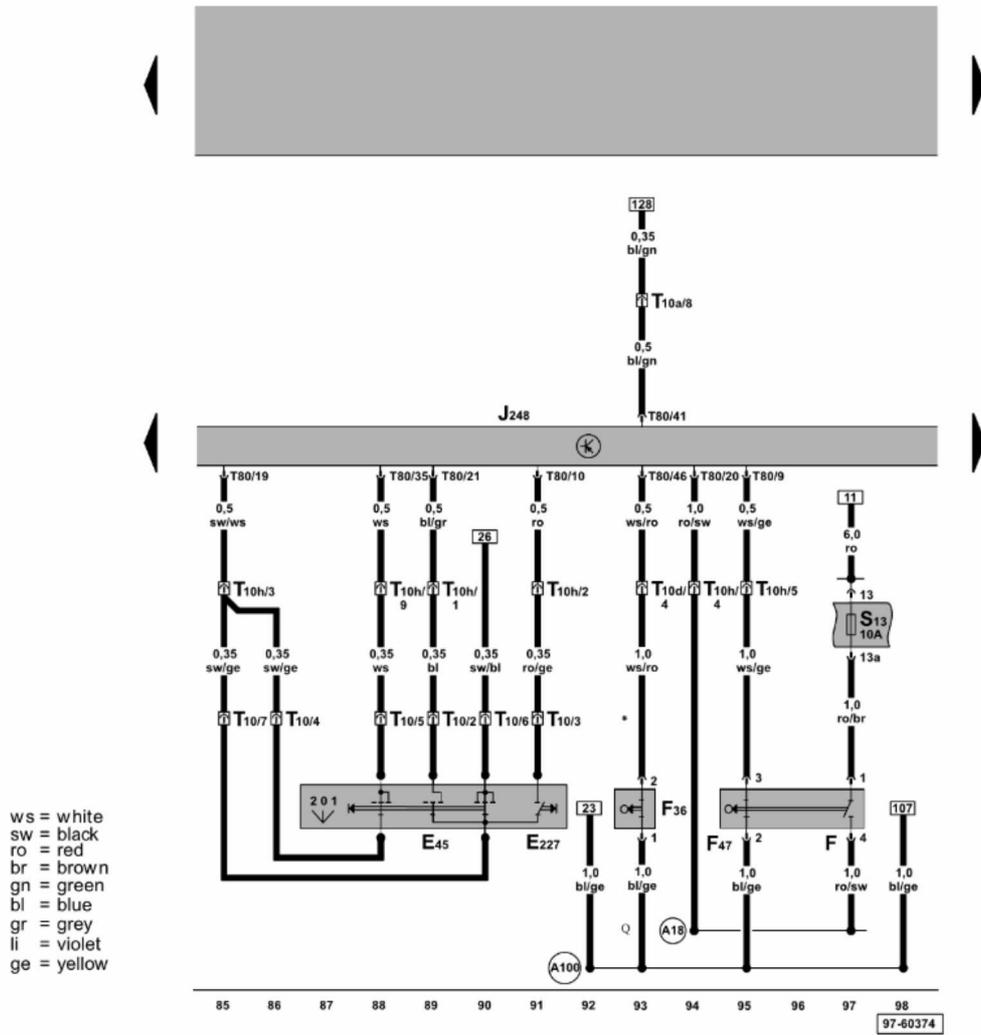
FIG : Diesel direct fuel injection (DFI) engine control module (ECM), fuel cut-off valve, cold start injector, EGR vacuum regulator solenoid valve (1999)



- J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, left
- N18 - EGR Vacuum Regulator Solenoid Valve
- N75 - Wastegate Bypass Regulator Valve
- N108 - Cold Start Injector
- N109 - Fuel Cut-off Valve
- N239 - Change-over valve for intake manifold flap
- S234 - Fuse 34 in fuse holder
- T6 - 6-Pin Connector, brown, behind instrument panel, left
- T10a - 10-Pin Connector, orange, behind instrument panel, left
- T10f - 10-Pin Connector, black, on engine, front
- T14 - 14-Pin Connector, in plenum chamber, center
- T16 - 16-Pin Connector, Data Link Connector (DLC), below steering column

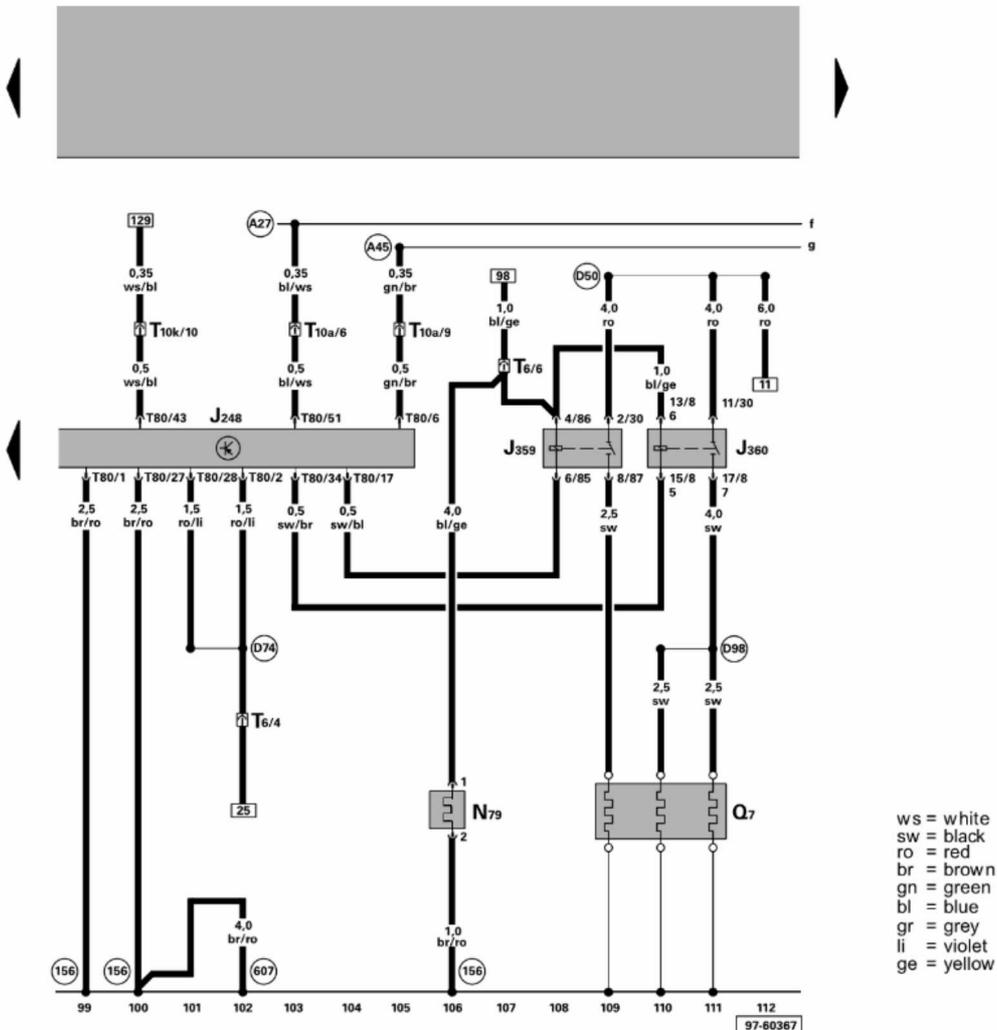
- T80 - 80-Pin Connector, at -J248-
- (A76) - Connector (K-diagnosis wire), in instrument panel wiring harness
- (B146) - Plus connector -1- (87), in wiring harness interior
- (E30) - Connector (87a), in wiring harness engine

FIG : Diesel direct fuel injection (DFI) engine control module (ECM), cruise control switch, clutch vacuum vent valve switch, brake vacuum vent valve switch for (1999)



- E45 - Cruise Control Switch (if equipped)
- E227 - Button for cruise control (set), (if equipped)
- F - Brake Light Switch
- F36 - Clutch Vacuum vent Valve Switch
- F47 - Brake Vacuum Vent Valve Switch for cruise control/diesel fuel injection (DFI)
- J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), behind instrument panel, left
- S13 - Fuse 13 in fuse holder
- T10 - 10-Pin Connector, black, near steering column
- T10d - 10-Pin Connector, green, behind instrument panel, left
- T10h - 10-Pin Connector, black, behind instrument panel, left
- T80 - 80-Pin Connector, at -J248-
- A18 - wire connection (54), in instrument panel wiring harness
- A100 - Connector -2- (87), in instrument panel wiring harness
- * - Manual transmission only

FIG : Diesel direct fuel injection (DFI) engine control module (ECM), positive crankcase ventilation (PCV) heating element, relay for preheating coolant, glow p (1999)



- J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), behind instrument panel, left
- J359 - Relay for preheating coolant, low heat output, in engine compartment
- J360 - Relay for preheating coolant, high heat output, in engine compartment
- N79 - Positive Crankcase Ventilation (PCV) Heating Element
- Q7 - glow plugs (coolant)
- T6 - 6-Pin Connector, brown, behind instrument panel, left
- T10a - 10-Pin Connector, orange, behind instrument panel, left
- T80 - 80-Pin Connector, at J248-
- (156) - Ground connection, in Diesel Direct Fuel Injection (DFI) wiring harness
- (607) - Ground Connection (in left plenum chamber)
- (A27) - wire Connection (vehicle speed signal), in instrument panel wiring harness
- (A45) - wire connection (RPM-signal), in instrument panel wiring harness
- (D50) - plus connection (30), in engine compartment wiring harness
- (D74) - wire connection (86), in engine compartment wiring harness
- (D98) - Wire connection (glow plugs), in engine compartment wiring harness

FIG : Sender for fuel gauge, engine coolant level (ECL) sensor, speedometer vehicle speed sensor (VSS), oil pressure switch, visual and acoustical oil pressure (1999)

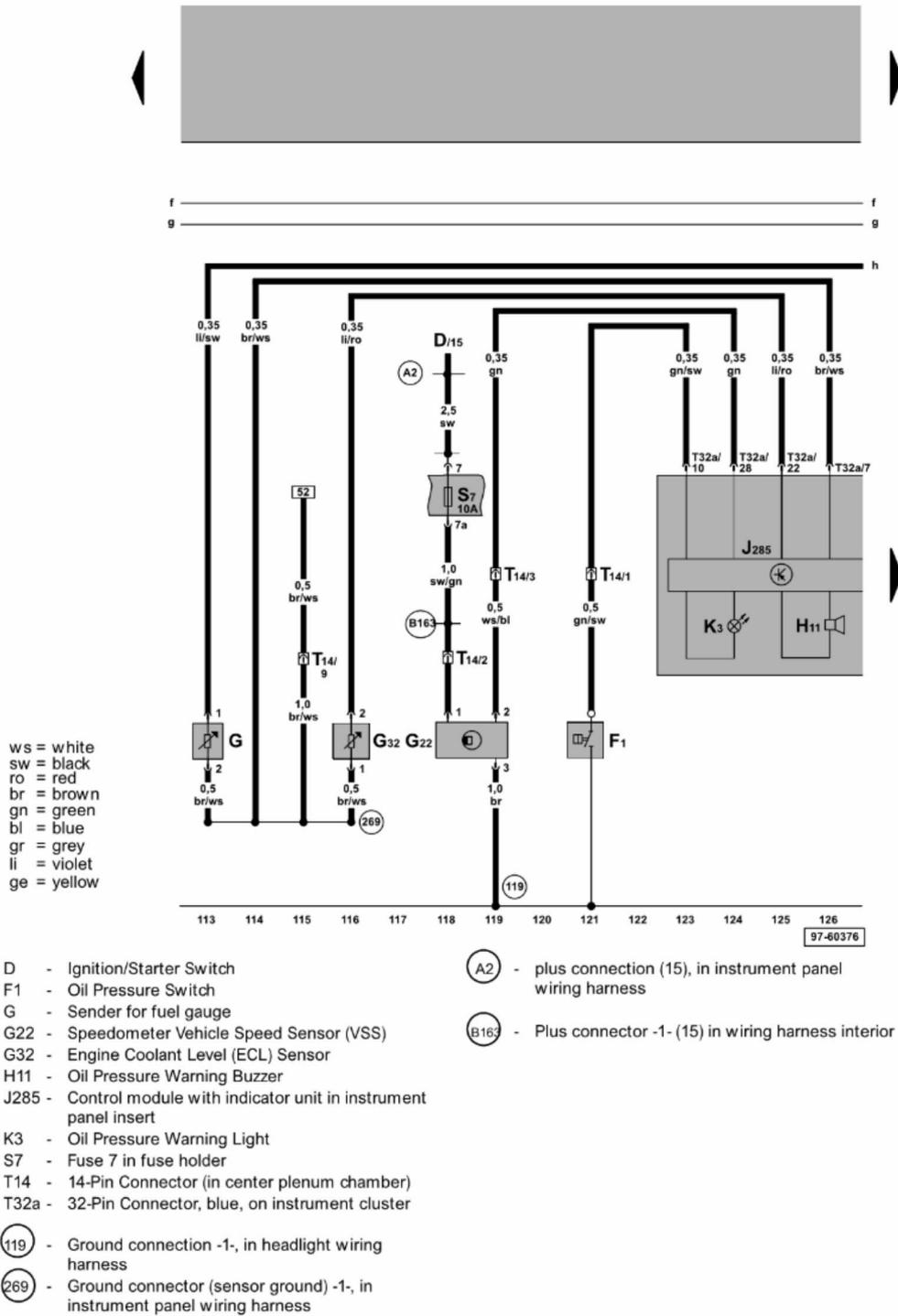
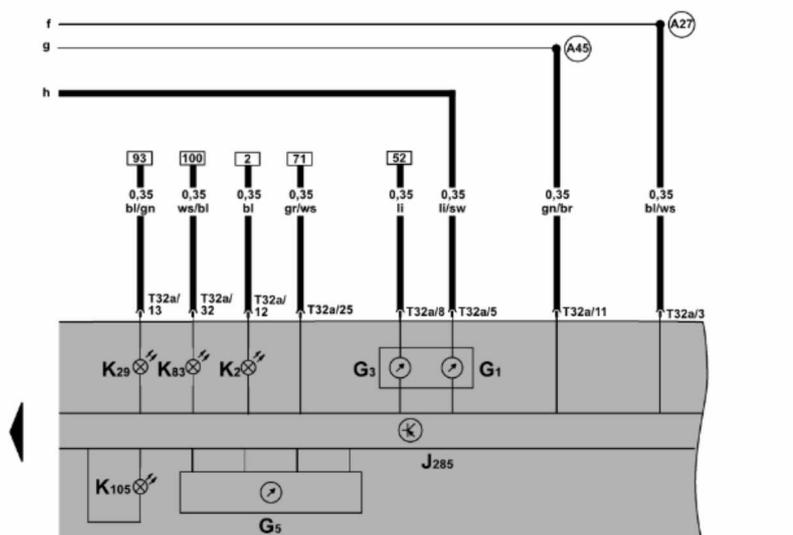
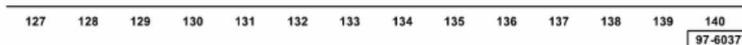


FIG : Instrument cluster, glow plug indicator light, low fuel level warning light, generator (GEN) warning light, tachometer, engine coolant temperature (ECT) g (1999)



ws = white
 sw = black
 ro = red
 br = brown
 gn = green
 bl = blue
 gr = grey
 li = violet
 ge = yellow



- G1 - Fuel gauge
- G3 - Engine Coolant Temperature (ECT) Gauge
- G5 - Tachometer
- J285 - Control module with indicator unit in instrument panel insert
- K2 - Generator (GEN) Warning Light
- K83 - Malfunction Indicator Lamp (MIL)
- K29 - Glow Plug Indicator Light
- K105 - Low Fuel Level Warning Light
- T32a - 32-Pin Connector, blue, on instrument cluster
- (A27) - wire Connection (vehicle speed signal), in instrument panel wiring harness
- (A45) - wire connection (RPM-signal), in instrument panel wiring harness