

2.0 I/85 kW Motronic, engine code BEV

from May 2005

Notes:

For information concerning

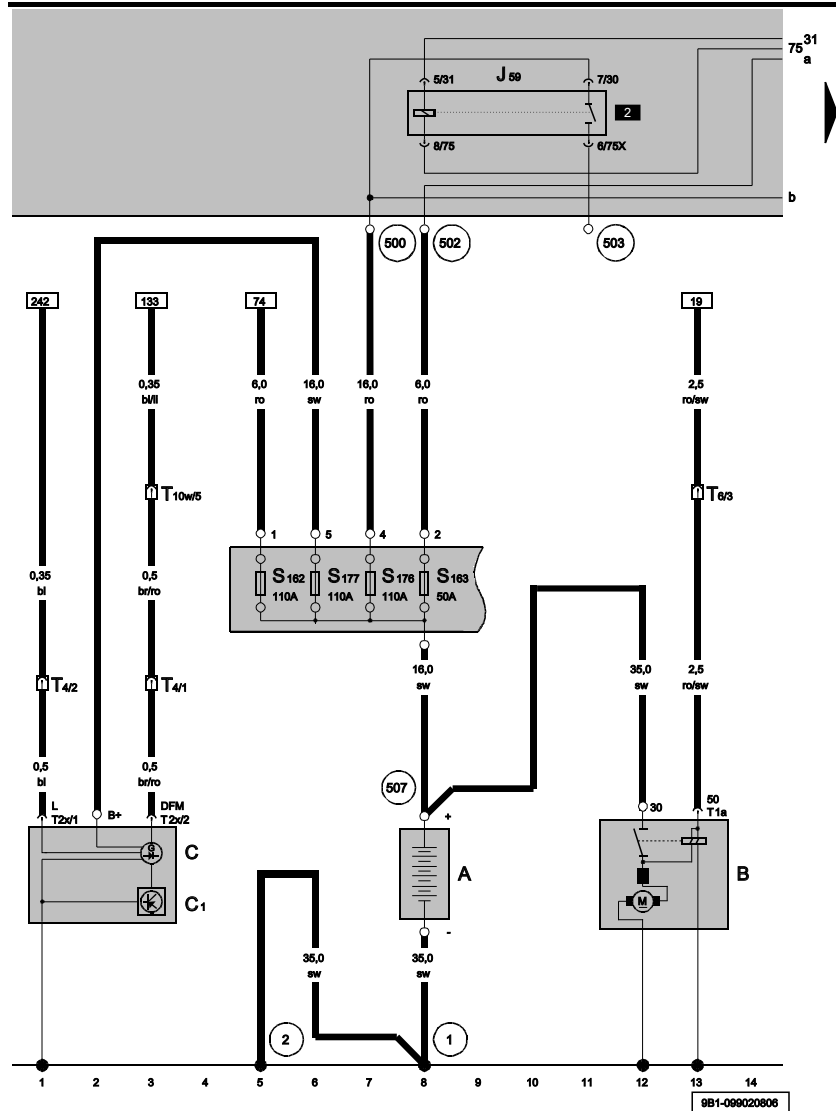
- ◆ Position of relays and fuses
- ◆ Connections
- ◆ Control units
- ◆ Earth points

→ See fitting locations

For information concerning

- ◆ Fault Finding Programs

→ guided fault finding



Battery, starter, alternator, voltage regulator

- A - Battery
- B - Starter
- C - Alternator
- C1 - Voltage regulator
- J59 - X-contact relief relay 
- S162 - Fuse 1 (30) in fuse holder on battery
- S163 - Fuse 2 (30) in fuse holder on battery
- S176 - Fuse 4 (30) in fuse holder on battery
- S177 - Fuse 5 (30) in fuse holder on battery
- T1a - Single pin connector, on starter
- T2x - 2-pin connector, on alternator
- T4 - 4-pin connector, near starter
- T6 - 6-pin connector, brown, in connector protective housing, on left in plenum chamber
- T10w - 10-pin connector, white, in connector protective housing, on left in plenum chamber
- 1 - Earth strap, battery - body 
- 2 - Earth strap, gearbox - body 
- 500 - Screw connection 1 (30), on relay plate
- 502 - Screw connection 1 (30a), on relay plate
- 503 - Screw connection (75x), on relay plate
- 507 - Screw connection (30), on fuse holder on battery



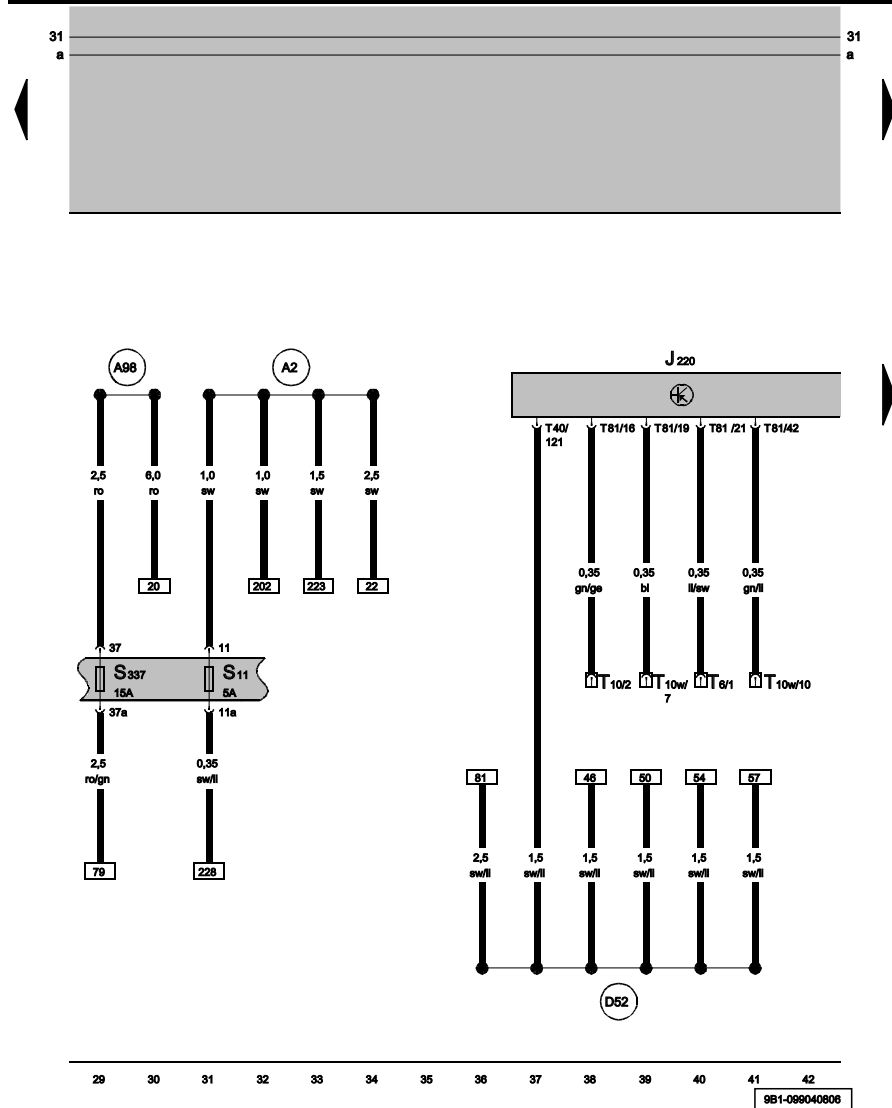
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 sw = black
 ro = red
 rt = red
 br = brown
 gn = green
 bl = blue
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 li = purple
 vi = purple
 ge = yellow
 or = orange
 rs = pink

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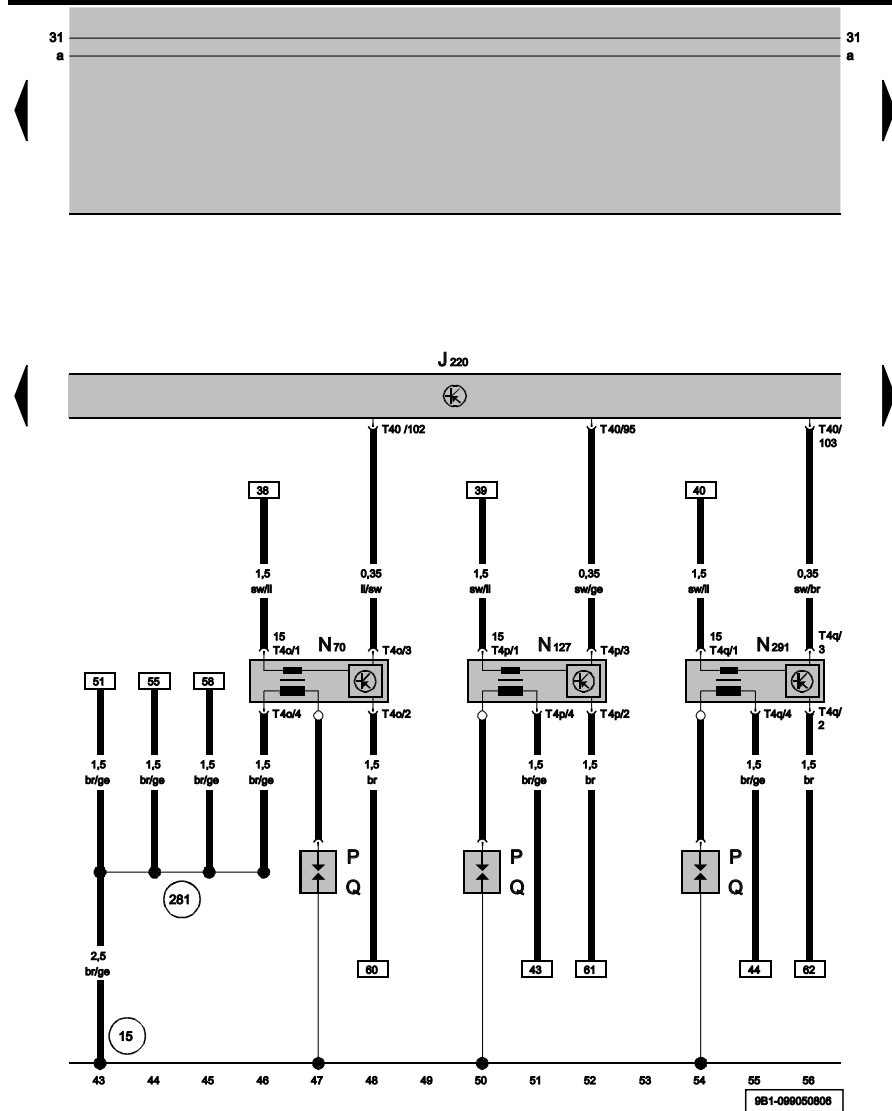
D	- Ignition/starter switch
S10	- Fuse in relay plate fuse holder
T8f	- 8-connector, on ignition/starter switch
501	- Screw connection 2 (30), on relay plate
A21	- Connection (86s), in dash panel wiring harness
A32	- Positive connection (30), in dash panel wiring harness
A80	- Connection 2 (X), in dash panel wiring harness

ws = white
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**Motronic control unit**

- J220 - Motronic control unit
- S11 - Fuse in relay plate fuse holder
- S11 - Fuse for direct shift gearbox mechatronic unit
- T6 - 6-pin connector, brown, in connector protective housing, on left in plenum chamber
- T10 - 10-pin connector, orange, in connector protective housing, on left in plenum chamber
- T10w - 10-pin connector, white, in connector protective housing, on left in plenum chamber
- T40 - 40-pin connector, on Motronic control unit
- T81 - 81-pin connector, on Motronic control unit
- A2 - Positive connection (15), in dash panel wiring harness
- A98 - Positive connection 4 (30), in dash panel wiring harness
- D52 - Positive connection (15a), in engine compartment wiring harness

ws = white
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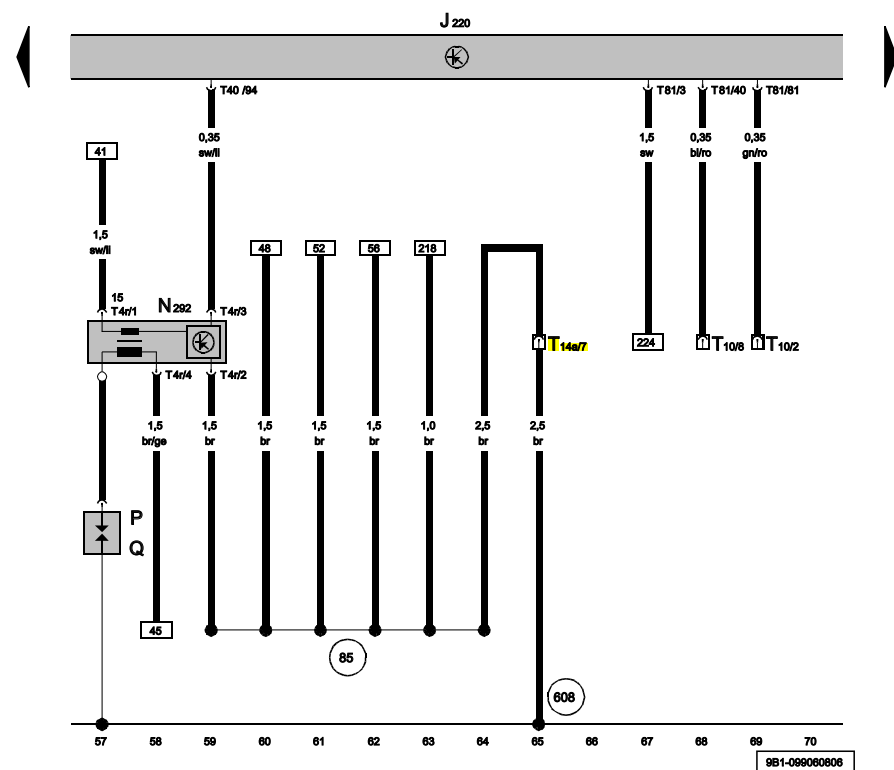
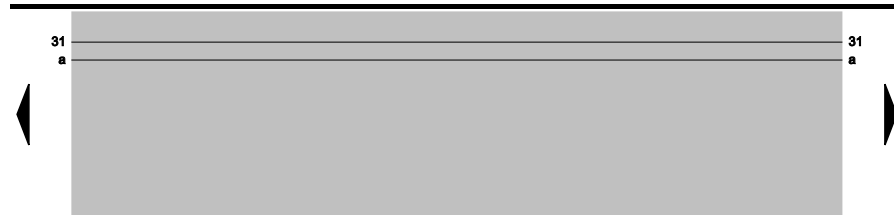


Motronic control unit, ignition coil 1 with output stage, ignition coil 2 with output stage, ignition coil 3 with output stage, spark plug connector, spark plugs

- J220 - Motronic control unit
- N70 - Ignition coil 1 with output stage
- N127 - Ignition coil 2 with output stage
- N291 - Ignition coil 3 with output stage
- P - Spark plug connector
- Q - Spark plugs
- T4o - 4-pin connector, on ignition coil 1 with output stage
- T4p - 4-pin connector, on ignition coil 2 with output stage
- T4q - 4-pin connector, on ignition coil 3 with output stage
- T40 - 80-pin connector, Motronic control unit
- 15 - Earth point, on cylinder head
- 281 - Earth connection 1, in engine prewiring harness



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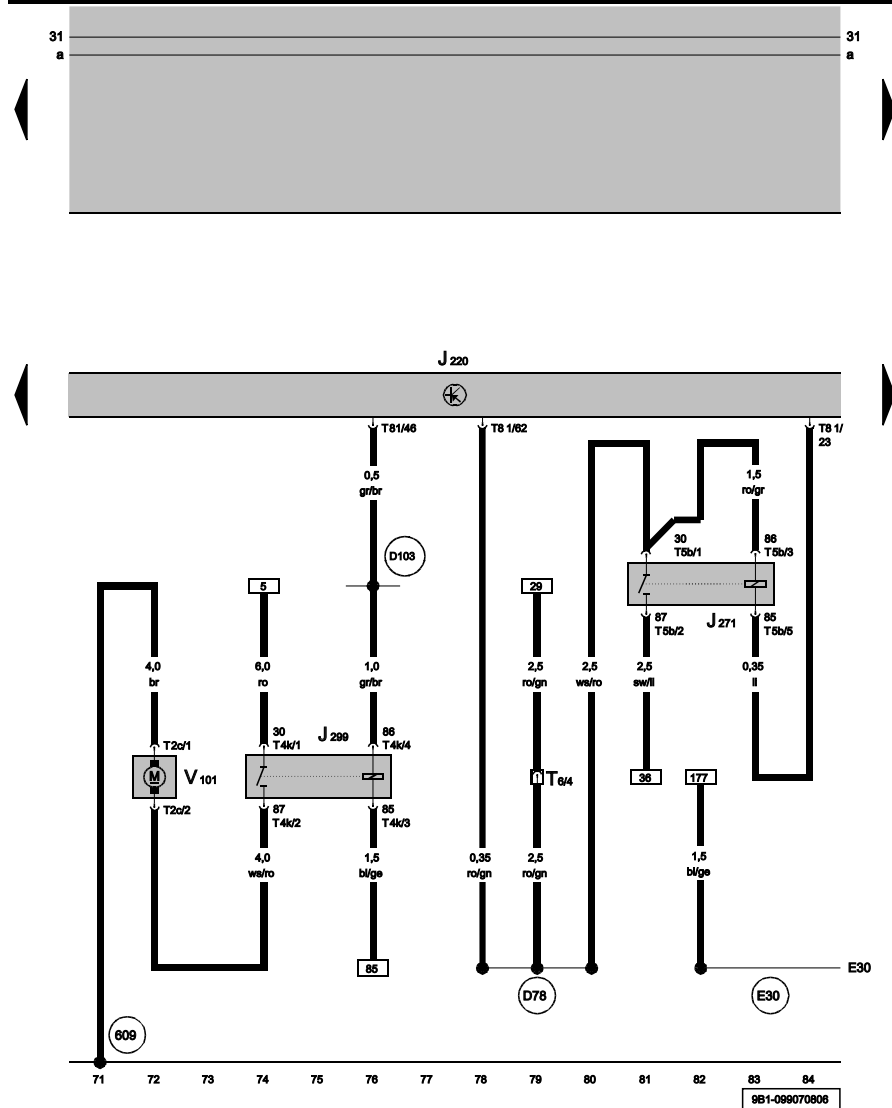


Motronic control unit, ignition coil 4 with output stage, spark plug connector, spark plugs

- J220 - Motronic control unit
- N292 - Ignition coil 4 with output stage
- P - Spark plug connector
- Q - Spark plugs
- T4r - 4-pin connector, on ignition coil 4 with output stage
- T10 - 10-pin connector, orange, in connector protective housing, on left in plenum chamber
- T14a - 14-pin connector, near battery
- T40 - 40-pin connector, on Motronic control unit
- T81 - 40-pin connector, on Motronic control unit
- 85 - Earth connection 1, in engine compartment wiring harness
- 608 - Earth point, in centre of plenum chamber



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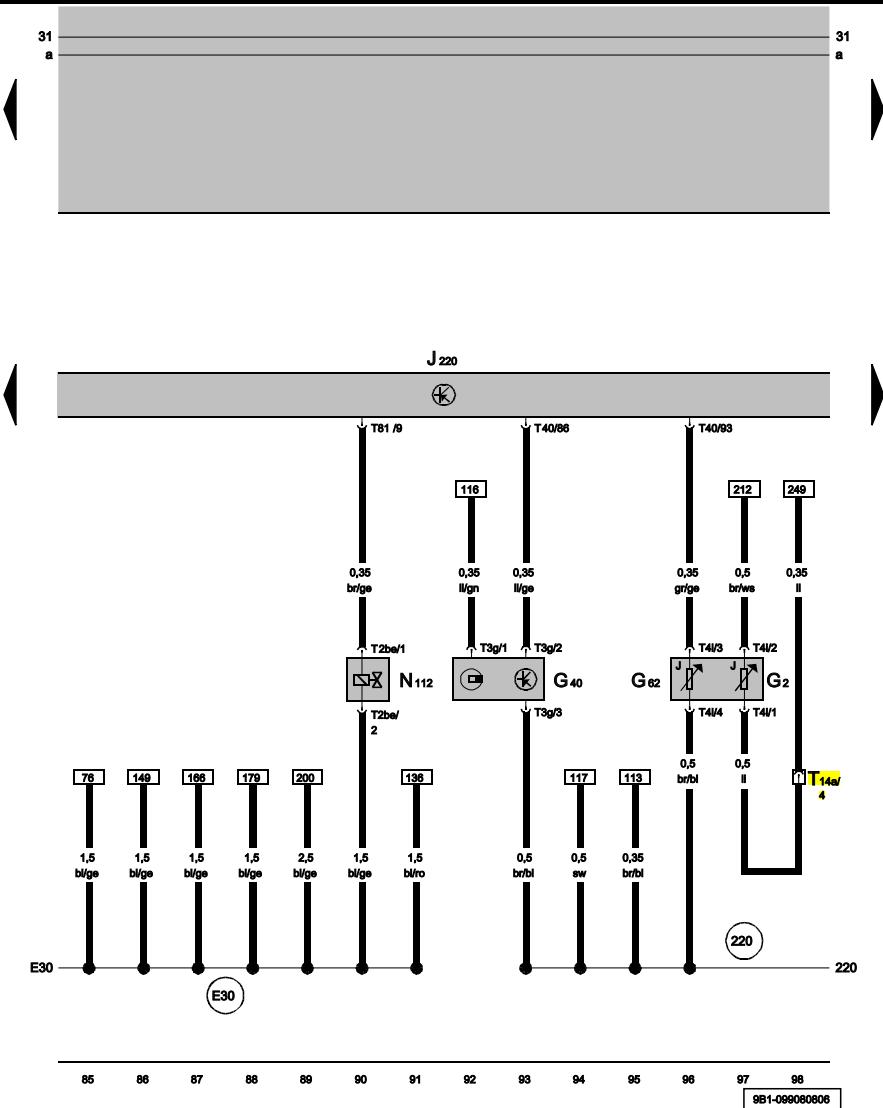


Motronic control unit, motronic current supply relay, secondary air pump relay, secondary air pump motor

- J220 - Motronic control unit
- J271 - Motronic current supply relay
- J299 - Secondary air pump relay
- T2c - 2-pin connector, on secondary air pump motor
- T4k - 4-pin connector, on secondary air pump relay
- T5b - 5-pin connector, on Motronic current supply relay
- T6 - 6-pin connector, brown, in connector protective housing, on left in plenum chamber
- T81 - 81-pin connector, on Motronic control unit
- V101 - Secondary air pump motor
- 609 - Earth point, on right in plenum chamber
- D78 - Positive connection 1 (30a), in engine compartment wiring harness
- D103 - Connection 3, in engine compartment wiring harness
- E30 - Connection (87a), in engine wiring harness



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Coolant temperature display sender, Hall sender, coolant temperature sender, Motronic control unit, secondary air inlet valve

G2 - Coolant temperature display sender

G40 - Hall sender

G62 - Coolant temperature sender

J220 - Motronic control unit

N112 - Secondary air inlet valve

T2be - 2-pin connector, on secondary air inlet valve

T3g - 3-pin connector, on Hall sender

T4i - 4-pin connector, on coolant temperature sender

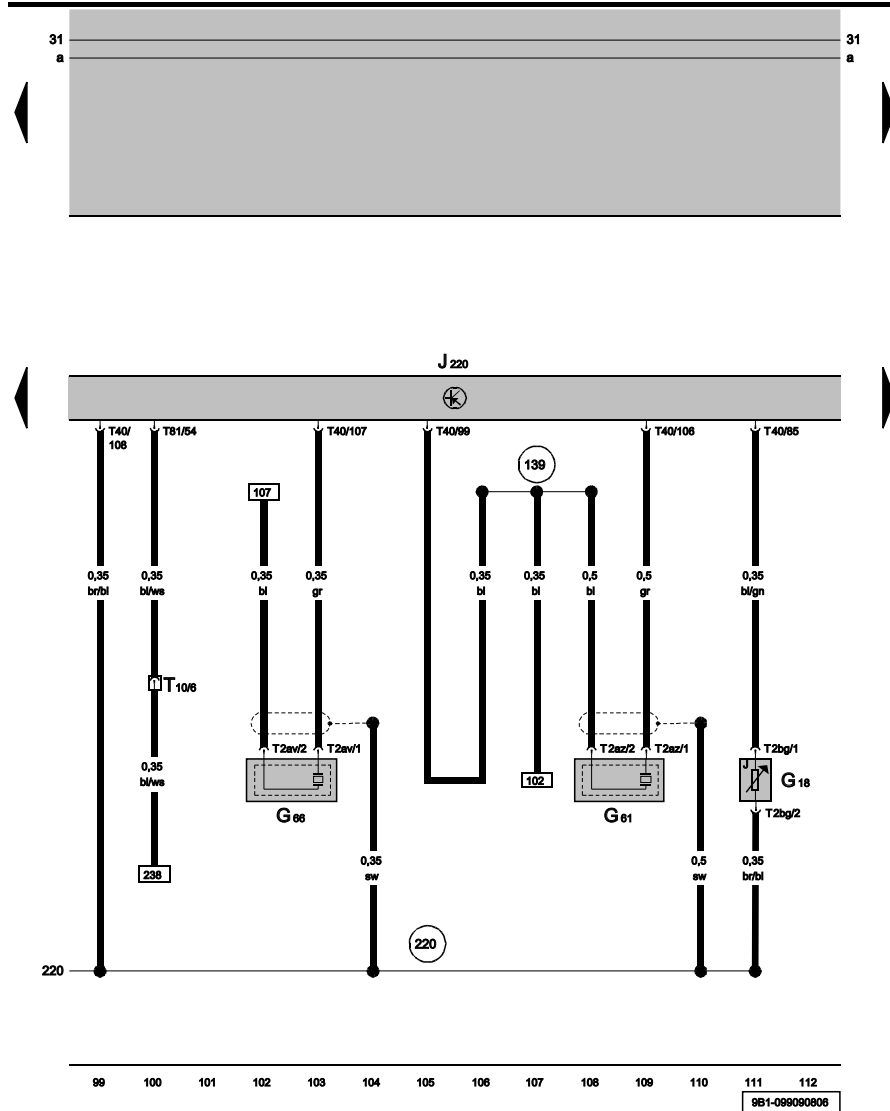
T14a - 14-pin connector, near battery

T40 - 40-pin connector, on Motronic control unit

T81 - 81-pin connector, on Motronic control unit

220 - Earth connection (sender earth), in engine wiring harness

E30 - Connection (87a), in engine wiring harness

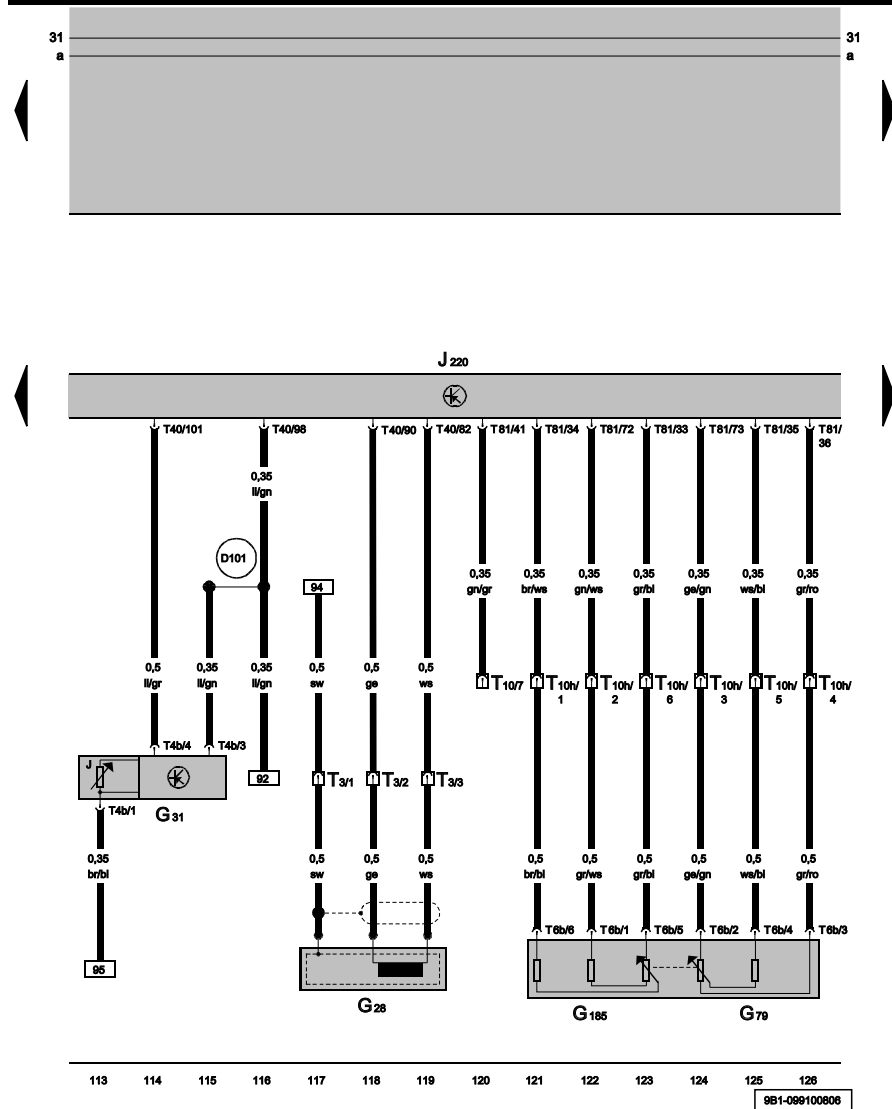


Temperature sensor, knock sensor 1, knock sensor 2,

Motronic control unit

- G18 - Temperature sensor
- G61 - Knock sensor 1
- G66 - Knock sensor 2
- J220 - Motronic control unit 
- T2av - 2-pin connector, on knock sensor 2
- T2az - 2-pin connector, on knock sensor 1
- T2bg - 2-pin connector, on temperature sensor
- T10 - 10-pin connector, orange, in connector protective housing, on left in plenum chamber
- T40 - 40-pin connector, on Motronic control unit
- T81 - 81-pin connector, on Motronic control unit
- 139 - Earth connection (sender earth), in Motronic wiring harness
- 220 - Earth connection (sender earth), in engine wiring harness

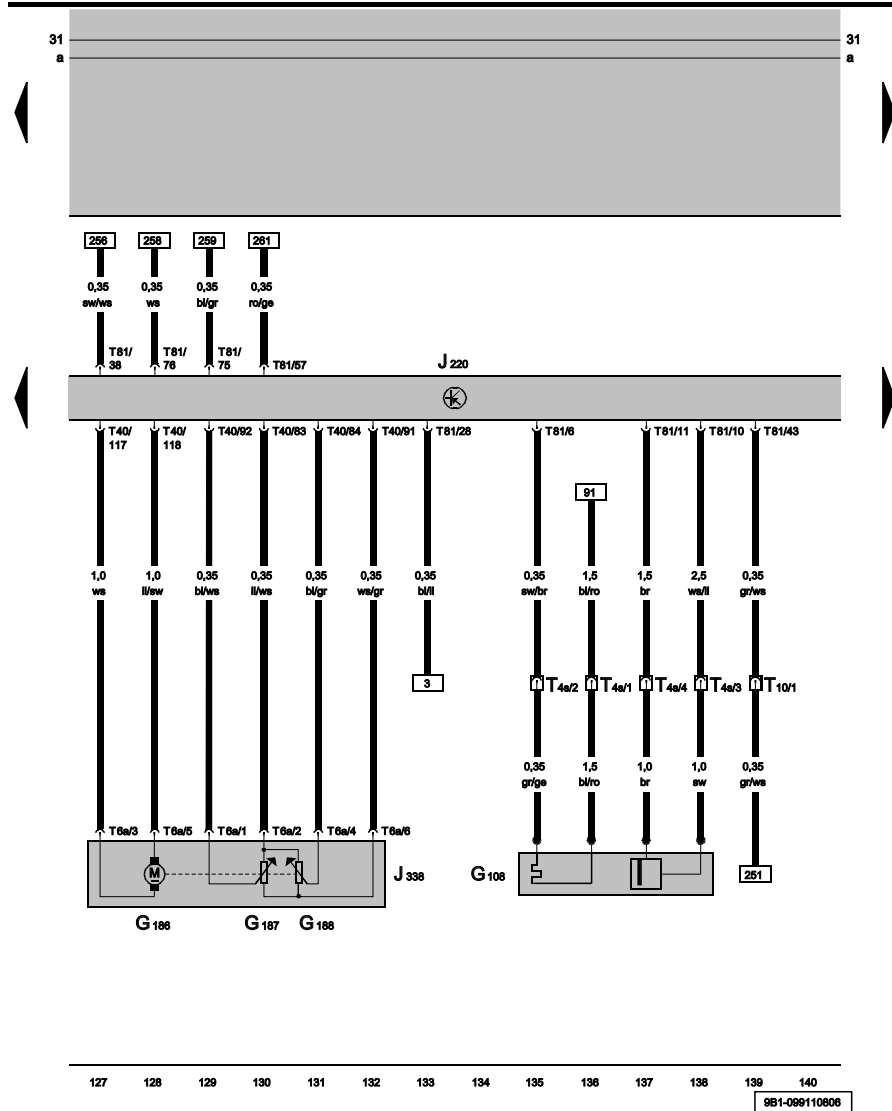
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Engine speed sender, charge air pressure sender, accelerator position sender, accelerator position sender
2, Motronic control unit

- G28 - Engine speed sender
- G31 - Charge air pressure sender
- G79 - Accelerator position sender
- G185 - Gearbox output speed sender
- J220 - Motronic control unit
- T3 - 3-pin connector, on engine speed sender
- T4b - 4-pin connector, on charge air pressure sender
- T6b - 6-pin connector, on accelerator position sender
- T10 - 10-pin connector, white, in connector protective housing, on left in plenum chamber
- T10h - 10-pin connector, blue, in connector protective housing, on left in plenum chamber
- T40 - 40-pin connector, on Motronic control unit
- T81 - 81-pin connector, on Motronic control unit
- D101 - Connection 1, in engine compartment wiring harness

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Lambda probe 2, throttle valve drive for electric throttle (EPC), throttle valve drive angle sender 1 for electric throttle (EPC), wiper motor switch-over relay 1

G108 - Lambda probe 2

G186 - Throttle valve drive for electric throttle (EPC)

G187 - Throttle valve drive angle sender 1 for electric throttle (EPC)

G188 - Throttle valve drive angle sender 2 for electric throttle (EPC)

J220 - Motronic control unit

J338 - Throttle valve module

T4s - 4-pin connector, in engine compartment

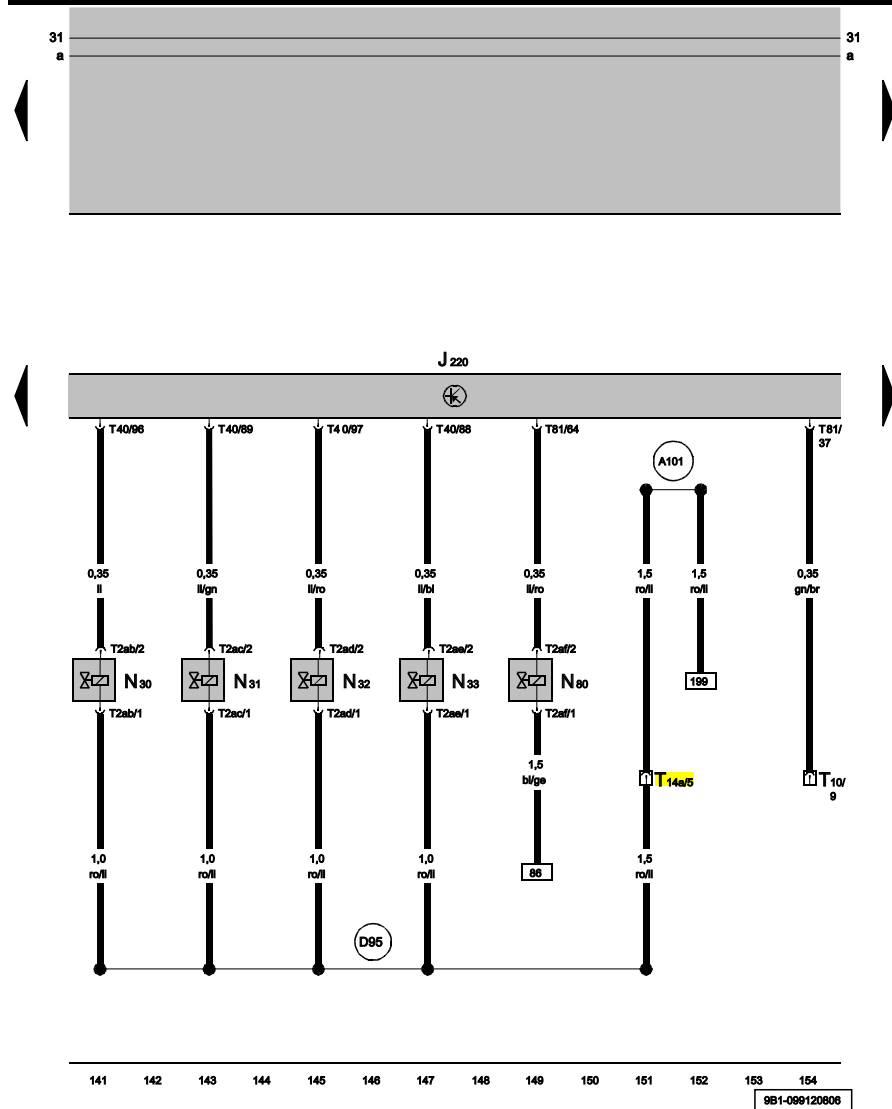
T6a - 6-pin connector, on throttle valve drive for electric throttle (EPC)

T10 - 10-pin connector, white, in connector protective housing, on left in plenum chamber

T40 - 40-pin connector, on Motronic control unit

T81 - 81-pin connector, on Motronic control unit

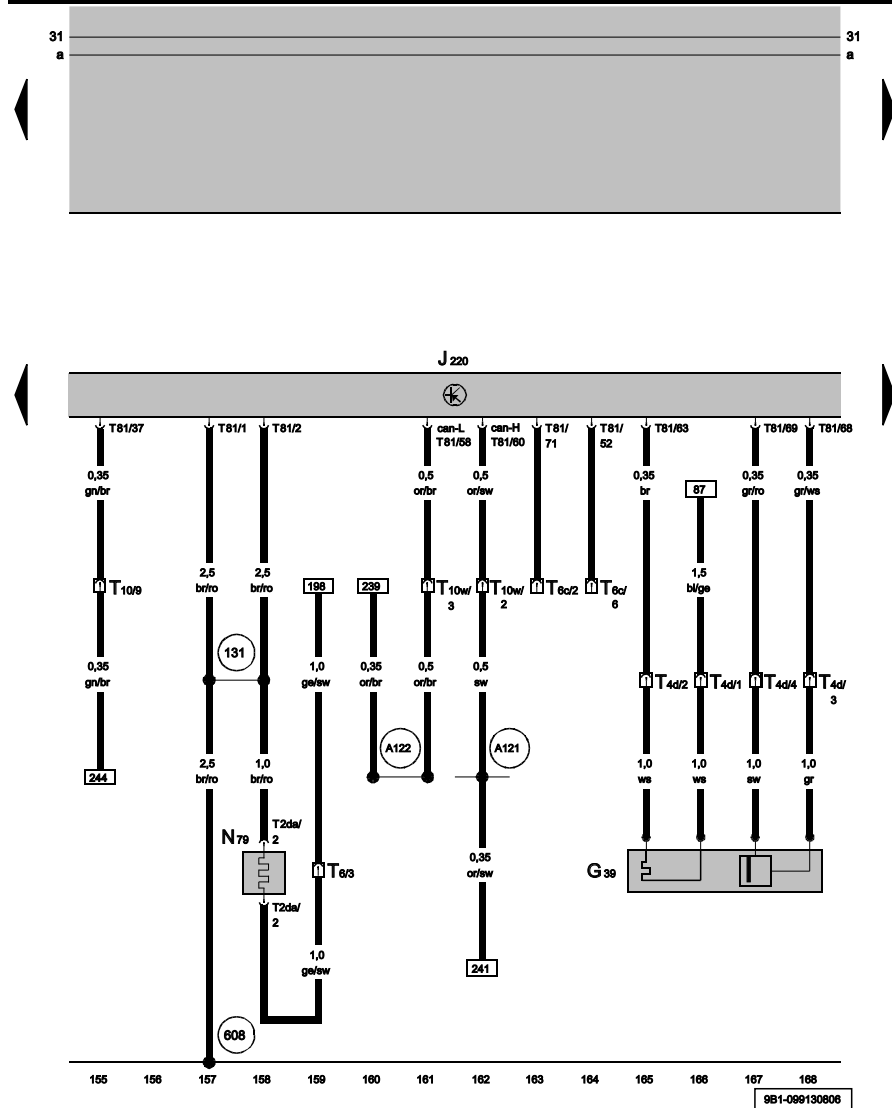
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Motronic control unit, injector, cylinder 1, injector, cylinder 2, injector, cylinder 3, injector, cylinder 4, activated charcoal filter system solenoid valve 1

- J220 - Motronic control unit
- N30 - Injector, cylinder 1
- N31 - Injector, cylinder 2
- N32 - Injector, cylinder 3
- N33 - Injector, cylinder 4
- N80 - Activated charcoal filter system solenoid valve 1
- T2ab - 2-pin connector, on injector, cylinder 1
- T2ac - 2-pin connector, on injector, cylinder 2
- T2ad - 2-pin connector, on injector, cylinder 3
- T2ae - 2-pin connector, on injector, cylinder 4
- T2af - 2-pin connector, on active charcoal filter system solenoid valve 1
- T10 - 10-pin connector, white, in connector protective housing, on left in plenum chamber
- T14a - 14-pin connector, near battery
- T40 - 40-pin connector, on Motronic control unit
- T81 - 81-pin connector, on Motronic control unit
- A101 - Connection 3 (87), in dash panel wiring harness
- D95 - Connection (injectors), in engine compartment wiring harness

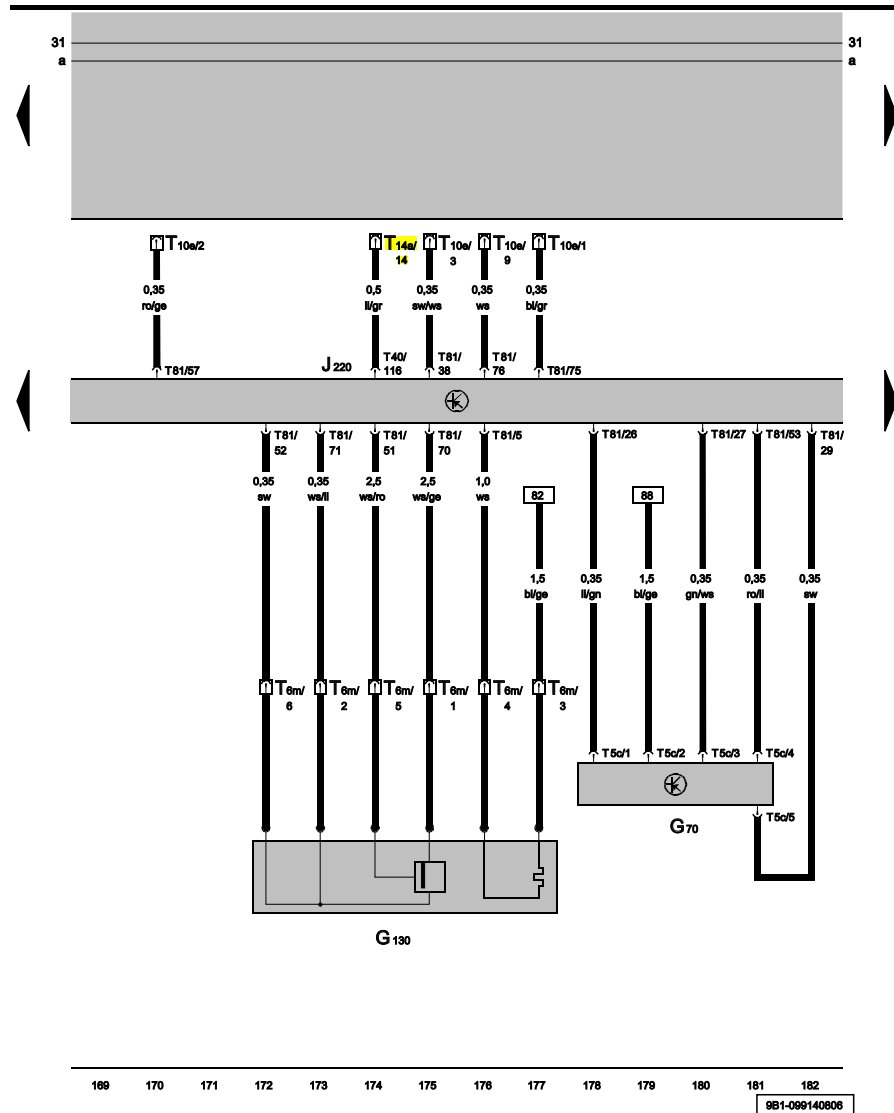
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Lambda probe, Motronic control unit, heater element for crankcase breather

- G39 - Lambda probe
- J220 - Motronic control unit
- N79 - Heater element for crankcase breather
- T2da - 2-pin connector, on heater element for crankcase breather
- T4d - 4-pin connector, on lambda probe
- T6 - 6-pin connector, brown, in connector protective housing, on left in plenum chamber
- T6c - 6-pin connector, in engine compartment
- T10 - 10-pin connector, white, in connector protective housing, on left in plenum chamber
- T10w - 10-pin connector, white, in connector protective housing, on left in plenum chamber
- T81 - 81-pin connector, on Motronic control unit
- 131 - Earth connection 2, in engine compartment wiring harness
- 608 - Earth point, in centre of plenum chamber
- A121 - Connection (high bus), in dash panel wiring harness
- A122 - Connection (low bus), in dash panel wiring harness

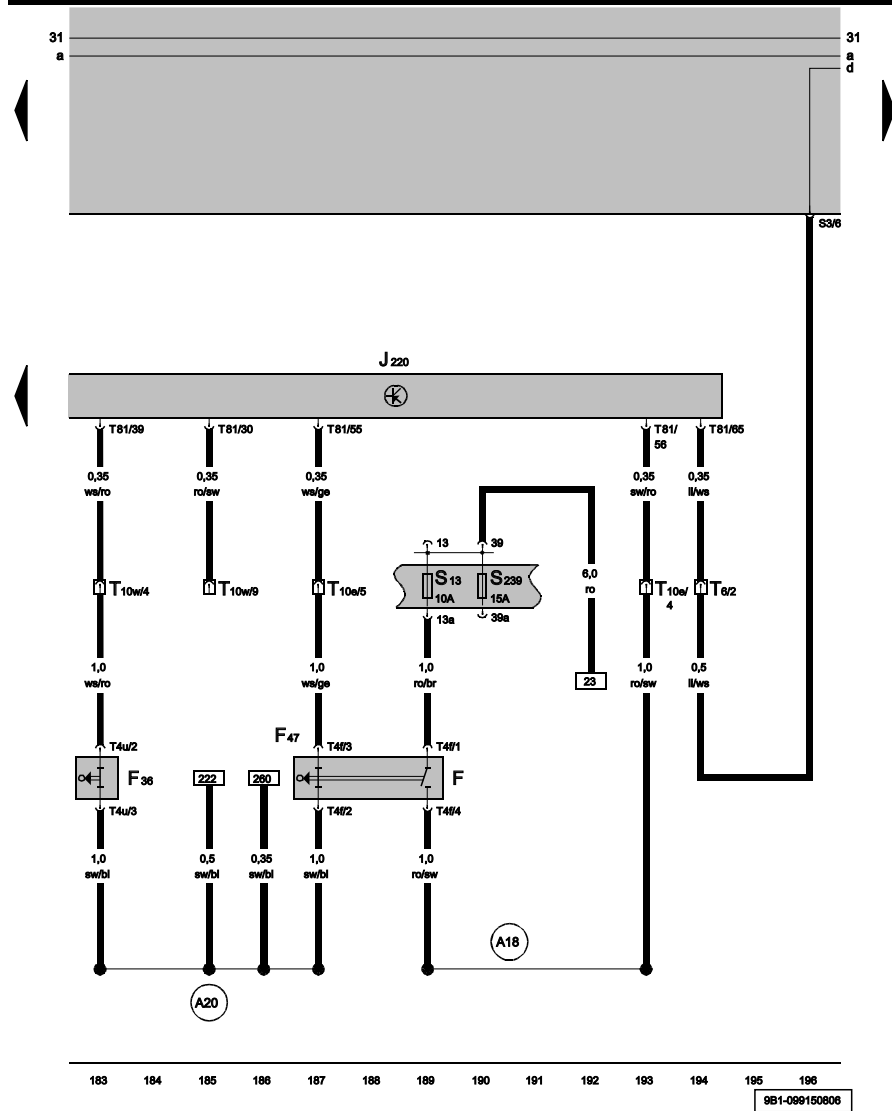
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Air mass meter, lambda probe after catalytic converter, Motronic control unit

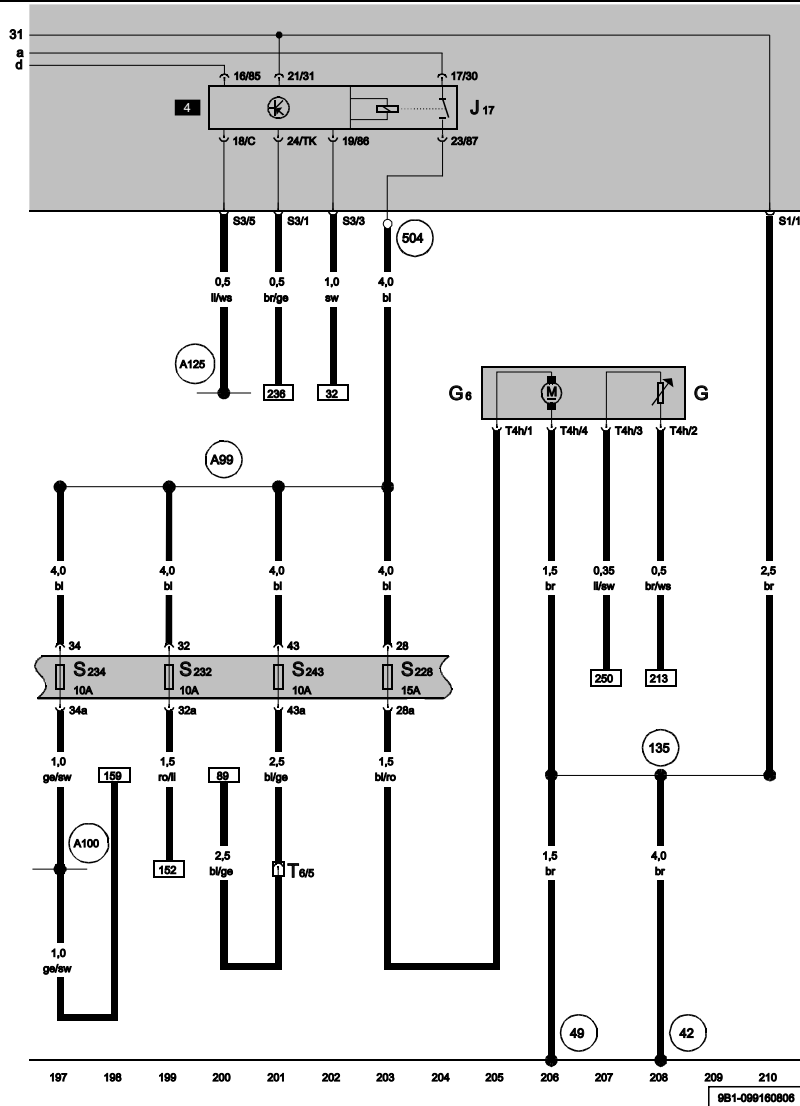
- G70 - Air mass meter
- G130 - Lambda probe after catalytic converter
- J220 - Motronic control unit 
- T5c - 5-pin connector, on air mass meter
- T6m - 6-pin connector, on lambda probe after catalytic converter
- T10e - 10-pin connector, black, in connector protective housing, on left in plenum chamber
- T14a - 14-pin connector, near battery
- T40 - 40-pin connector, on Motronic control unit
- T81 - 81-pin connector, on Motronic control unit





Brake light switch, clutch pedal switch, brake pedal switch, Motronic control unit

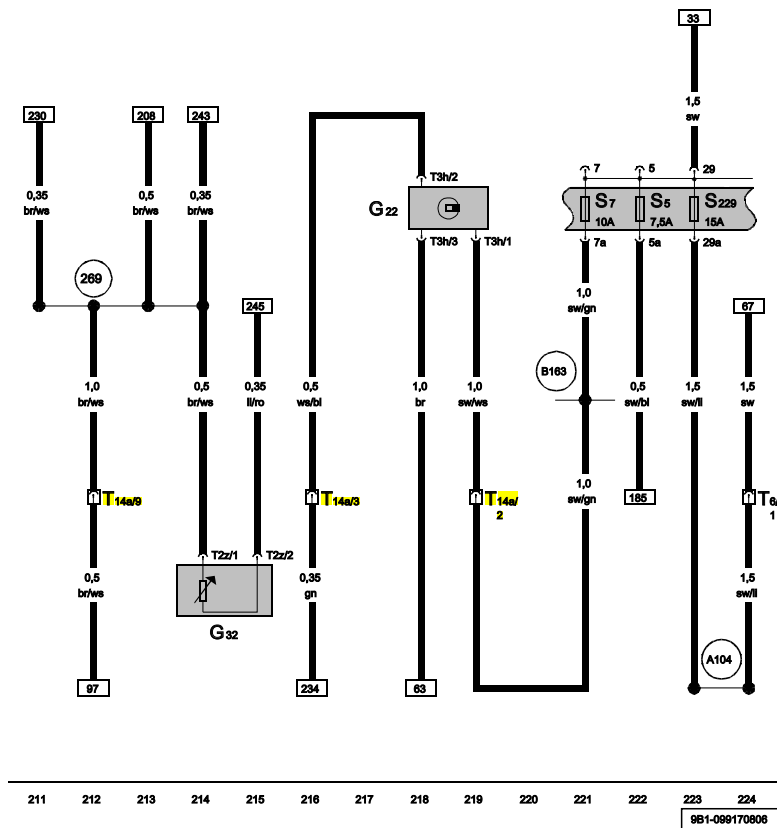
- F - Brake light switch
- F36 - Clutch pedal switch
- F47 - Brake pedal switch
- J220 - Motronic control unit
- S13 - Fuse in relay plate fuse holder
- S239 - Fuse on fuse holder
- T4f - 4-pin connector, on brake pedal switch
- T4u - 4-pin connector, on brake pedal switch
- T6 - 6-pin connector, brown, in connector protective housing, on left in plenum chamber
- T10e - 10-pin connector, black, in connector protective housing, on left in plenum chamber
- T10w - 10-pin connector, white, in connector protective housing, on left in plenum chamber
- T81 - 81-pin connector, on Motronic control unit
- A18 - Connection (54), in dash panel wiring harness
- A20 - Positive connection (15a), in dash panel wiring harness



Fuel pump relay, fuel system pressurisation pump, fuel gauge sender

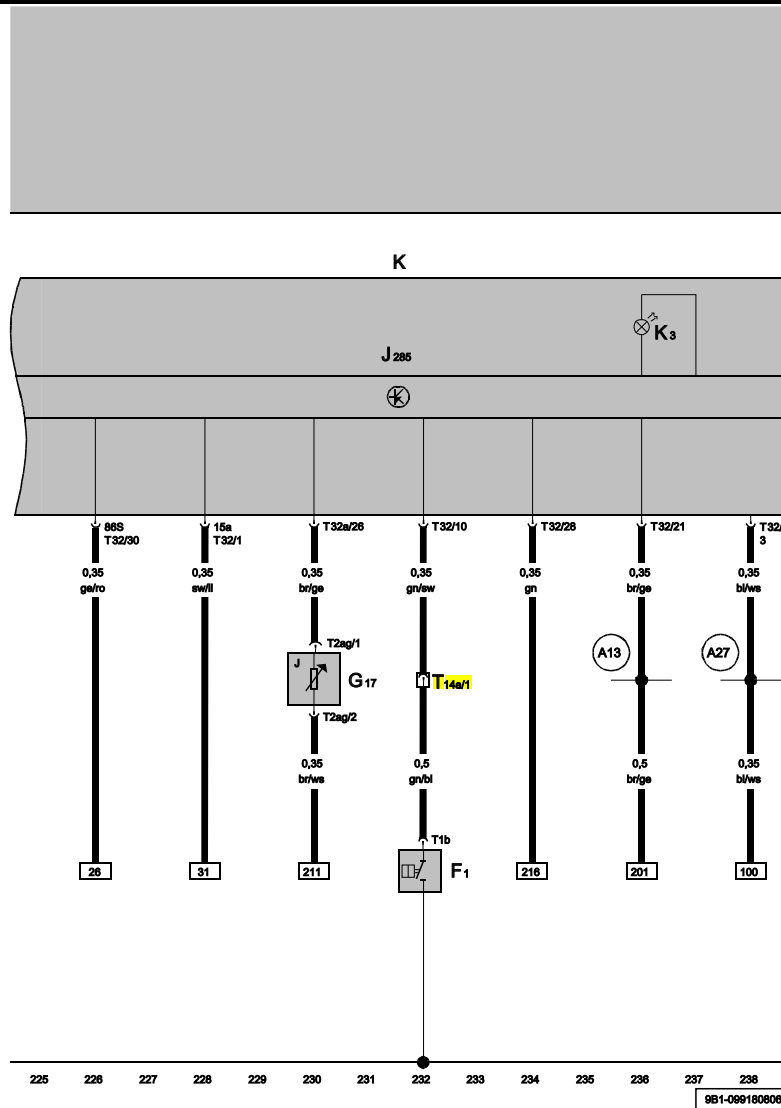
- G - Fuel gauge sender
- G6 - Fuel system pressurisation pump
- J17 - Fuel pump relay
- S228 - Fuse on fuse holder
- S232 - Fuse on fuse holder
- S234 - Fuse on fuse holder
- S243 - Fuse on fuse holder
- T4h - 4-pin connector, on fuel system pressurisation pump
- T6 - 6-pin connector, brown, in connector protective housing, on left in plenum chamber
- 42 - Earth point, next to steering column
- 49 - Earth point, near steering column
- 135 - Earth connection 2, in dash panel wiring harness
- 504 - Screw connection 1 (87), on relay plate
- A99 - Connection 1 (87), in dash panel wiring harness
- A100 - Connection 2 (87), in dash panel wiring harness
- A125 - Connection (crash signal), in dash panel wiring harness

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**Speedometer sender, coolant shortage indicator sender**

- G22 - Speedometer sender
- G32 - Coolant shortage indicator sender
- S5 - Fuse in relay plate fuse holder
- S7 - Fuse in relay plate fuse holder
- S229 - Fuse on fuse holder
- T2z - 2-pin connector, on coolant shortage indicator sender
- T3h - 3-pin connector, on speedometer sender
- T6 - 6-pin connector, brown, in connector protective housing, on left in plenum chamber
- T14a - 14-pin connector, near battery
- 269 - Earth connection (sender earth) 1, in dash panel wiring harness
- A104 - Positive connection 2 (15), in dash panel wiring harness
- B163 - Positive connection 1 (15), in interior wiring harness

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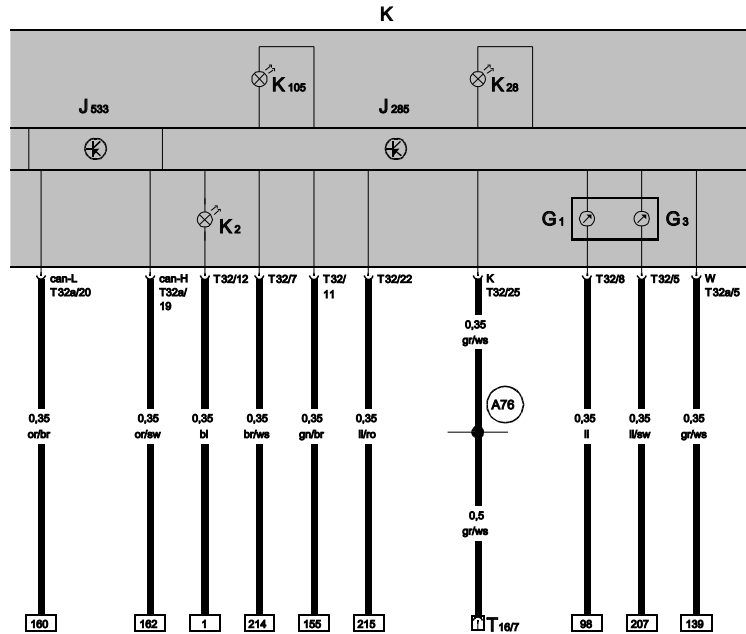


Dash panel insert, oil pressure warning lamp, control unit in dash panel insert, ambient temperature sensor, oil pressure switch

- F1 - Oil pressure switch
- G17 - Ambient temperature sensor
- J285 - Control unit in dash panel insert 
- K - Dash panel insert
- K3 - Oil pressure warning lamp
- T1b - Single pin connector, on oil pressure switch
- T2ag - 2-pin connector, on ambient temperature sensor
- T14a - 14-pin connector, near battery
- T32 - 32-pin connector, blue, on dash panel insert
- T32a - 32-pin connector, green, on dash panel insert
- A13 - Connection (door contact switch), in dash panel wiring harness
- A27 - Connection (speed signal), in dash panel wiring harness



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Fuel gauge, coolant temperature gauge, control unit in dash panel insert, data bus diagnostic interface

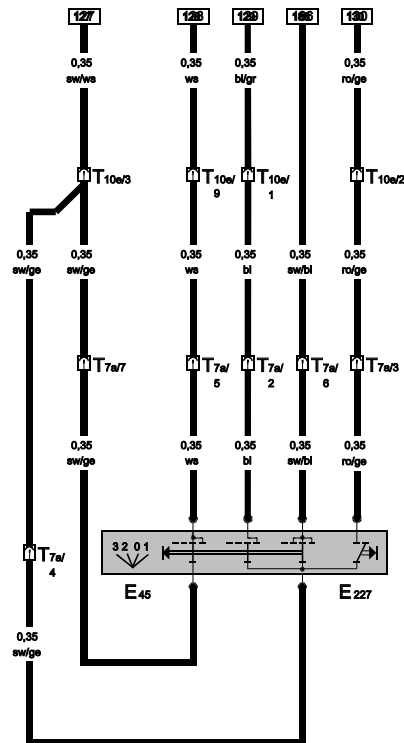
- G1 - Fuel gauge
- G3 - Coolant temperature gauge
- J285 - Control unit in dash panel insert 
- J533 - Data bus diagnostic interface
- K - Dash panel insert
- K2 - Alternator warning lamp
- K28 - Coolant temperature and coolant shortage warning lamp
- K105 - Reserve fuel warning lamp
- T16 - 16-pin connector, diagnostic
- T32 - 32-pin connector, blue, on dash panel insert
- T32a - 32-pin connector, green, on dash panel insert
- A76 - Connection (diagnosis wire K), in dash panel wiring harness



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Cruise control system switch, cruise control system (CCS) SET button

- E45 - Cruise control system switch
- E227 - Cruise control system (CCS) SET button
- T7a - 7-pin connector, on cruise control system switch
- T10e - 10-pin connector, black, in connector protective housing, on left in plenum chamber



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