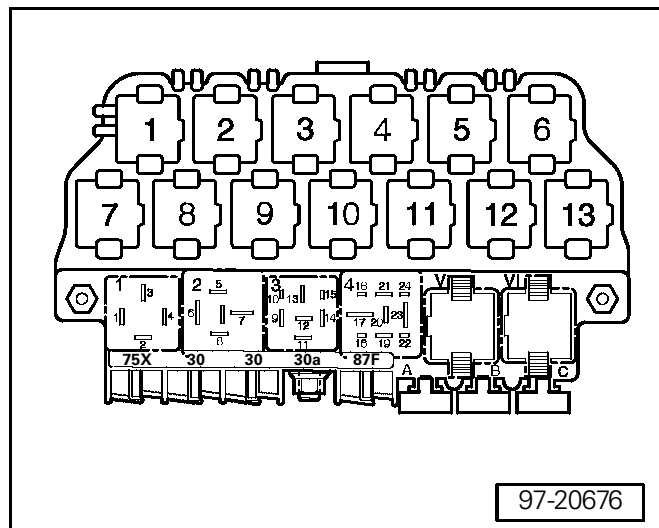


**1,8L-Engine - Motronic Multipoint Fuel Injection (MFI)/110 kW, code ATW**

from August 1999

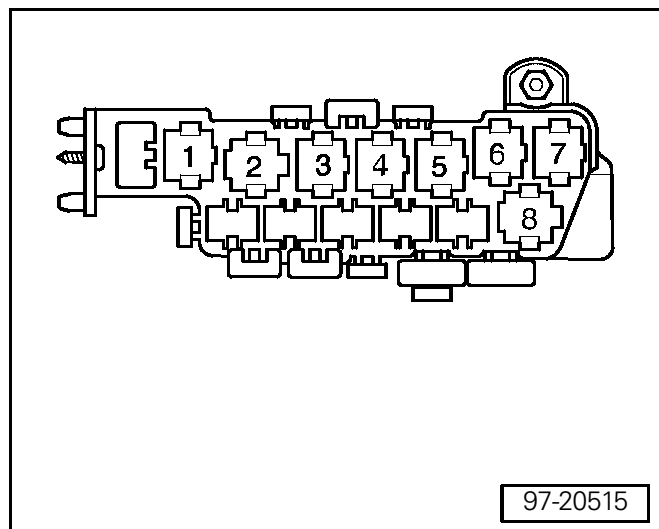
**Deviate relay location and fuseplacements as well as the locations of multiple connectors see section "component locations"**

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



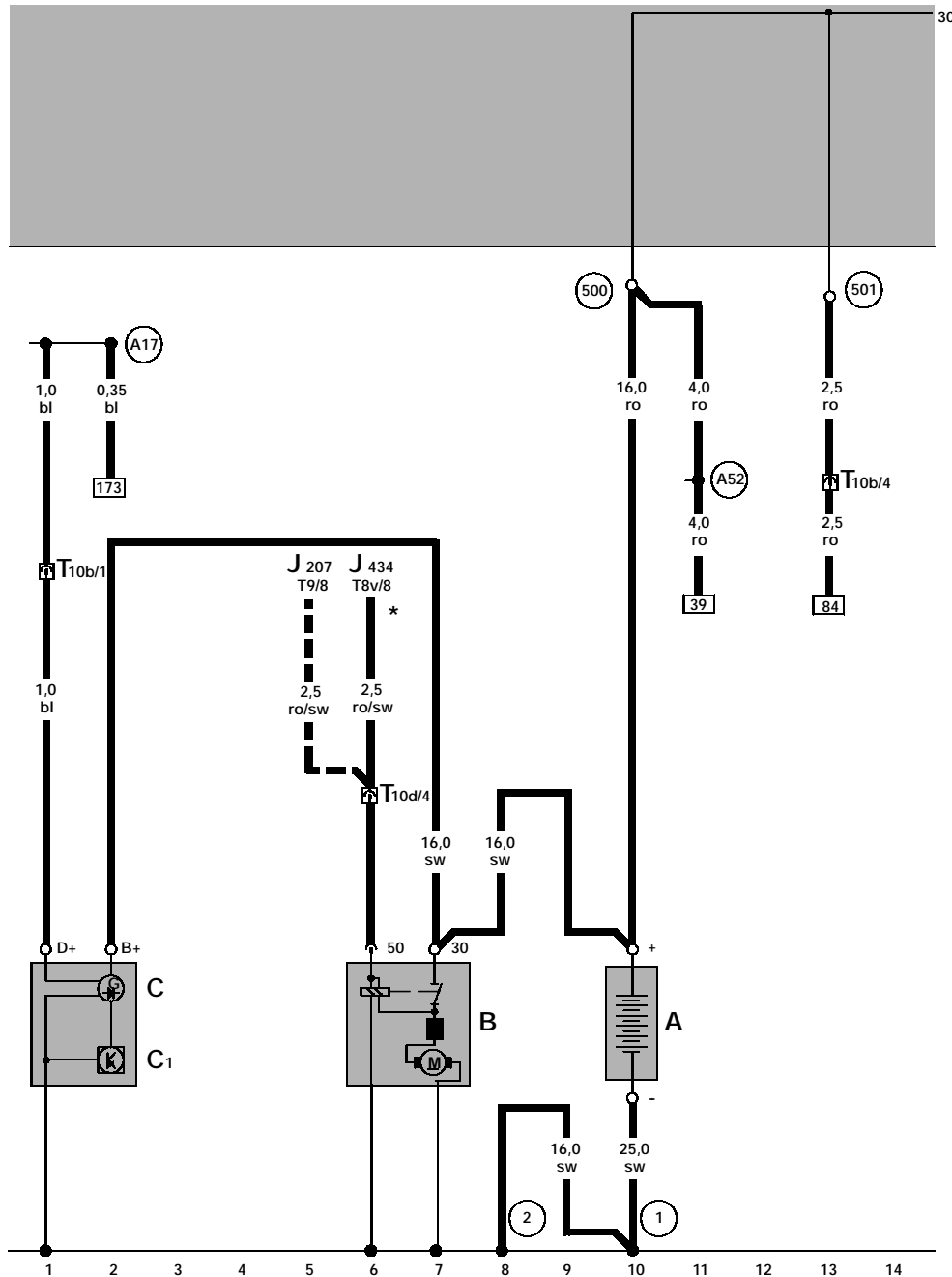
Relay panel:

4 - Fuel Pump (FP) Relay (372)



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

Battery, starter, generator (GEN)



- A - Battery
- B - Starter
- C - Generator (GEN)
- C1 - Voltage Regulator (VR)
- J207 - Starting Interlock Relay
- J434 - Locking relay for starter
- T8v - 8-Pin Connector
- T9 - 9-Pin Connector, on Starting Interlock Relay
- T10b - 10-Pin Connector, black, on protective housing for control module, in engine compartment, left
- T10d - 10-Pin Connector, brown, on protective housing for control module, in engine compartment, left

- ① - Ground strap, battery to body
- ② - Ground strap, transmission to body
- ⑤00 - Screw Connection -1- (30), on relay panel
- ⑤01 - Screw Connection -2- (30), on relay panel
- Ⓐ17 - wire connection, in instrument panel wiring harness
- Ⓐ52 - plus connection, in instrument panel wiring harness
- - - - automatic transmission only
- \* - manual transmission only

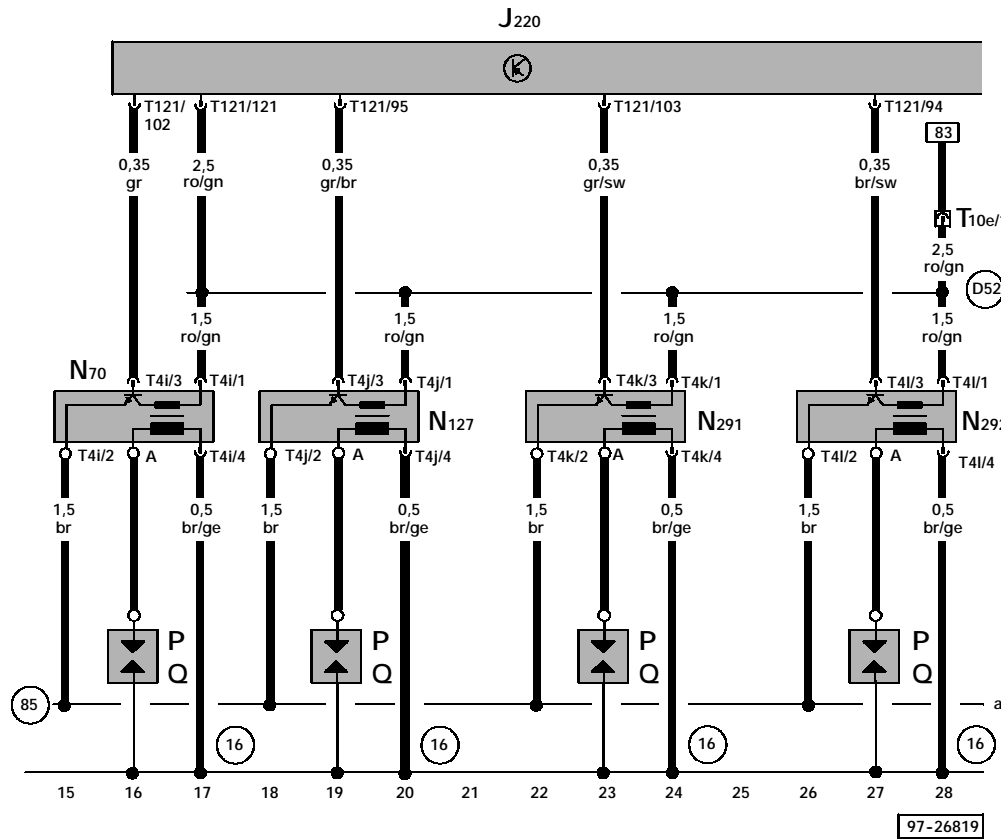
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 sw = black  
 ro = red  
 br = brown  
 gn = green  
 bl = blue  
 gr = grey  
 li = lilac  
 ge = yellow  
 or = orange

97-25510

**Ignition system, Motronic engine control module (ECM), Spark plug connectors, Spark plugs**

- J220 - Motronic Engine Control Module (ECM)
- N70 - Ignition Coil 1 with Power Output Stage
- N127 - Ignition Coil 2 with Power Output Stage
- N291 - Ignition Coil 3 with Power Output Stage
- N292 - Ignition Coil 4 with Power Output Stage
- P - Spark Plug Connectors
- Q - Spark Plugs
- T4i - 4-Pin Connector
- T4j - 4-Pin Connector
- T4k - 4-Pin Connector
- T4l - 4-Pin Connector
- T10e - 10-Pin Connector, orange, on protective housing for control module, in engine compartment, left
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)

- (16) - Ground connection -1-, on valve cover
- (85) - Ground connection -1-, in engine compartment wiring harness
- (D52) - plus connection (15a), in engine compartment wiring harness



ws = white  
 sw = black  
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 li = lilac  
 ge = yellow  
 or = orange

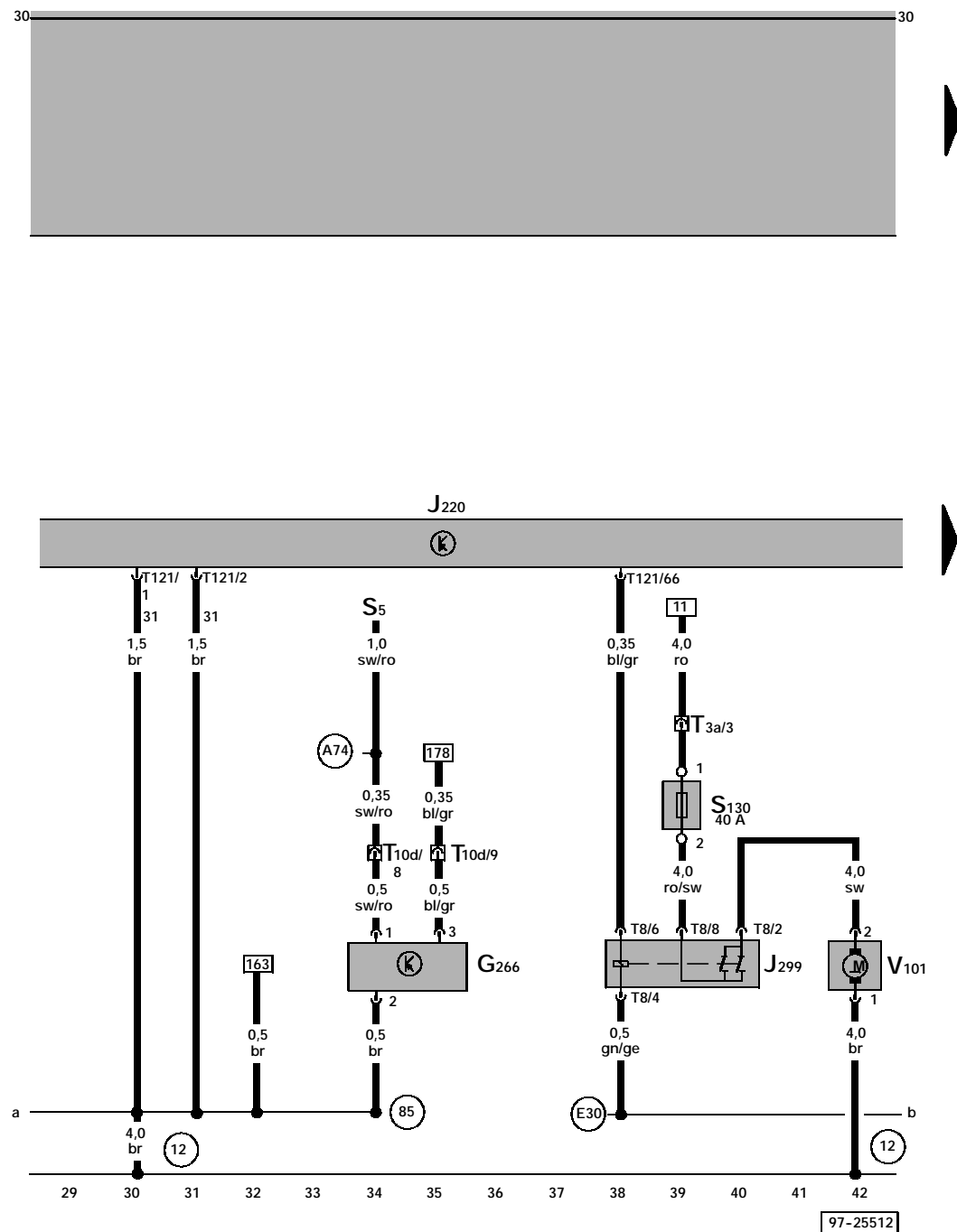
97-26819

**Motronic engine control module (ECM), Secondary Air Injection (AIR) Pump Motor/Relay**

- G266 - Oil Level Thermal Sensor
- J220 - Motronic Engine Control Module (ECM)
- J299 - Secondary Air Injection (AIR) Pump Relay
- S5 - Fuse
- S130 - Fuse for secondary air pump
- T3a - 3-Pin Connector, white
- T8 - 8-Pin Connector, brown
- T10d - 10-Pin Connector, brown, on protective housing for control module, in engine compartment, left
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)
- V101 - Secondary Air Injection (AIR) Pump Motor

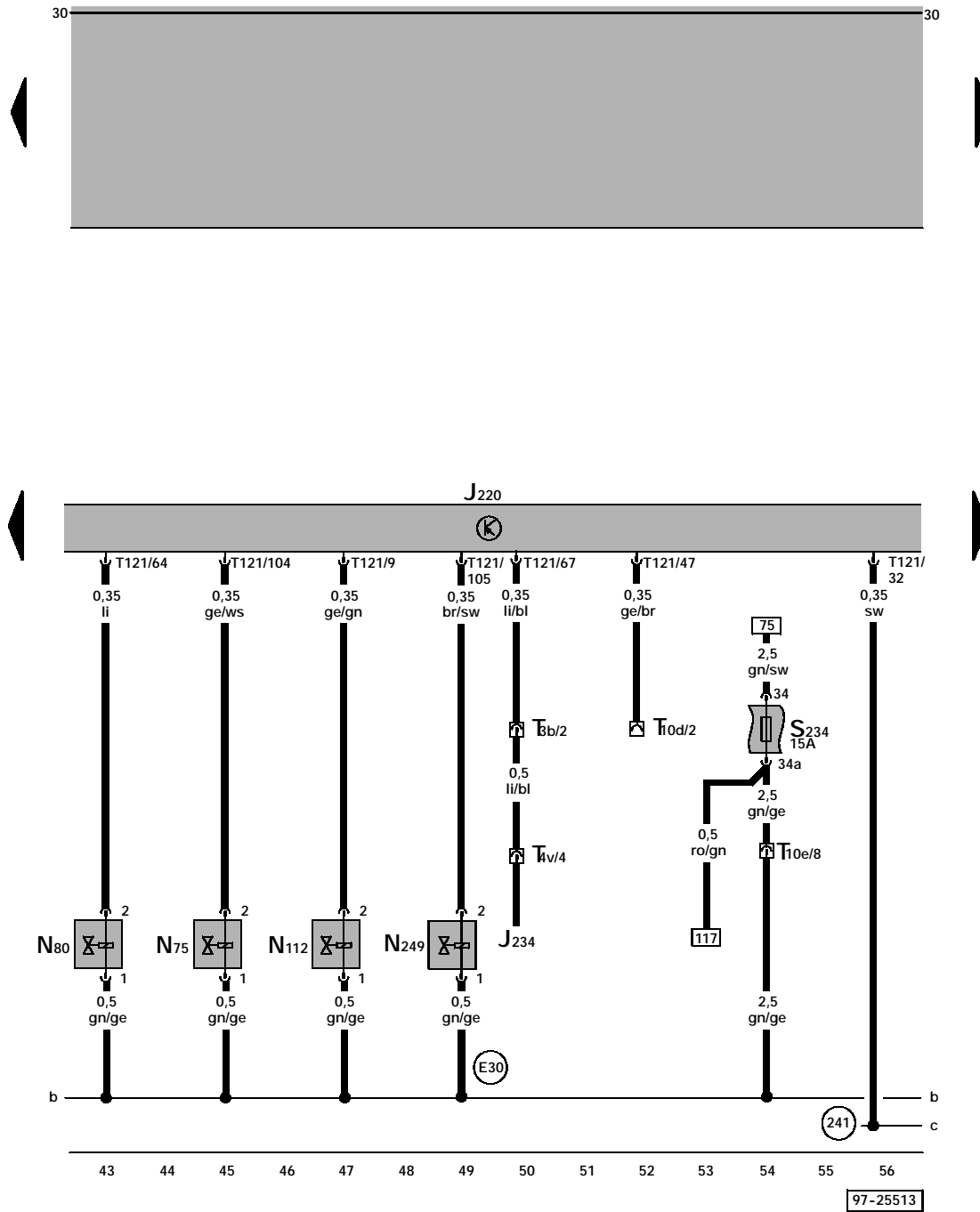
- (12) - Ground connection, in engine compartment, left
- (85) - Ground connection -1-, in engine compartment wiring harness
- (A74) - Connector (kick-down-switch) in instrument panel wiring harness
- (E30) - Connector, in wiring harness engine

ws = white  
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 ro = red  
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 bl = blue  
 gr = grey  
 li = lilac  
 ge = yellow  
 or = orange



**Motronic engine control module (ECM), Wastegate Bypass Regulator Valve, Evaporative Emission Canister Purge Regulator Valve, Secondary Air Injection Solenoid Valve, Recirculating valve for turbocharger**

- J220 - Motronic Engine Control Module (ECM)
- J234 - Airbag Control Module
- N75 - Wastegate Bypass Regulator Valve
- N80 - Evaporative Emission Canister Purge Regulator Valve
- N112 - Secondary Air Injection Solenoid Valve
- N249 - Recirculating valve for turbocharger
- S234 - Fuse in fuse holder
- T3b - 3-Pin Connector, red
- T4v - 4-Pin Connector
- T10d - 10-Pin Connector, brown, on protective housing for control module, in engine compartment, left
- T10e - 10-Pin Connector, orange, on protective housing for control module, in engine compartment, left
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)
- (241) - Ground connection 2, engine ground in engine wiring harness
- (E30) - Connector, in wiring harness engine

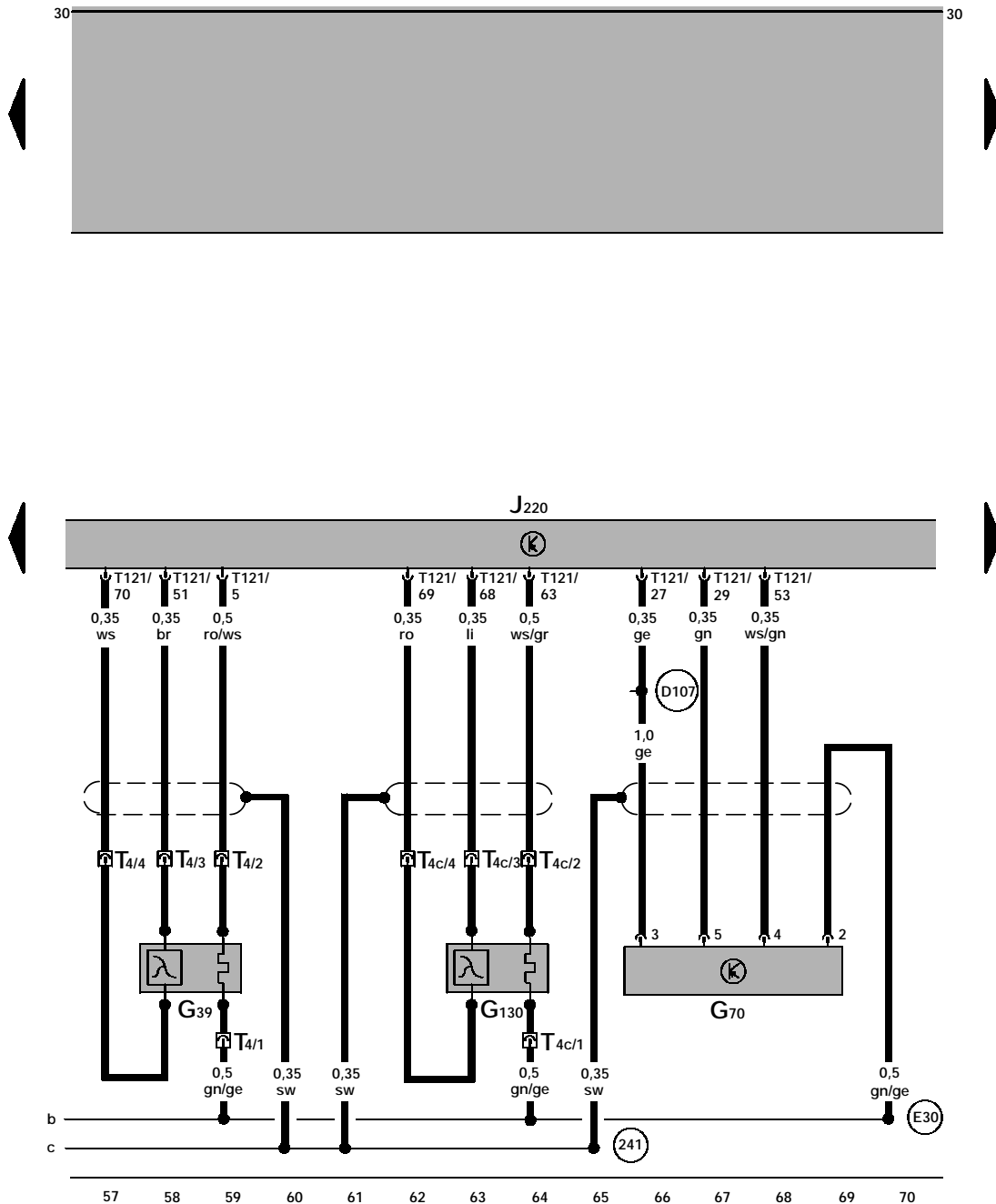


97-25513

**Motronic engine control module (ECM), Oxygen Sensor, Mass Air Flow Sensor**

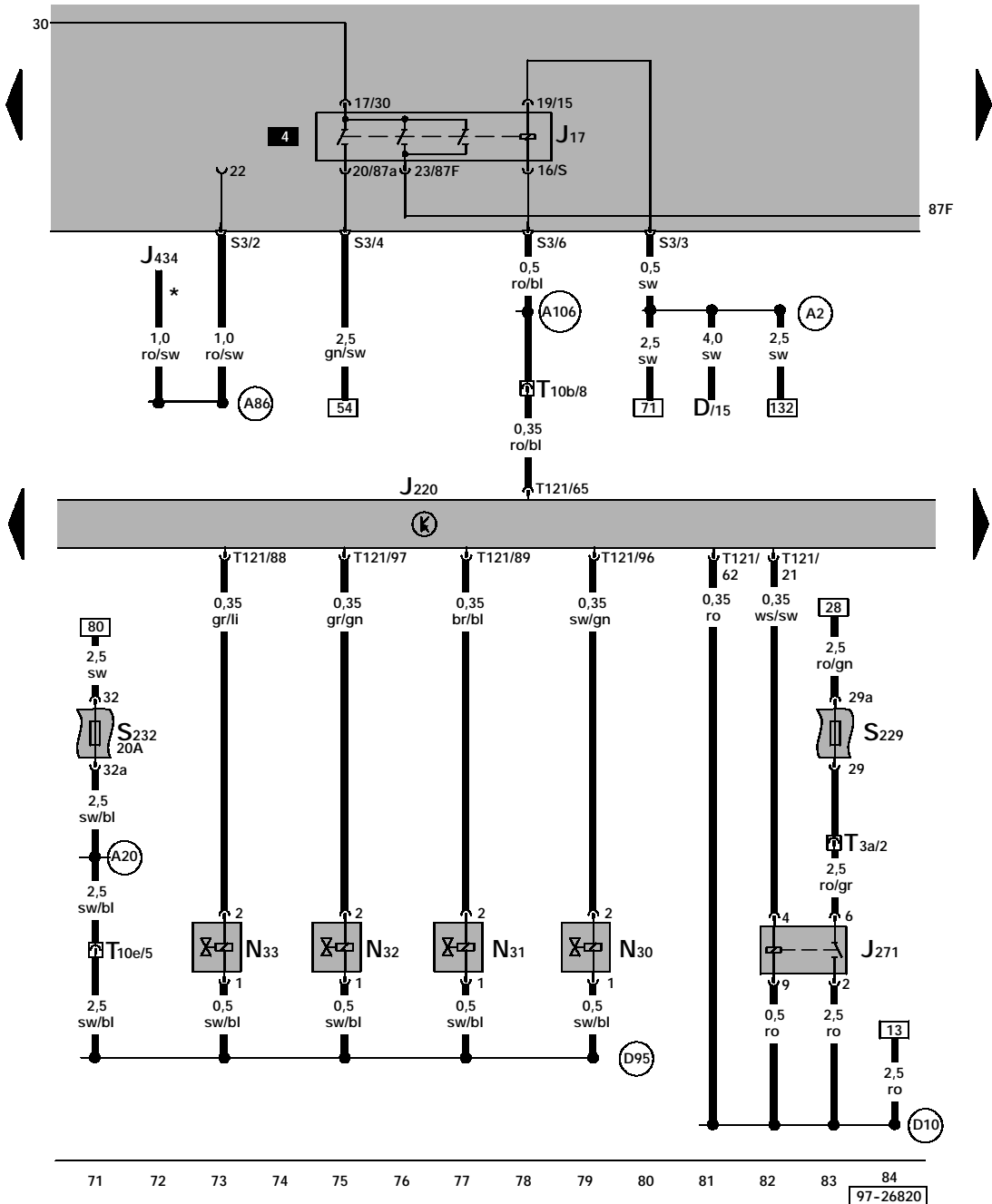
- G39 - Heated Oxygen Sensor (HO2S)
- G70 - Mass Air Flow (MAF) Sensor
- G130 - Oxygen Sensor (O2S) Behind Three Way Catalytic Converter (TWC)
- J220 - Motronic Engine Control Module (ECM)
- T4 - 4-Pin Connector, black
- T4c - 4-Pin Connector, black
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)

- (241) - Ground connection 2, engine ground in engine wiring harness
- (D107) - wire connection -5-, in engine compartment wiring harness
- (E30) - Connector, in wiring harness engine



- ws = white
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- ro = red
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- gn = green
- bl = blue
- gr = grey
- li = lilac
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- or = orange

**Motronic engine control module (ECM), fuel pump relay, power supply relay, fuel injectors**



- D - Ignition/Starter Switch
- J17 - Fuel Pump (FP) Relay (372)
- J220 - Motronic Engine Control Module (ECM)
- J271 - Motronic Engine Control (ECM) Power Supply Relay
- J434 - Locking relay for starter
- N30 - Cylinder 1 Fuel Injector
- N31 - Cylinder 2 Fuel Injector
- N32 - Cylinder 3 Fuel Injector
- N33 - Cylinder 4 Fuel Injector
- S229 - Fuse in fuse holder
- S232 - Fuse in fuse holder
- T3a - 3-Pin Connector, white
- T10b - 10-Pin Connector, black, on protective housing for control module, in engine compartment, left
- T10e - 10-Pin Connector, orange, on protective housing for control module, in engine compartment, left
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)
- A2 - plus connection (15), in instrument panel wiring harness
- A20 - wire connection (15a), in instrument panel wiring harness
- A86 - Connection (50a), in instrument panel wiring harness
- A106 - Connector -2- (86s), in instrument panel wiring harness
- D10 - plus connection (30), in right front wiring harness
- D95 - wire connection (injectors), in engine compartment wiring harness
- \* - manual transmission only

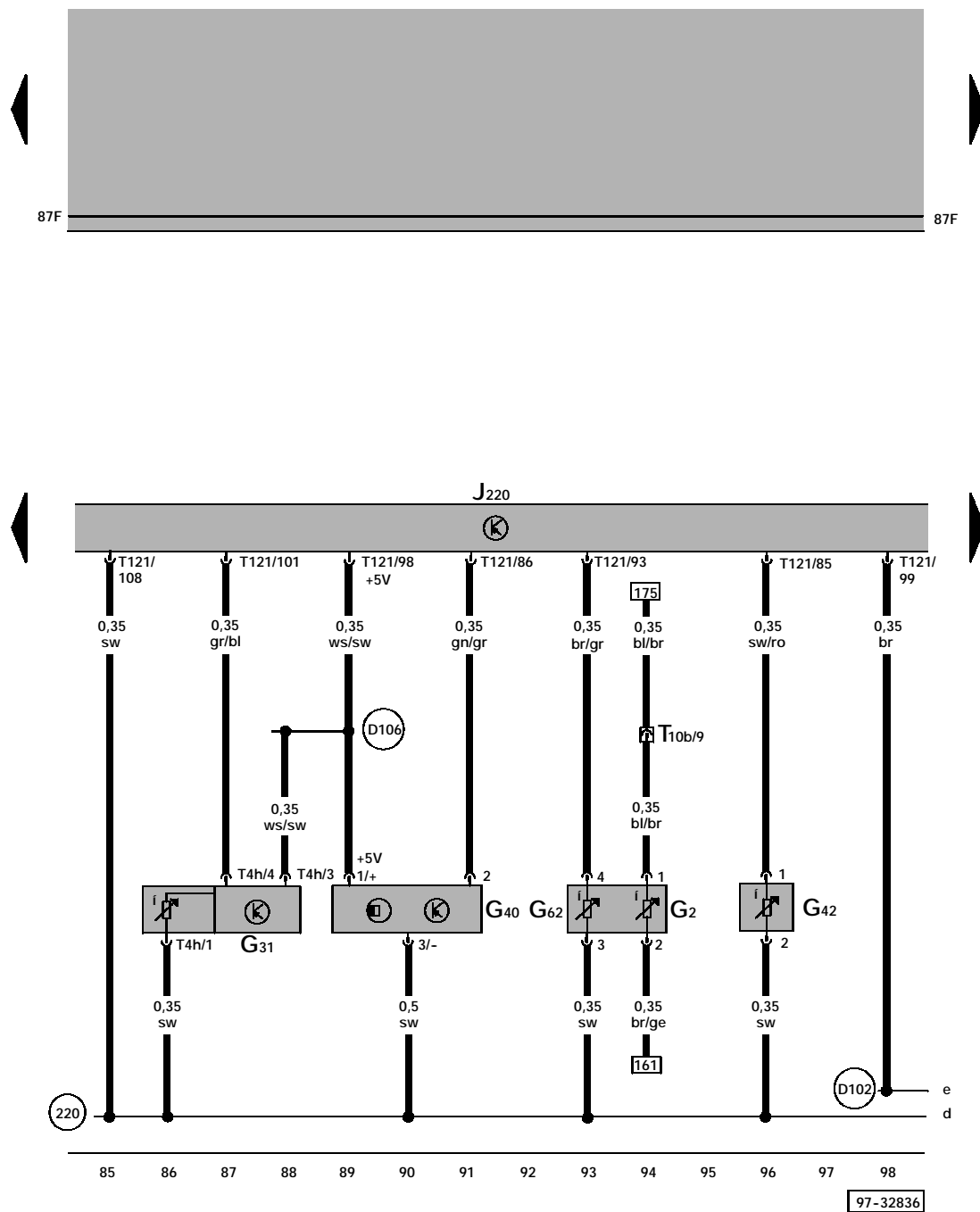
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 sw = black  
 ro = red  
 br = brown  
 gn = green  
 bl = blue  
 gr = grey  
 li = lilac  
 ge = yellow  
 or = orange

**Motronic engine control module (ECM), Engine Coolant Temperature Sensor, Camshaft Position Sensor, Intake Air Temperature**

- G2 - Engine Coolant Temperature (ECT) Sensor
- G40 - Camshaft Position (CMP) Sensor
- G42 - Intake Air Temperature
- G62 - Engine Coolant Temperature (ECT) Sensor
- G31 - Charge Air Pressure Sensor
- J220 - Motronic Engine Control Module (ECM)
- T4h - 4-Pin Connector, black
- T10b - 10-Pin Connector, black, on protective housing for control module, in engine compartment, left
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)

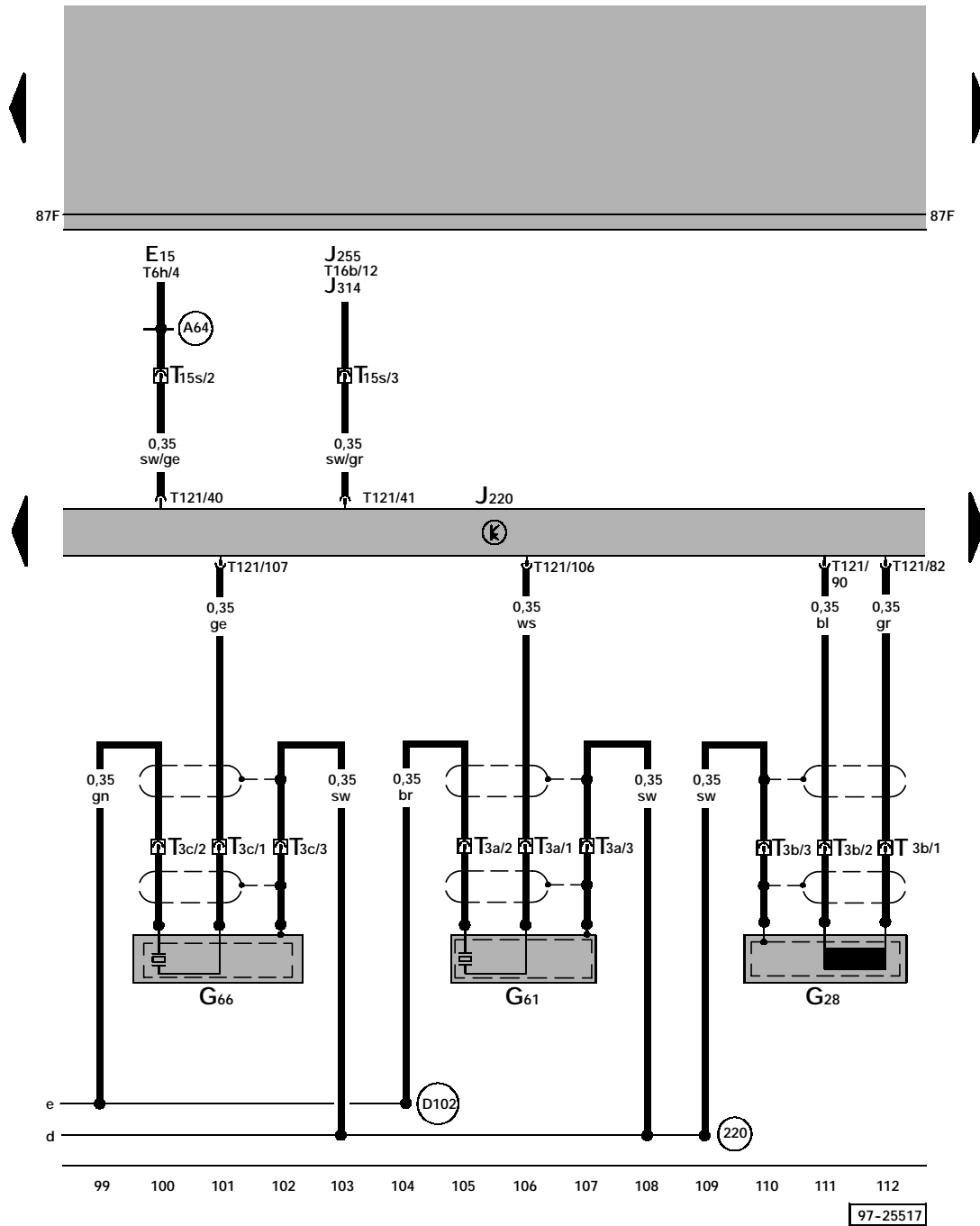
- (220) - Ground connection (sensor ground), in engine compartment wiring harness
- (D102) - Wire connection -2-, in engine compartment wiring harness
- (D106) - Wire connection -4-, in engine compartment wiring harness

ws = white  
 sw = black  
 ro = red  
 br = brown  
 gn = green  
 bl = blue  
 gr = grey  
 li = lilac  
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Motronic engine control module (ECM), Knock Sensor 1 and 2, Engine Speed Sensor



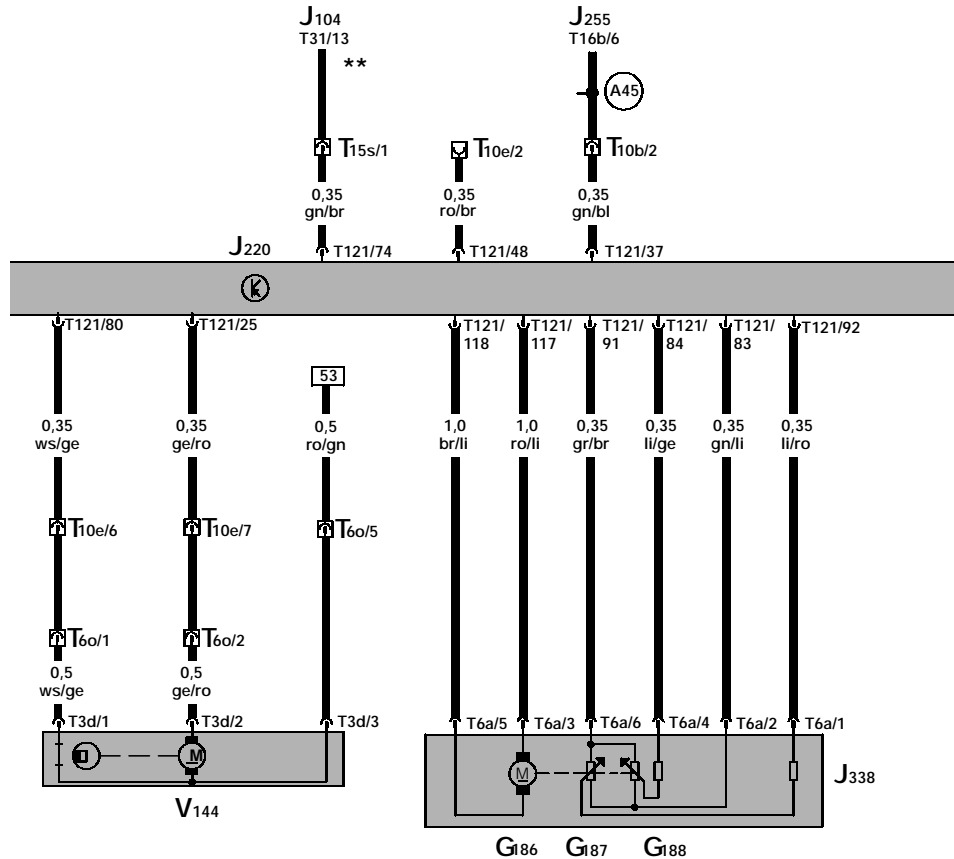
- E 15 - Rear window defogger switch
- G28 - Engine Speed Sensor
- G61 - Knock Sensor (KS) 1
- G66 - Knock Sensor (KS) 2
- J220 - Motronic Engine Control Module (ECM)
- J255 - Climatronic Control Module
- J314 - A/C Cut-Off Control Module
- T3a - 3-Pin Connector, green
- T3b - 3-Pin Connector, grey
- T3c - 3-Pin Connector, blue
- T6h - 6-Pin Connector, on rear window defogger switch
- T15s - 15-Pin Connector, red, on protective housing for control module, in engine compartment, left
- T16b - 16-Pin Connector, on Climatronic Control Module
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)

- (220) - Ground connection (sensor ground), in engine compartment wiring harness
- (A64) - Connector, in instrument panel wiring harness
- (D102) - Wire connection -2-, in engine compartment wiring harness

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

Motronic Engine Control Module (ECM), Leak Detection Pump (LDP), Throttle Valve Control Module

- G186 - Throttle sensor
- G187 - Angle sensor -1- for throttle drive
- G188 - Angle sensor -2- for throttle drive
- J104 - ABS Control Module
- J220 - Motronic Engine Control Module (ECM)
- J255 - Climatronic Control Module
- J338 - Throttle Valve Control Module
- T3d - 3-Pin Connector, black
- T6a - 6-Pin Connector, black
- T6o - 6-Pin Connector, brown, connector station A-pillar, right
- T10b - 10-Pin Connector, black, on protective housing for control module, in engine compartment, left
- T10e - 10-Pin Connector, orange, on protective housing for control module, in engine compartment, left
- T15s - 15-Pin Connector, red, on protective housing for control module, in engine compartment, left
- T16b - 16-Pin Connector, on Climatronic Control Module
- T31 - 31-Pin Connector, on ABS Control Module
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)
- V144 - Leak Detection Pump (LDP)
- (A45) - wire connection (RPM-signal), in instrument panel wiring harness
- \*\* - only on vehicles with ASR



ws = white  
 sw = black  
 ro = red  
 br = brown  
 gn = green  
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 gr = grey  
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 ge = yellow  
 or = orange

113 114 115 116 117 118 119 120 121 122 123 124 125 126

97-25518

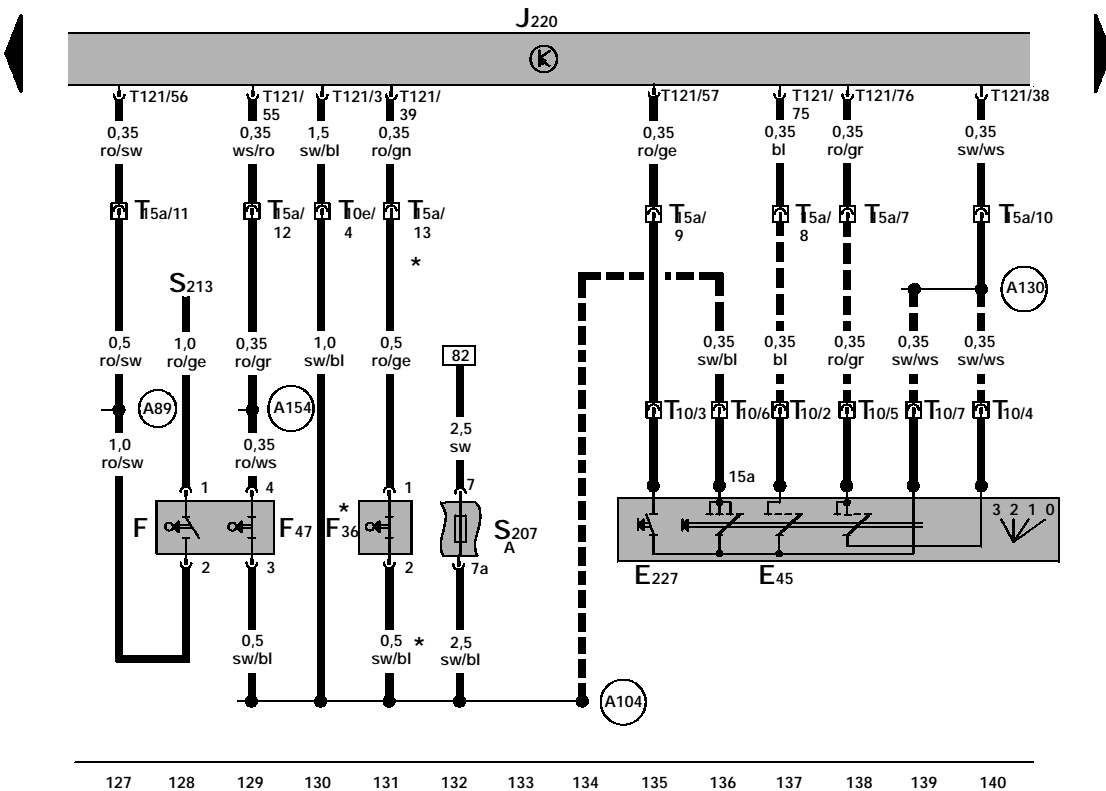
**Motronic engine control module (ECM), Cruise control switch, Brake light switch, Clutch vacuum vent valve switch**

- E45 - Cruise Control Switch
- E227 - Button for cruise control
- F - Brake Light Switch
- F36 - Clutch Vacuum Vent Valve Switch
- F47 - Brake Vacuum Vent Valve Switch for cruise control/diesel
- J220 - Motronic Engine Control Module (ECM)
- S207 - Fuse 7 in Fuseholder
- S213 - Fuse 13 in Fuseholder
- T10 - 10-Pin Connector, black
- T10e - 10-Pin Connector, orange, on protective housing for control module, in engine compartment, left
- T15a - 15-Pin Connector, white
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)

- (A89) - Connector, in instrument panel wiring harness
- (A104) - Plus Connector -2-, in instrument panel wiring harness
- (A130) - Connection for Cruise Control (instrument panel wiring harness)
- (A154) - Connection (Brake Vacuum Vent Valve Switch) in instrument panel wiring harness

- \* - manual transmission only
- - - - cruise control only

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



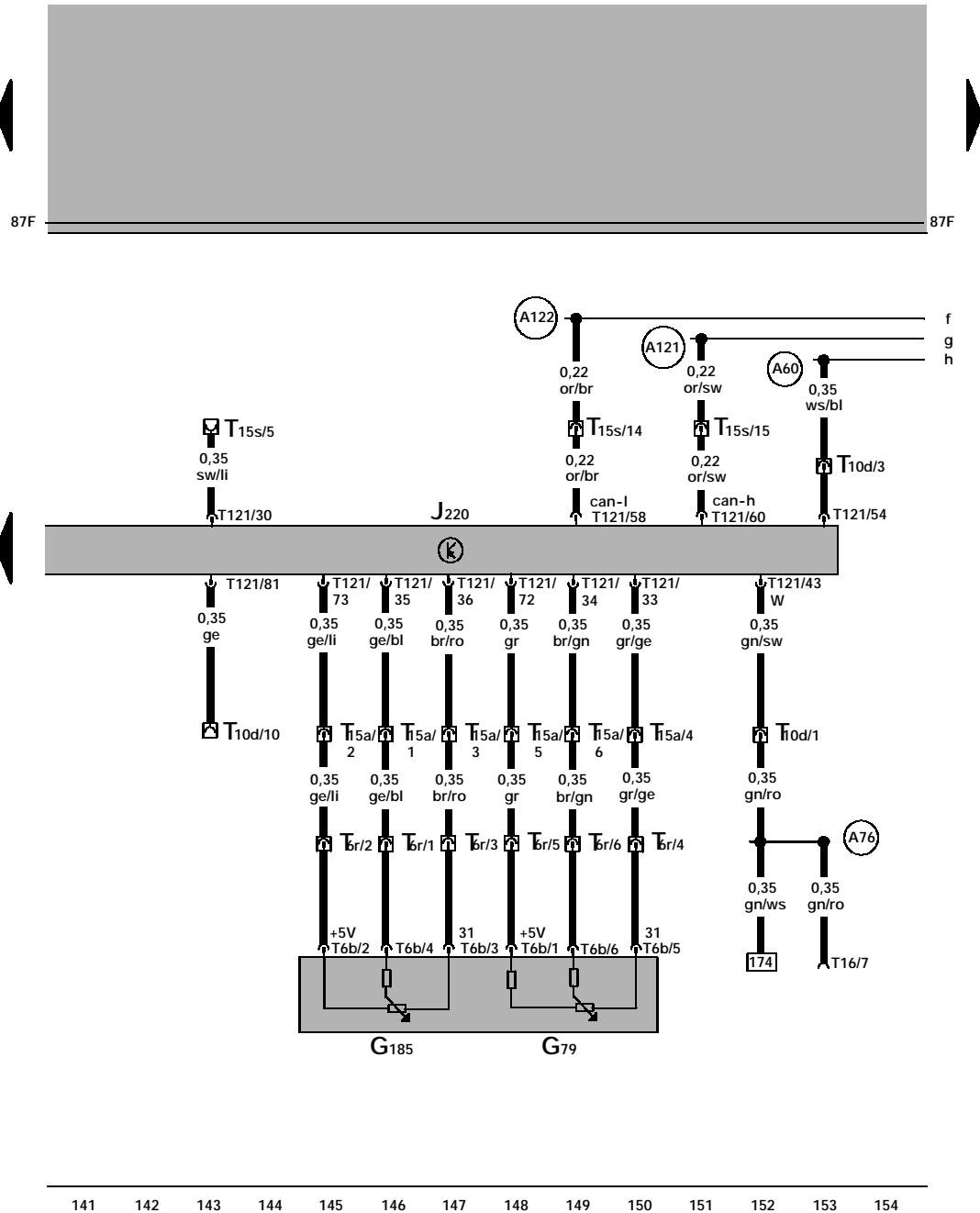
127 128 129 130 131 132 133 134 135 136 137 138 139 140

**Motronic engine control module (ECM), Throttle position sensor, Sender -2- for accelerator pedal position, Data Link Connector (DLC)**

- G79 - Throttle Position (TP) Sensor
- G185 - Sender -2- for accelerator pedal position
- J220 - Motronic Engine Control Module (ECM)
- T6b - 6-Pin Connector, on Throttle Position Sensor
- T6r - 6-Pin Connector, black
- T10d - 10-Pin Connector, brown, on protective housing for control module, in engine compartment, left
- T15a - 15-Pin Connector, white, on protective housing for control module, in engine compartment, left
- T15s - 15-Pin Connector, red, on protective housing for control module, in engine compartment, left
- T16 - 16-Pin Connector, Data Link Connector (DLC), below instrument panel, left
- T121 - 121-Pin Connector, on Motronic Engine Control Module (ECM)

- (A60) - Wire connection, in instrument cluster wiring harness
- (A76) - Connector in instrument panel wiring harness
- (A121) - Connection (high bus) in instrument panel wiring harness
- (A122) - Connection (low bus) in instrument panel wiring harness

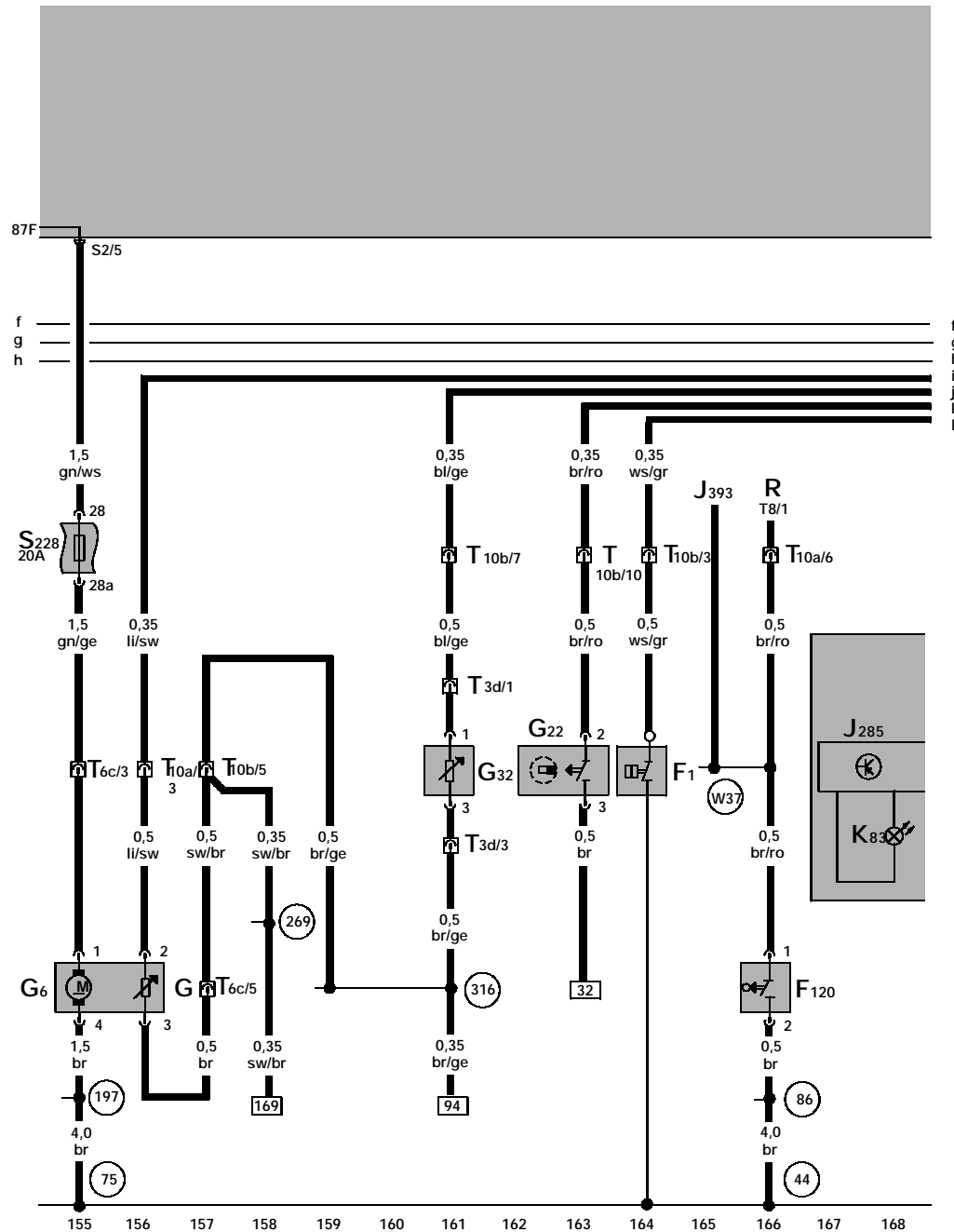
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 br = brown  
 gn = green  
 bl = blue  
 gr = grey  
 li = lilac  
 ge = yellow  
 or = orange



141 142 143 144 145 146 147 148 149 150 151 152 153 154

97-25520

**Oil Pressure Switch, Hood Alarm Switch, Sender for fuel gauge, Fuel Pump, Speedometer Vehicle Speed Sensor, Engine Coolant Level Sensor, Control module with indicator unit in instrument panel insert**



- F1 - Oil Pressure Switch
- F120 - Hood Alarm Switch
- G - Sender for fuel gauge
- G6 - Fuel Pump
- G22 - Speedometer Vehicle Speed Sensor
- G32 - Engine Coolant Level Sensor
- J285 - Control module with indicator unit in instrument panel insert
- J393 - Central control module for comfort system
- K83 - Malfunction Indicator Lamp (MIL)
- R - Radio
- S228 - Fuse in fuse holder
- T3d - 3-Pin Connector
- T6c - 6-Pin Connector, blue
- T8 - 8-Pin Connector, black
- T10a - 10-Pin Connector, brown, connector station A-pillar, left
- T10b - 10-Pin Connector, black, on protective housing for control module, in engine compartment, left
- (44) - Ground connection, on left A-pillar, lower part
- (75) - Ground connection, on right rear pillar
- (86) - Ground connection -1-, in rear wiring harness
- (197) - Ground connection -4-, in wiring rear
- (269) - Ground connector -1-, in instrument panel wiring harness
- (316) - Ground connection (sensor ground -2-), in engine compartment wiring harness
- (W37) - Connection in floor wiring harness

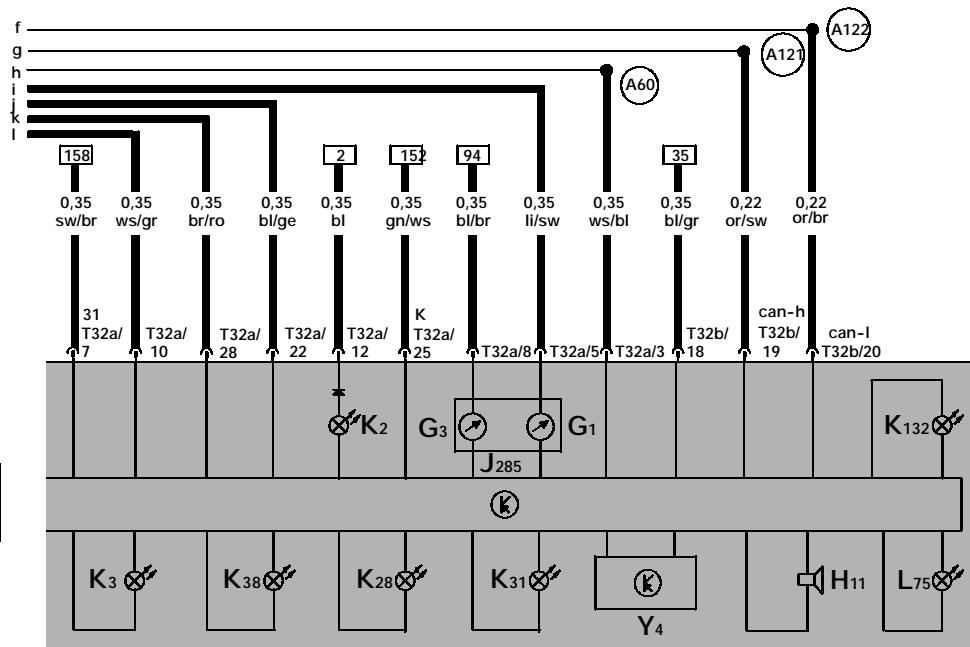
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 sw = black  
 ro = red  
 br = brown  
 gn = green  
 bl = blue  
 gr = grey  
 li = lilac  
 ge = yellow  
 or = orange

97-26827

Control module with indicator unit in instrument panel insert

- G1 - Fuel Gauge
- G3 - Engine Coolant Temperature Gauge
- H11 - Oil Pressure Warning Buzzer
- J285 - Control module with indicator unit in instrument panel insert
- K2 - Generator (GEN) Warning Light
- K3 - Oil Pressure Warning Light
- K28 - Engine Collant Level/Temperature Warning Light
- K31 - Cruise Control Indicator Light
- K38 - Engine Oil Level Indicator Light
- K132 - Electronic Power Control (EPC) Warning Lamp
- L75 - Digital Display Light
- T32a - 32-Pin Connector, blue, on instrument cluster
- T32b - 32-Pin Connector, green, on instrument cluster
- Y4 - Odometer Display

- (A60) - Wire connection, in instrument cluster wiring harness
- (A121) - Connection (high bus) in instrument panel wiring harness
- (A122) - Connection (low bus) in instrument panel wiring harness



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

169 170 171 172 173 174 175 176 177 178 179 180 181 182