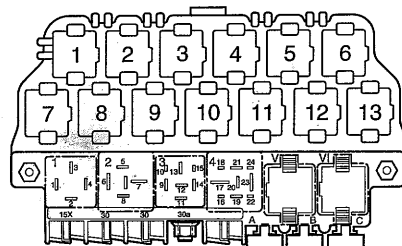


1.9L - Engine - Turbo Diesel Fuel Injection (DFI)/66KW, code ALH, (with manual transmission),

from September 1998

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



97-14163

Relay location on the thirteenfold 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 (18)

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

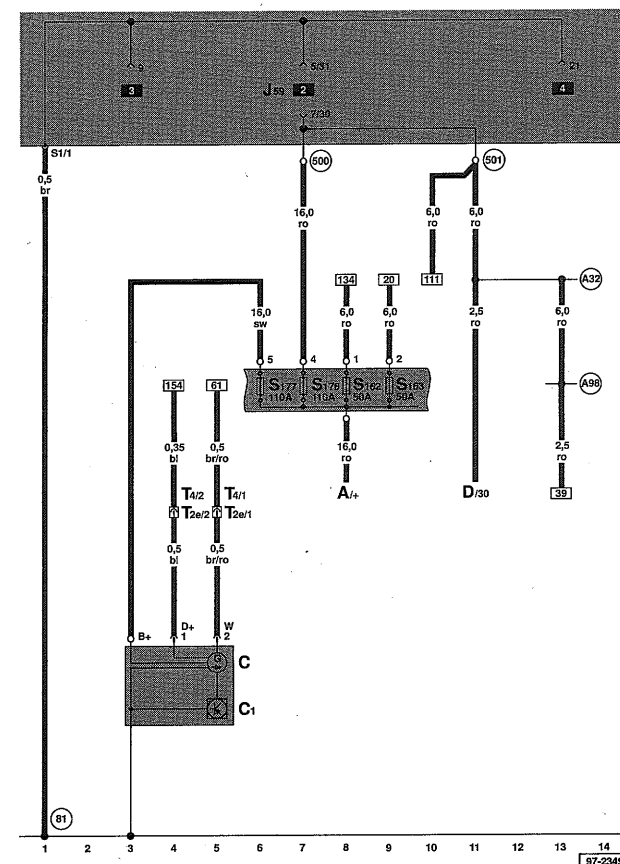
Fuse colors

30 A - green
25 A - white
20 A - yellow
15 A - blue
10 A - red
7.5 A - brown
5 A - beige
3 A - violet

Edition 12/98
USA.5102.01.21

Repair Manual
page number

97-90



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

- A - Battery
- C - Generator (GEN)
- C1 - Voltage Regulator (VR)
- D - Ignition/Starter Switch
- J59 - Load Reduction Relay
- S162 - Fuse -1- (30) in fuse bracket/battery
- S163 - Fuse -2- (30) in fuse bracket/battery
- S176 - Fuse -4- (30) in fuse bracket/battery
- S177 - Fuse -5- (30) in fuse bracket/battery
- T2e - Double Connector, near starter (vehicles without air conditioning)
- T4 - 4-Pin Connector, near starter (vehicles with air conditioning only)
- 81 - Ground connection -1-, in instrument panel wiring harness

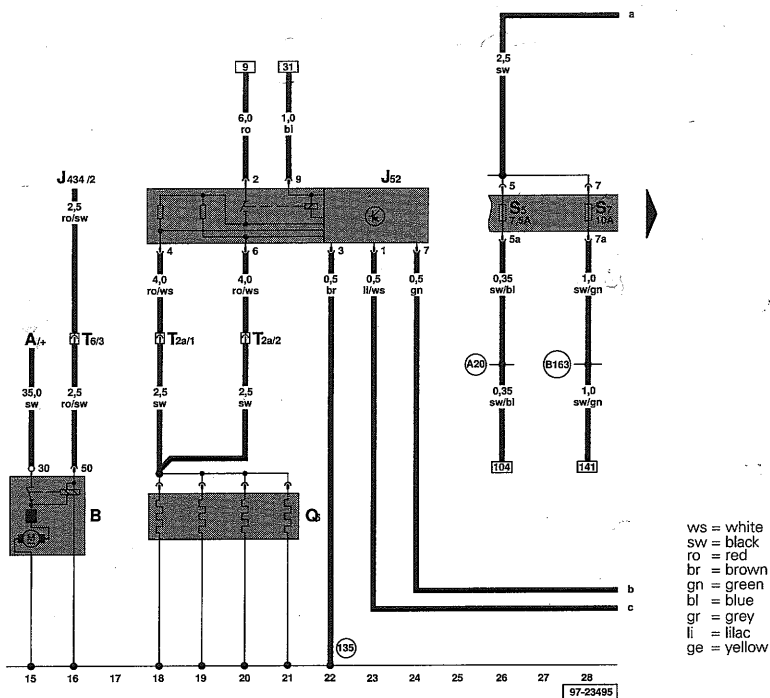
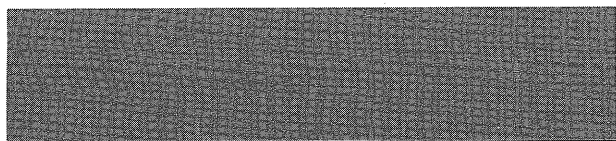
Generator (GEN)

- 500 - Threaded connection -1- (30) on the relay plate
- 501 - Threaded connection -2- (30) on the relay plate
- A32 - Plus connection (30), in instrument panel wiring harness
- A96 - Plus connector -4- (30), in instrument panel wiring harness

Edition 12/98
USA.5102.01.21

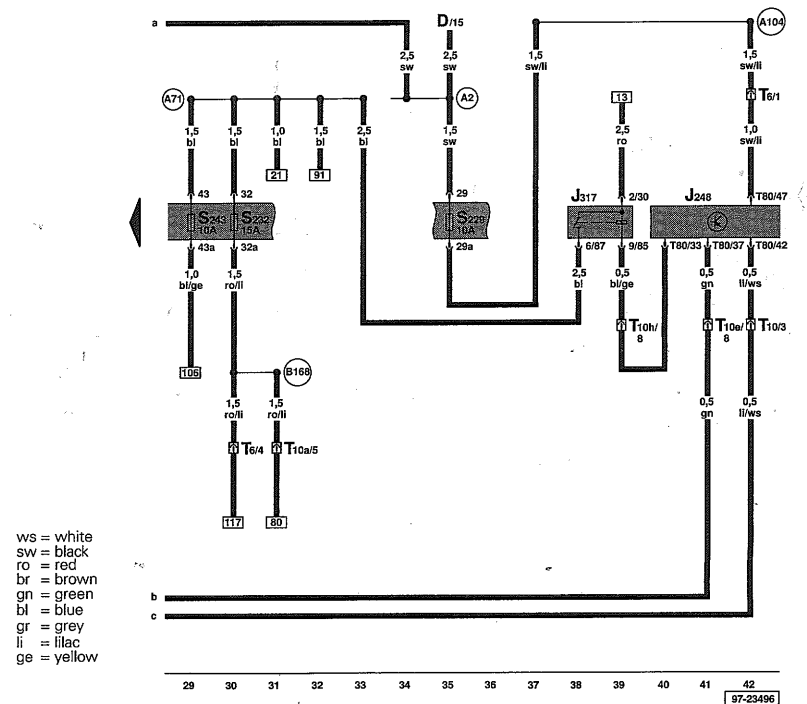
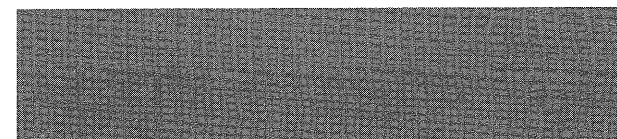
Repair Manual
page number

97-91



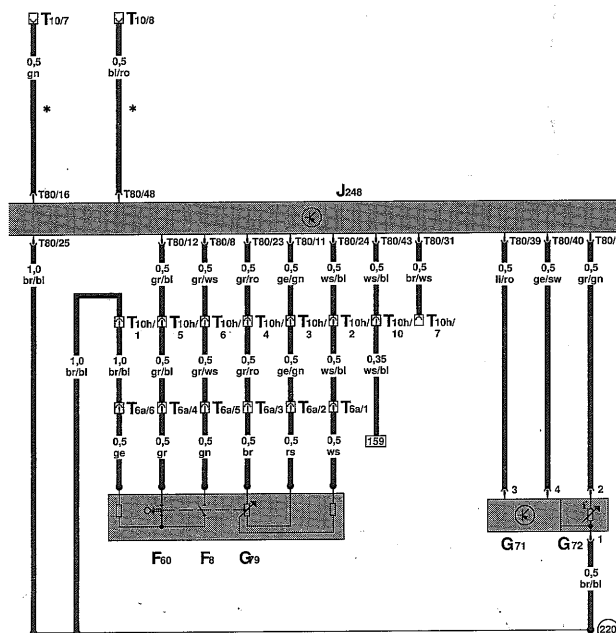
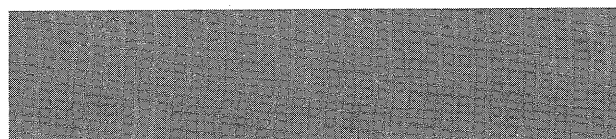
- A - Battery
B - Starter
J52 - Glow Plug Relay, on the thirteenfold auxiliary relay panel, above relay panel
J434 - Locking relay for starter (clutch pedal switch), on the thirteenfold auxiliary relay panel, above relay panel
Q6 - Glow plugs (engine)
S5 - Fuse 5 in fuse holder
S7 - Fuse 7 in fuse holder
T2a - Double Connector, in engine compartment, in wiring duct, left
T6 - 6-Pin Connector, brown, in protective housing for connectors, in plenum chamber, left

- (135) - Ground connection -2-, in instrument panel wiring harness
(A20) - Wire connection (15a), in instrument panel wiring harness
(B163) - Plus connector -1- (15) in wiring harness interior



- D - Ignition/Starter Switch
J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center
J317 - Power Supply (Terminal 30, B+) Relay, on the thirteenfold auxiliary relay panel, above relay panel
S229 - Fuse 29 in fuse holder
S232 - Fuse 32 in fuse holder
S243 - Fuse 43 in fuse holder
T6 - 6-Pin Connector, brown, in protective housing for connectors, in plenum chamber, left
T10 - 10-Pin Connector, orange, in protective housing for connectors, in plenum chamber, left
T10a - 10-Pin Connector, in engine compartment, in wiring duct, left

- T10e - 10-Pin Connector, black, in protective housing for connectors, in plenum chamber, left
T10h - 10-Pin Connector, blue, in protective housing for connectors, in plenum chamber, left
T80 - Connector, 80 point
(A2) - Plus connection (15), in instrument panel wiring harness
(A71) - Connector (86), in instrument panel wiring harness
(A104) - Plus connector -2- (15), in instrument panel wiring harness
(B168) - Connection (86) in passenger compartment wiring harness



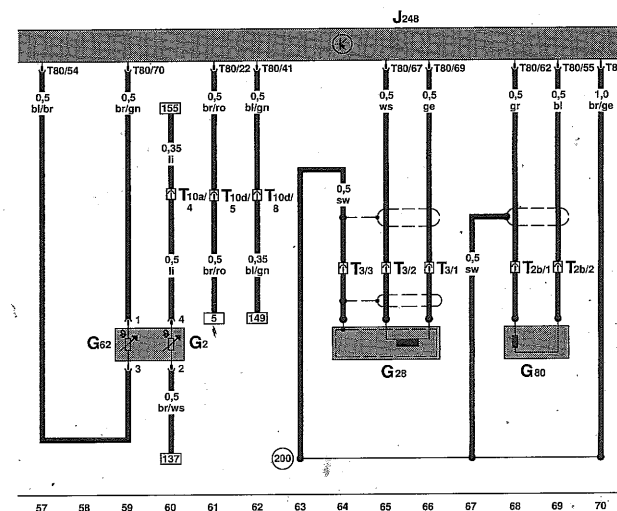
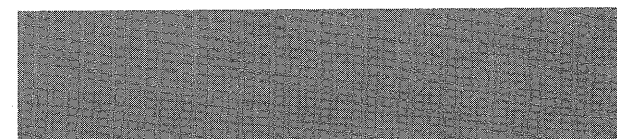
ws = white
sw = black
ro = red
br = brown
gn = green
bl = blue
gr = grey
li = lilac
ge = yellow

- F8 - Kick Down Switch
F60 - Closed Throttle Position (CTP) Switch
G71 - Manifold Absolute Pressure (MAP) Sensor
G72 - Intake Air Temperature (IAT) Sensor
G79 - Throttle Position (TP) Sensor
J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center
T6a - 6-Pin Connector, behind instrument panel, left
T10 - 10-Pin Connector, orange, in protective housing for connectors, in plenum chamber, left
T10h - 10-Pin Connector, blue, in protective housing for connectors, in plenum chamber, left
T80 - Connector, 80 point

(220) - Ground connection (sensor ground), in engine compartment wiring harness

Edition 12/98
USA.5102.01.21

Diesel direct fuel injection (DFI) engine control module (ECM), closed throttle position (CTP) switch, intake air temperature (IAT) sensor, manifold absolute pressure (MAP) sensor



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

- G2 - Engine Coolant Temperature (ECT) Sensor
G28 - Engine Speed (RPM) Sensor
G62 - Engine Coolant Temperature (ECT) Sensor
G80 - Needle Lift Sensor
J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center
T2b - Double Connector, in engine compartment, front
T3 - 3-Pin Connector, in engine compartment, front
T10a - 10-Pin Connector, in engine compartment, in wiring duct, left
T10d - 10-Pin Connector, green, in protective housing for connectors, in plenum chamber, left
T80 - Connector, 80 point

(200) - Ground connection (shielding), in engine compartment wiring harness

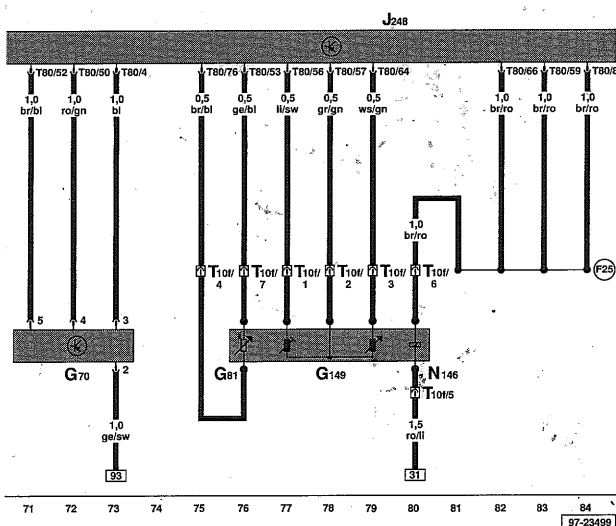
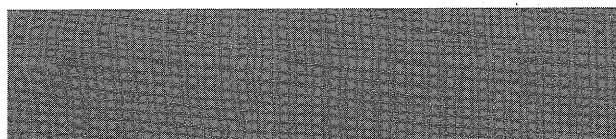
Diesel direct fuel injection (DFI) engine control module (ECM), engine speed (RPM) sensor, engine coolant temperature (ECT) sensor, needle lift sensor

Edition 12/98
USA.5102.01.21

Golf/Jetta

Wiring diagram

No. 4/7



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

- G70 - Mass Air Flow (MAF) Sensor
- G81 - Fuel Temperature Sensor
- G149 - Modulating Piston Displacement Sensor
- J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center
- N146 - Quantity Adjuster
- T10f - 10-Pin Connector, in engine compartment, front
- T80 - Connector, 80 point

(F25) - Wire connection -1-, in Diesel Direct Fuel Injection (DFI) system wiring harness

Edition 12/98
USA.5102.01.21

Diesel direct fuel injection (DFI) engine control module (ECM), quantity adjuster, mass air flow (MAF) sensor, fuel temperature sensor, modulating piston displacement sensor

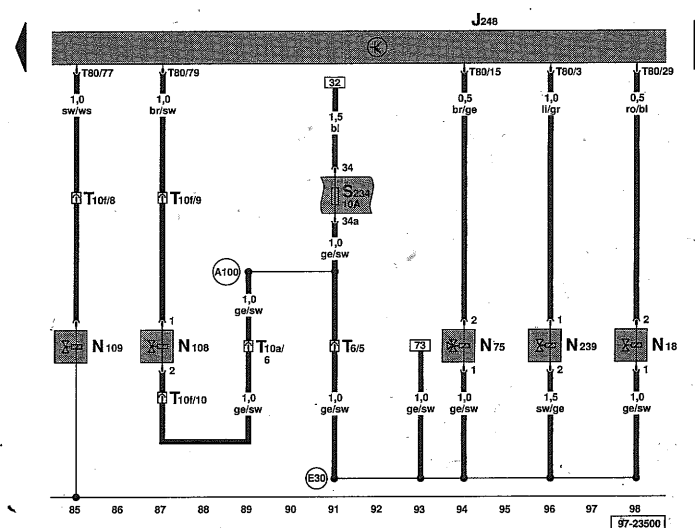
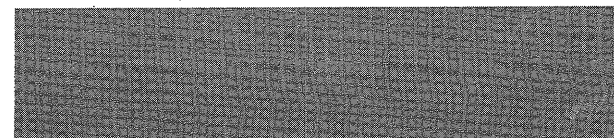
Repair Manual
page number

97-96

No. 4/8

Wiring diagram

Golf/Jetta



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

- J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center
- 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, in protective housing for connectors, in plenum chamber, left
- T10a - 10-Pin Connector, in engine compartment, in wiring duct, left
- T10f - 10-Pin Connector, in engine compartment, front
- T80 - Connector, 80 point

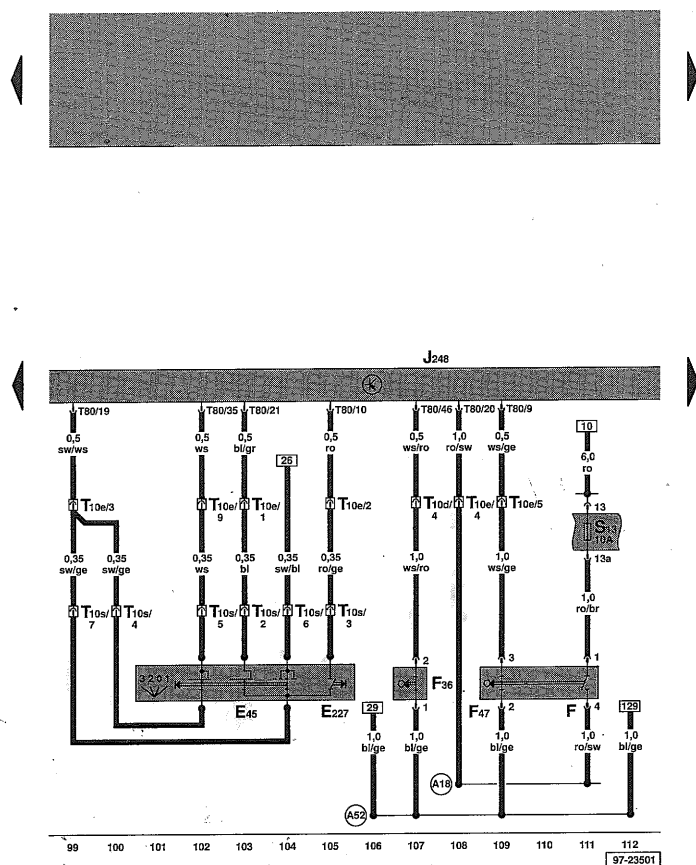
- (A100) - Connector -2- (87), in instrument panel wiring harness
- (E30) - Connector (87a), in wiring harness engine

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

Edition 12/98
USA.5102.01.21

Repair Manual
page number

97-97

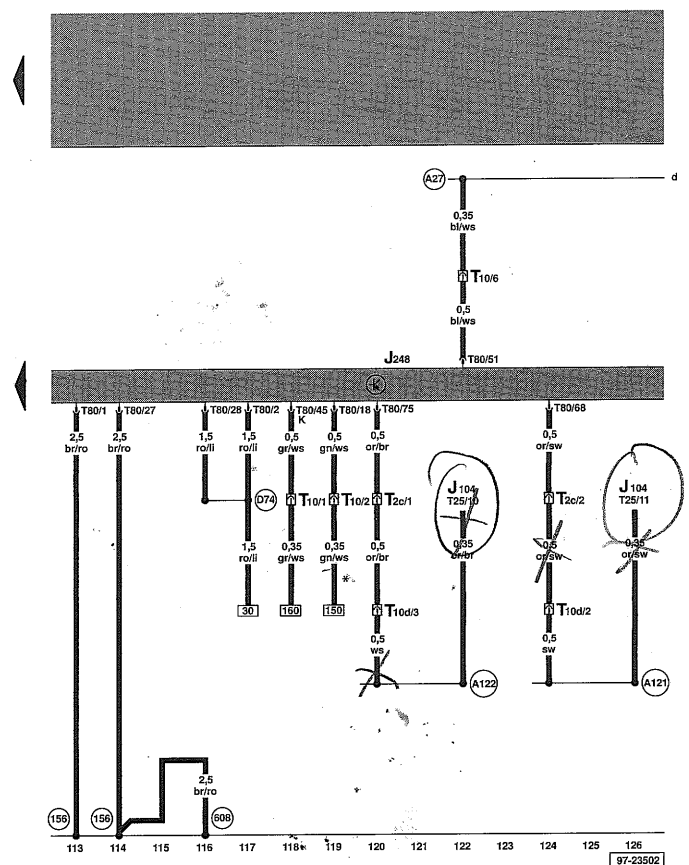


ws = white
-sw = black
ro = red
br = brown
gn = green
bl = blue
gr = grey
li = lilac
qe = yellow

- | | |
|--|--|
| E45 - Cruise Control Switch** | (A18) - Wire connection (54), in instrument panel wiring harness |
| E227 - Cruise Control Push Button (SET)** | (A52) - Plus connection (30), in instrument panel wiring harness |
| F - Brake Light Switch | |
| F36 - Clutch Vacuum Vent Valve Switch | |
| F47 - Brake Vacuum Vent Valve Switch for cruise control/diesel | ** - Vehicles with cruise control only |
| J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center | |
| S13 - Fuse 13 in fuse holder | |
| T10d - 10-Pin Connector, green, in protective housing for connectors, in plenum chamber, left | |
| T10e - 10-Pin Connector, black, in protective housing for connectors, in plenum chamber, left | |
| T10s - 10-Pin Connector, near steering column** | |
| T80 - Connector, 80 point | |

Edition 12/98
USA.5102.01.21

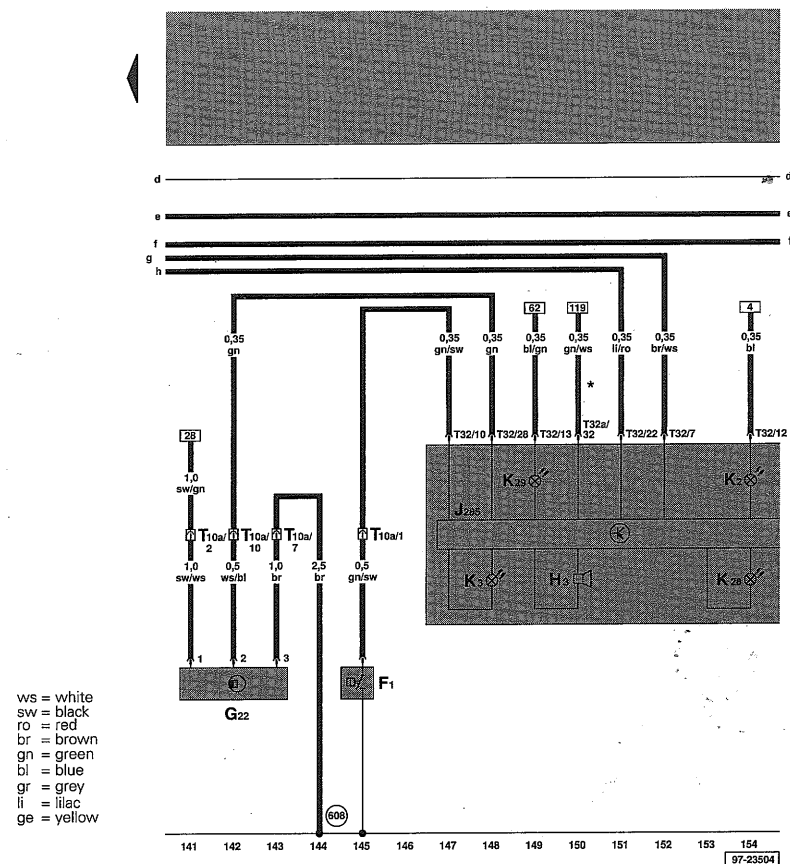
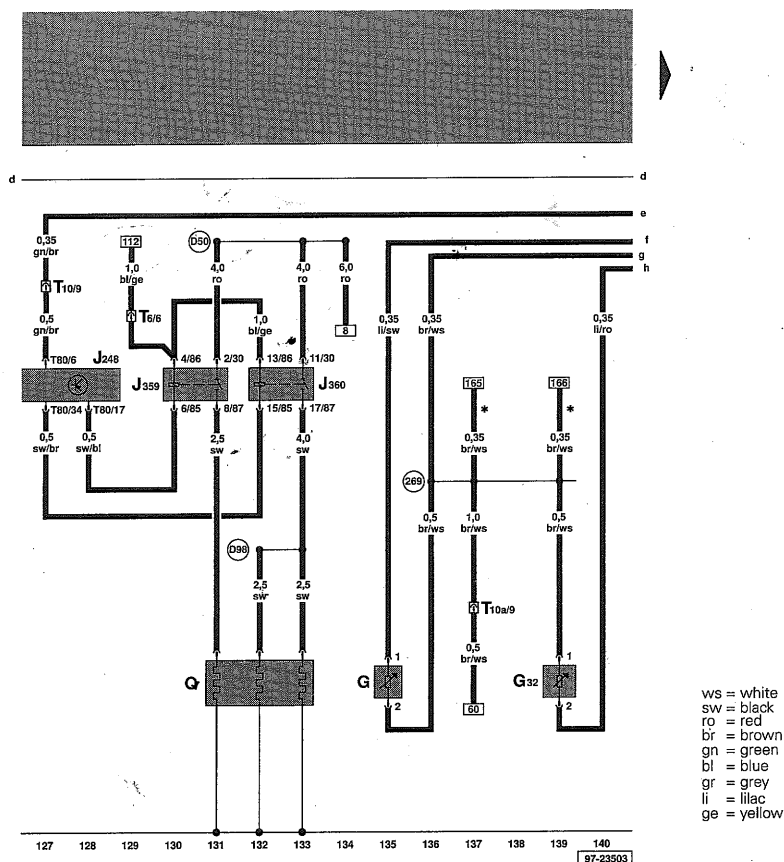
Diesel direct fuel injection (DFI) engine control module (ECM), cruise control switch, brake vacuum vent valve switch, brake light switch, clutch vacuum vent valve switch

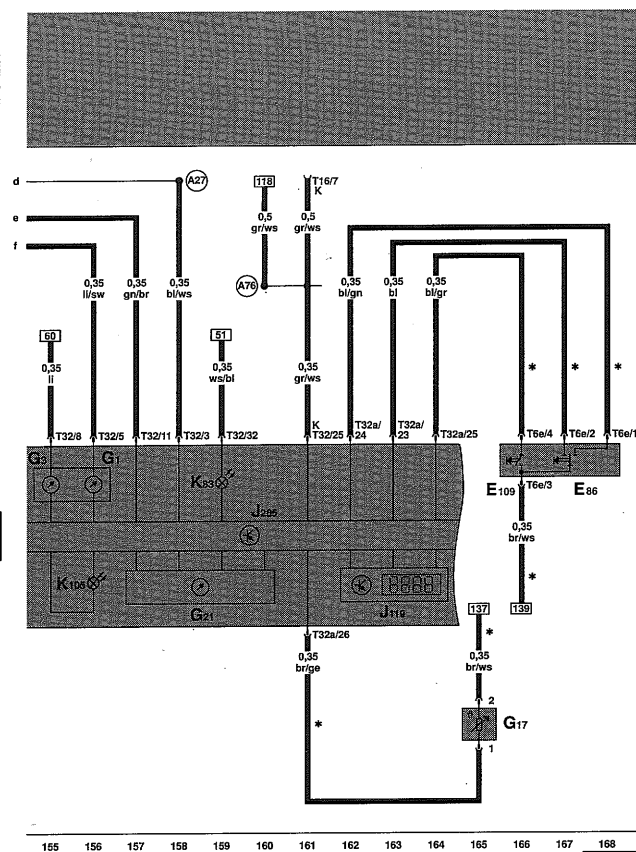


- | | | |
|--|--------|--|
| J104 - ABS Control Module (w/EDL), in engine compartment, left | (156) | - Ground connection, in Diesel Direct Fuel Injection (DFI) wiring harness |
| J248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center | (A27) | - Wire Connection (vehicle speed signal), in instrument panel wiring harness |
| T2c - Double Connector, in engine compartment, in wiring duct, left | (A121) | - Connection (high bus), in instrument panel wiring harness |
| T10 - 10-Pin Connector, orange, in protective housing for connectors, in plenum chamber, left | (A122) | - Connection (low bus), in instrument panel wiring harness |
| T10d - 10-Pin Connector, green, in protective housing for connectors, in plenum chamber, left | (D74) | - Wire connection (86), in engine compartment wiring harness |
| T25 - 25-Pin Connector, on ABS Control Module (w/EDL) | * | - Vehicles with Multi-Function Indicator (MFI) only |
| T80 - Connector, 80 point | | |
| (608) - Ground Connection (in center plenum chamber) | | |

Diesel direct fuel injection (DFI) engine control module (ECM)

Edition 02/99
USA.5102.02.21





E86 - Multi-Function Indicator Mode Select Switch
 E109 - Multi-Function Indicator Memory Switch
 G1 - Fuel gauge
 G3 - Engine Coolant Temperature (ECT) Gauge
 G17 - Outside Air Temperature Sensor
 G21 - Speedometer
 J119 - Multi-function Indicator (MFI)
 J285 - Control module with indicator unit in instrument panel insert
 K83 - Malfunction Indicator Lamp (MIL)
 K105 - Low Fuel Level Warning Light
 T6e - 6-Pin Connector
 T16 - Data Link Connector (DLC), below instrument panel, center
 T32 - 32-Pin Connector, blue
 T32a - 32-Pin Connector, green

A27 - Wire Connection (vehicle speed signal), in instrument panel wiring harness
 A76 - Connector (K-diagnosis wire), in instrument panel wiring harness

* - Vehicles with Multi-Function Indicator (MFI) only

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

THIS PAGE INTENTIONALLY LEFT
 BLANK

Edition 12/98 USA.5102.01.21 Instrument cluster, multi-function indicator (MFI), engine coolant temperature (ECT) gauge, fuel gauge, speedometer, malfunction indicator lamp (MIL), outside air temperature sensor