1.9L - Engine - Turbo Diesel Fuel Injection (DFI)/66KW, code ALH, (with manual transmission),
from September 1998

Deviate relay location and fuse placements as well as the locations of multiple connectors see section “component locations”.

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)

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

Note: Number in parentheses indicates production control number stamped on relay housing.
Generator (GEN)

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

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
A98 - Plus connector -4- (30), in instrument panel wiring harness

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**Wiring diagram**

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**A** - Battery

**B** - Starter

J S2 - Glow Plug Relay, on the thirteenfold auxiliary relay panel, above relay panel

J 434 - 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

---

ws = white

sw = black

ro = red

br = brown

gn = green

bl = blue

gr = grey

ge = yellow

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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

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Glow plug relay, starter, glow plugs (engine)
Diesel direct fuel injection (DFI) engine control module (ECM), power supply (terminal 30, B+) relay

D - Ignition/Starter Switch
J 248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center
J 317 - 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

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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
J 248 - 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

✱✱ - A/C connection

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

- Ground connection (sensor ground), 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

G2 - Engine Coolant Temperature (ECT) Sensor
G28 - Engine Speed (RPM) Sensor
G62 - Engine Coolant Temperature (ECT) Sensor
G80 - Needle Lift Sensor
J 248 - 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

Ground connection (shielding), in engine compartment wiring harness
Golf/Jetta

Wiring diagram

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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

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

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

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Wiring diagram

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

E45 - Cruise Control Switch**
E227 - Cruise Control Push Button (SET)**
F - Brake Light Switch
F36 - Clutch Vacuum Vent Valve Switch
F47 - Brake Vacuum Vent Valve Switch for cruise control/diesel
J 248 - 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

** - Vehicles with cruise control only

A10 - Wire connection (54), in instrument panel wiring harness
A52 - Plus connection (30), in instrument panel wiring harness

ws = white
sw = black
ro = red
br = brown
gn = green
bl = blue
gr = grey
ge = yellow
li = lilac
No. 4/10 Wiring diagram Golf/Jetta

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

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D98 - Wire connection (glow plugs), in engine compartment 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

c - Fuel Level Sensor
g32 - Engine Coolant Level (ECL) Sensor
j 248 - Diesel Direct Fuel Injection (DFI) Engine Control Module (ECM), in plenum chamber, center
j 359 - Relay for preheating coolant, low heat output, in protective housing, in engine compartment, left, production control number (53)
J 360 - Relay for preheating coolant, high heat output, in protective housing, in engine compartment, left, production control number (53)
Q7 - Glow plugs (coolant)
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
T80 - Connector, 80 point

269 - Ground connection (sensor ground) -1-, in instrument panel wiring harness
D50 - Plus connection (30), in engine compartment wiring harness
D90 - Wire connection (glow plugs), in engine compartment wiring harness

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Diesel direct fuel Injection (DFI) engine control module (ECM), fuel level sensor, glow plugs (coolant), engine coolant level (ECL) sensor
Instrument cluster, oil pressure switch, speedometer vehicle speed sensor, engine coolant level/temperature (ECL/ECT) warning light, glow plug indicator light

- **F1** - Oil Pressure Switch
- **G22** - Speedometer Vehicle Speed Sensor (VSS)
- **H3** - Warning Buzzer
- **J 285** - Control module with indicator unit in instrument panel insert
- **K2** - Generator (GEN) Warning Light
- **K3** - Oil Pressure Warning Light
- **K28** - Engine Coolant Level/Temperature (ECL/ECT) Warning Light
- **K29** - Glow Plug Indicator Light
- **T10a** - 10-Pin Connector, in engine compartment, in wiring duct, left
- **T32** - 32-Pin Connector, blue
- **T32a** - 32-Pin Connector, green

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

**Edition 02/99**

USA 5102.02.21
Instrument cluster, multi-function indicator (MFI), engine coolant temperature (ECT) gauge, fuel gauge, speedometer, malfunction indicator lamp (MIL), outside air temperature sensor