

**2,8L - Engine - Motronic Multiport Fuel Injection (MFI) / 142 kW, code ATQ**

from October 2000

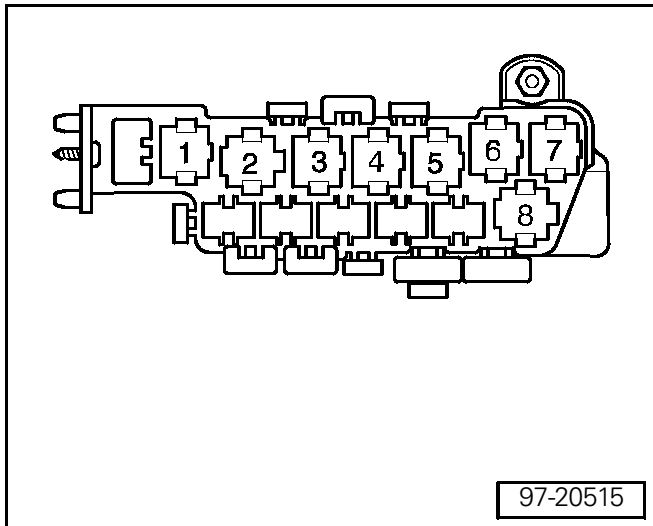
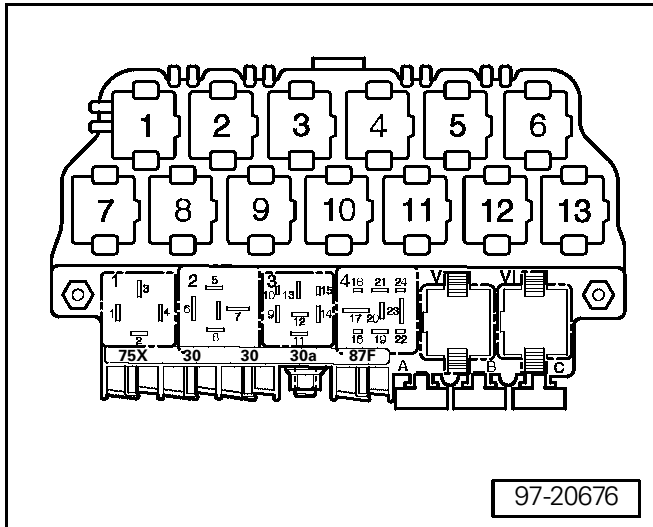
**Deviate relay location and fuseplacements as well as the locations of multiple connectors see section "component locations"**

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

10 - Lamp Failure Control Module (373)

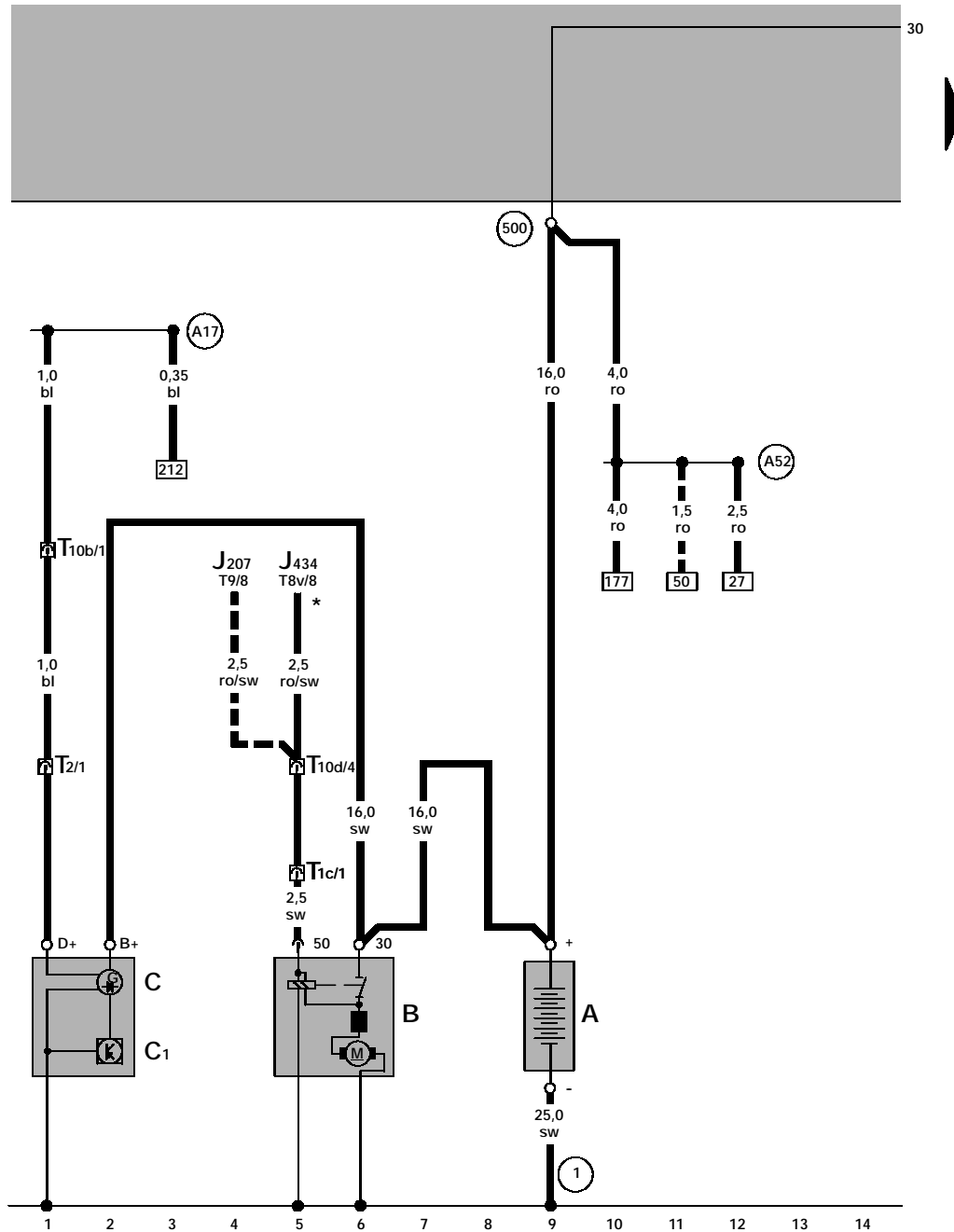
Relay panel:

4 - Fuel Pump (FP) Relay (372)



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

Battery, Starter, Generator (GEN)

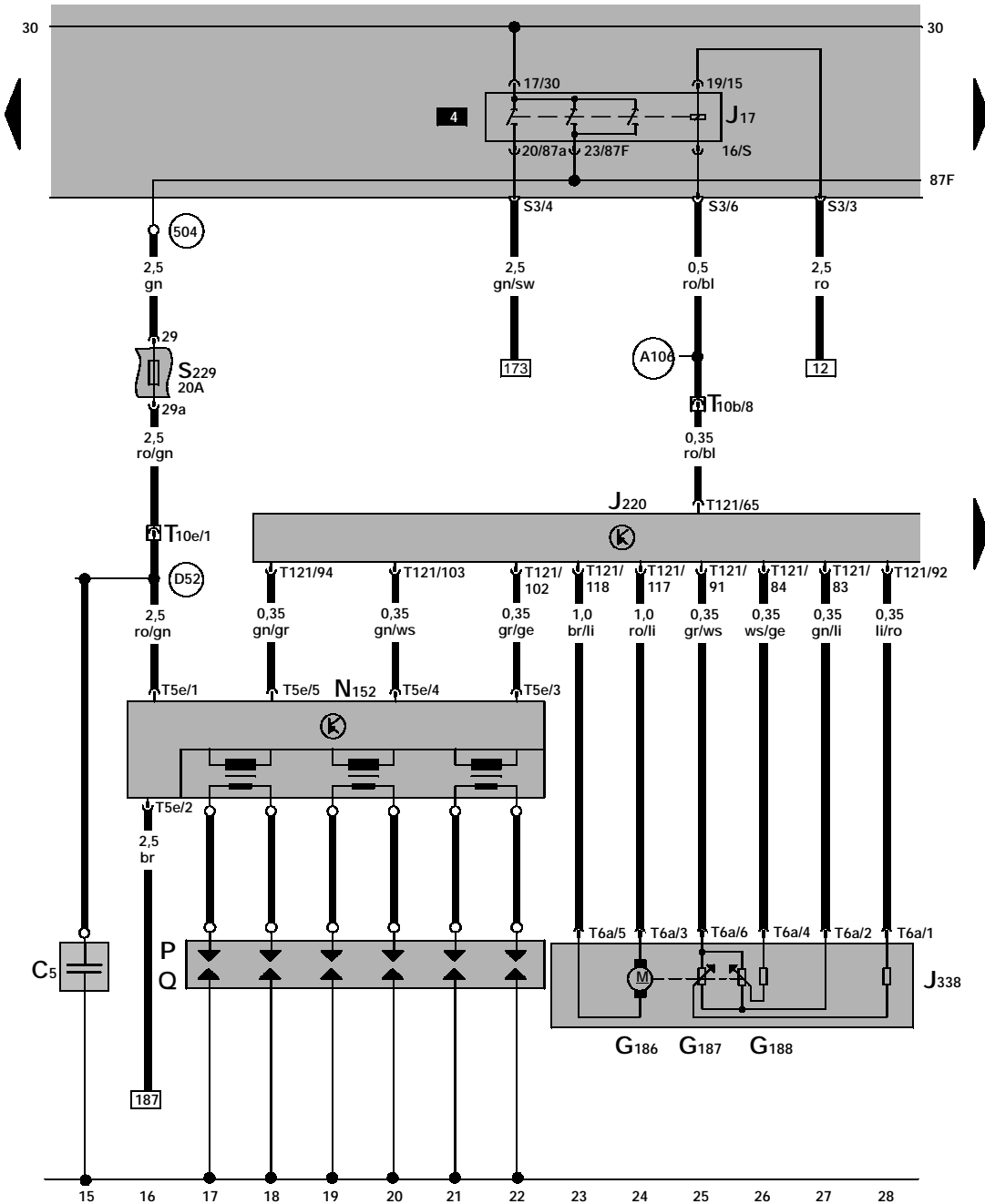


- A - Battery
- B - Starter
- C - Generator (GEN)
- C1 - Voltage Regulator (VR)
- J207 - Starting Interlock Relay
- J434 - Locking relay for starter (clutch pedal switch)
- T1c - Single Connector, black
- T2 - Double Connector, black
- T8v - 8-Pin Connector, on Locking relay for starte
- T9 - 9-Pin Connector, 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
- (500) - Threaded connection -1- (30) on the relay plate
- (A17) - wire connection (61), in instrument panel wiring harness
- (A52) - Plus Connection 2 (30) (in instrument panel wiring harness)
- \* - manual transmission only
- - automatic transmission only

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

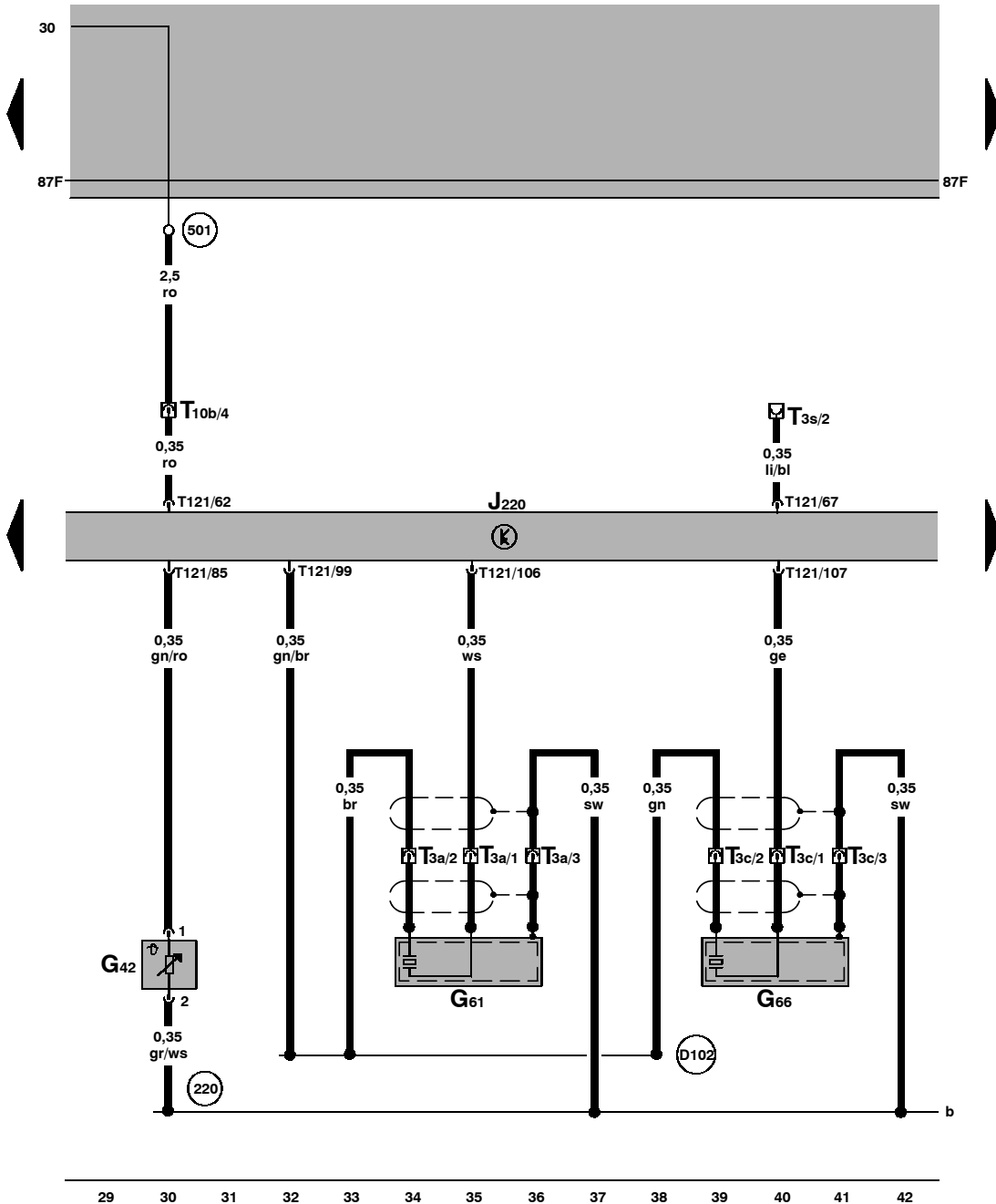
**Motronic Engine Control Module (ECM), Throttle drive, Spark Plug Connectors**



- C5 - Suppressor (Terminal 15)
- G186 - Throttle drive (power accelerator actuation)
- G187 - Angle sensor -1- for throttle drive (power accelerator actuation)
- G188 - Angle sensor -2- for throttle drive (power accelerator actuation)
- J17 - Fuel Pump (FP) Relay
- J220 - Motronic Engine Control Module (ECM)
- J338 - Throttle Valve Control Module
- N152 - Ignition Coil
- P - Spark Plug Connectors
- Q - Spark Plugs
- S229 - Fuse in fuse holder
- T5e - 5-Pin Connector, black, on Ignition Coil
- T6a - 6-Pin Connector, black, on Throttle Valve Control Module
- 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 - Connector, 121 point, on Motronic Engine Control Module (ECM)
- (504) - Threaded connection -1- (87) on the relay plate
- (A106) - Connector -2- (86s), in instrument panel wiring harness
- (D52) - plus connection (15a), in engine compartment wiring harness

ws = white  
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**Motronic Control Module (ECM), Intake Air Temperature (IAT) Sensor, Knock Sensor**



- G42 - Intake Air Temperature (IAT) Sensor
- G61 - Knock Sensor (KS) 1
- G66 - Knock Sensor (KS) 2
- J220 - Motronic Engine Control Module (ECM)
- T3a - 3-Pin Connector, brown, on firewall, left
- T3c - 3-Pin Connector, brown, on firewall, left
- T3s - 3-Pin Connector, red, on protective housing for control module, in engine compartment, left
- T10b - 10-Pin Connector, black, on protective housing for control module, in engine compartment, left
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)

- (220) - Ground connection (sensor ground), in engine compartment wiring harness
- (501) - Threaded connection -2- (30) on the relay plate
- (D102) - Wire connection -2-, in engine compartment wiring harness

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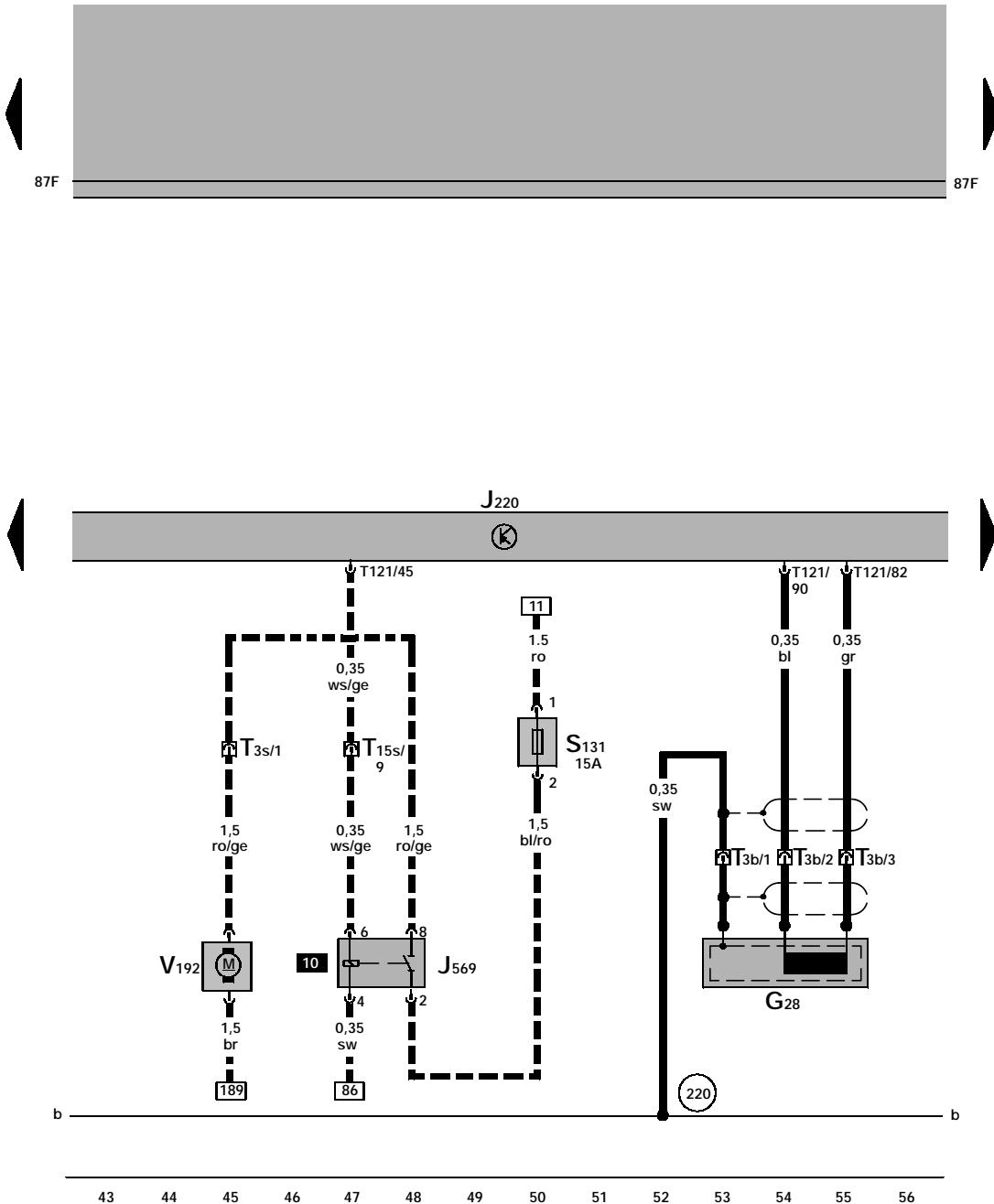
29 30 31 32 33 34 35 36 37 38 39 40 41 42

**Motronic Engine Control Module (ECM), Engine Speed (RPM) Sensor, Brake Booster Relay, Brake System Vacuum Pump**

- G28 - Engine Speed (RPM) Sensor
- J220 - Motronic Engine Control Module (ECM)
- J569 - Brake Booster Relay
- S131 - Safety fuse 1
- T3b - 3-Pin Connector, grey, on firewall, left
- T3s - 3-Pin Connector, red, 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
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)
- V192 - Brake System Vacuum Pump

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

--- - automatic transmission only



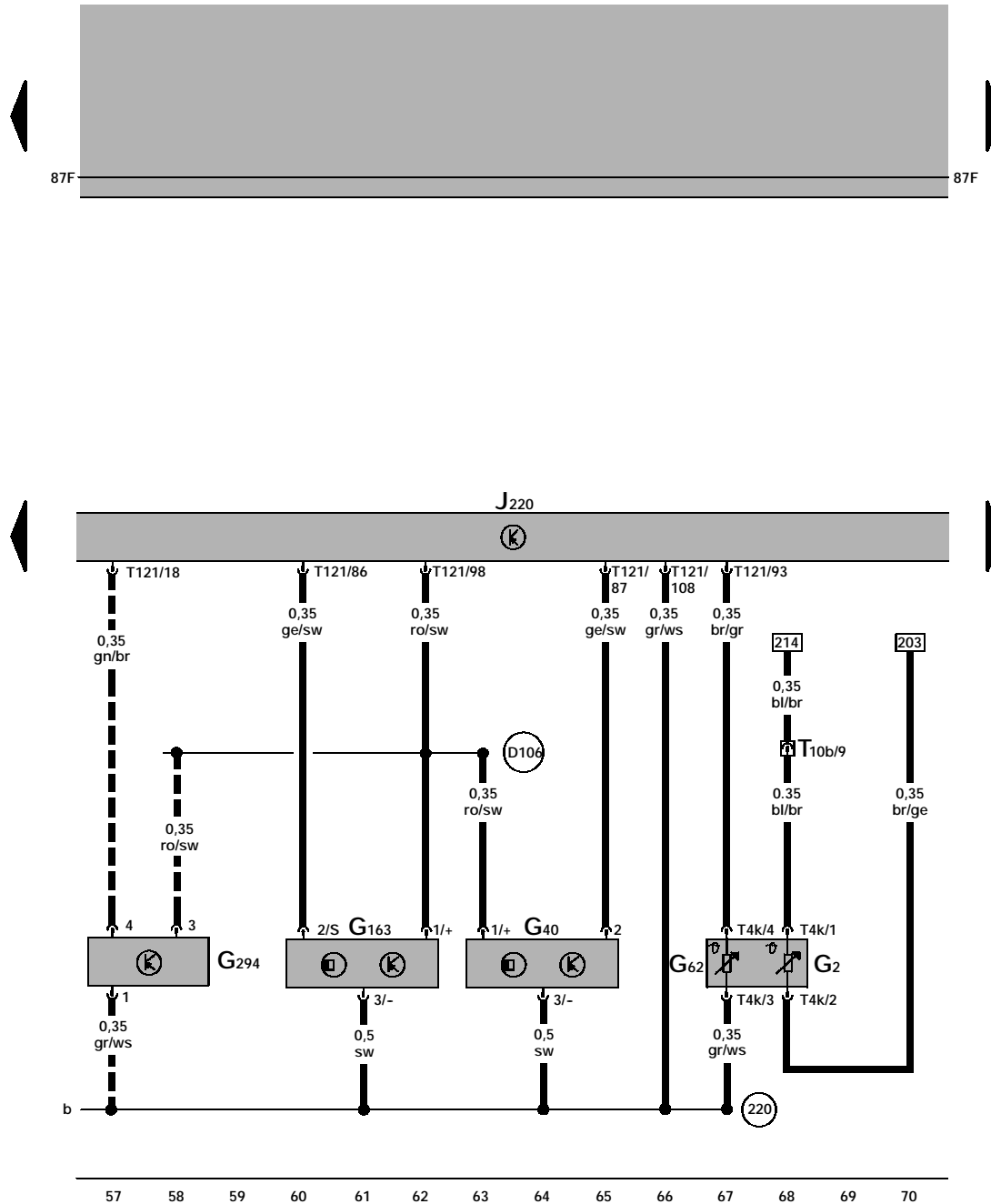
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**Motronic Control Module (ECM), Brake Booster Pressure Sensor, Camshaft Position (CMP) Sensor, Engine Coolant Temperature (ECT) Sensor**

- G2 - Engine Coolant Temperature (ECT) Sensor
- G40 - Camshaft Position (CMP) Sensor
- G62 - Engine Coolant Temperature (ECT) Sensor
- G163 - Camshaft Position (CMP) Sensor 2
- G294 - Brake Booster Pressure Sensor
- J220 - Motronic Engine Control Module (ECM)
- T4k - 4-Pin Connector, black, on Engine Coolant Temperature (ECT) Sensor
- T10b - 10-Pin Connector, black, on protective housing for control module, in engine compartment, left
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)

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

--- - automatic transmission only



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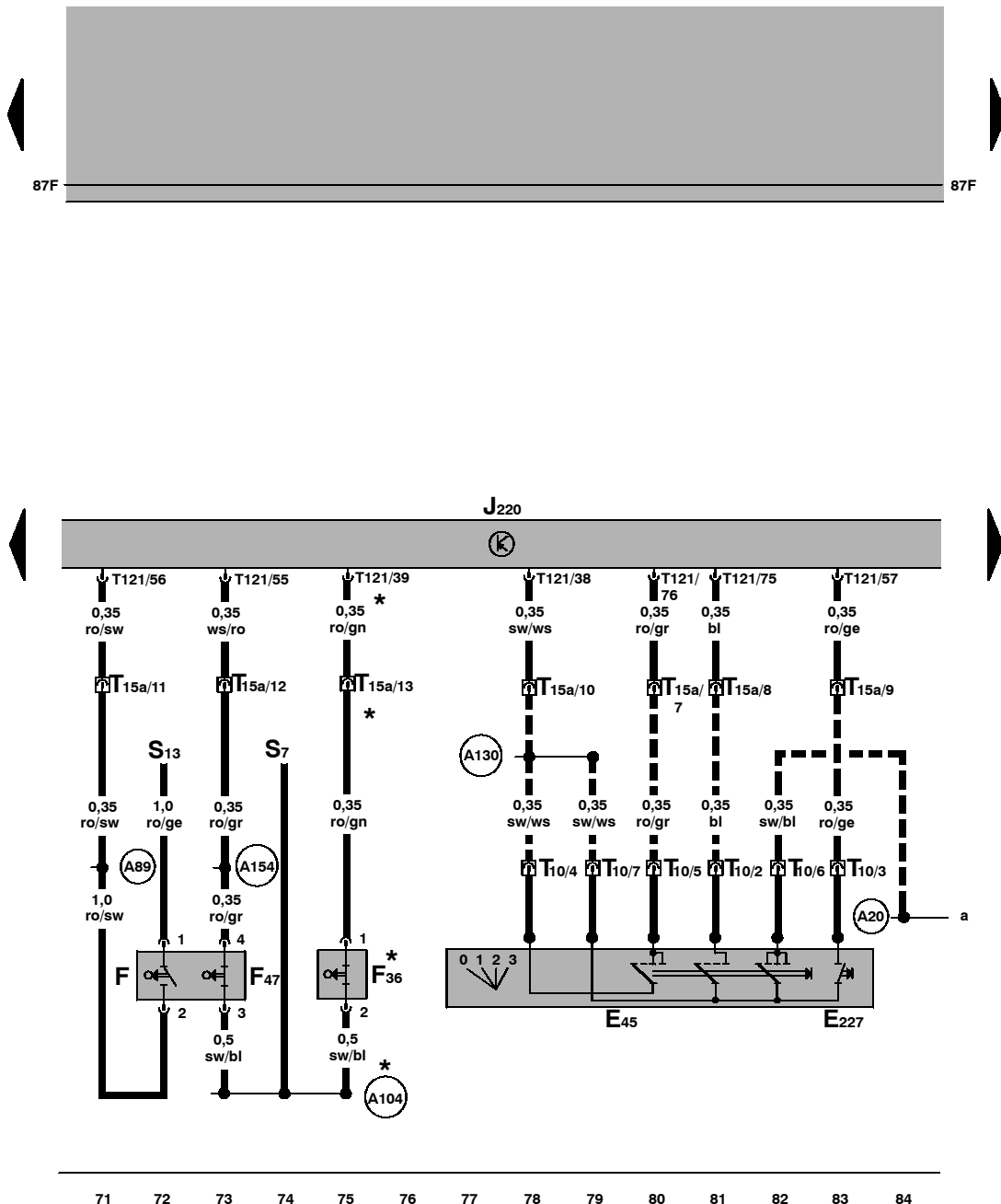
**Motronic Engine Control Module (ECM), Button for cruise control, Cruise Control Switch, Brake Light Switch, Clutch Pedal Switch, Brake Pedal Switch**

- E45 - Cruise Control Switch  
Position 0=OFF looked  
Position 1=OFF pushed  
Position 2=ON  
Position 3=RES
- E227 - Button for cruise control (set)
- F - Brake Light Switch
- F36 - Clutch Pedal Switch
- F47 - Brake Pedal Switch
- J220 - Motronic Engine Control Module (ECM)
- S7 - Fuse
- S13 - Fuse
- T10 - 10-Pin Connector, black
- T15a - 15-Pin Connector, white, on protective housing for control module, in engine compartment, left
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)

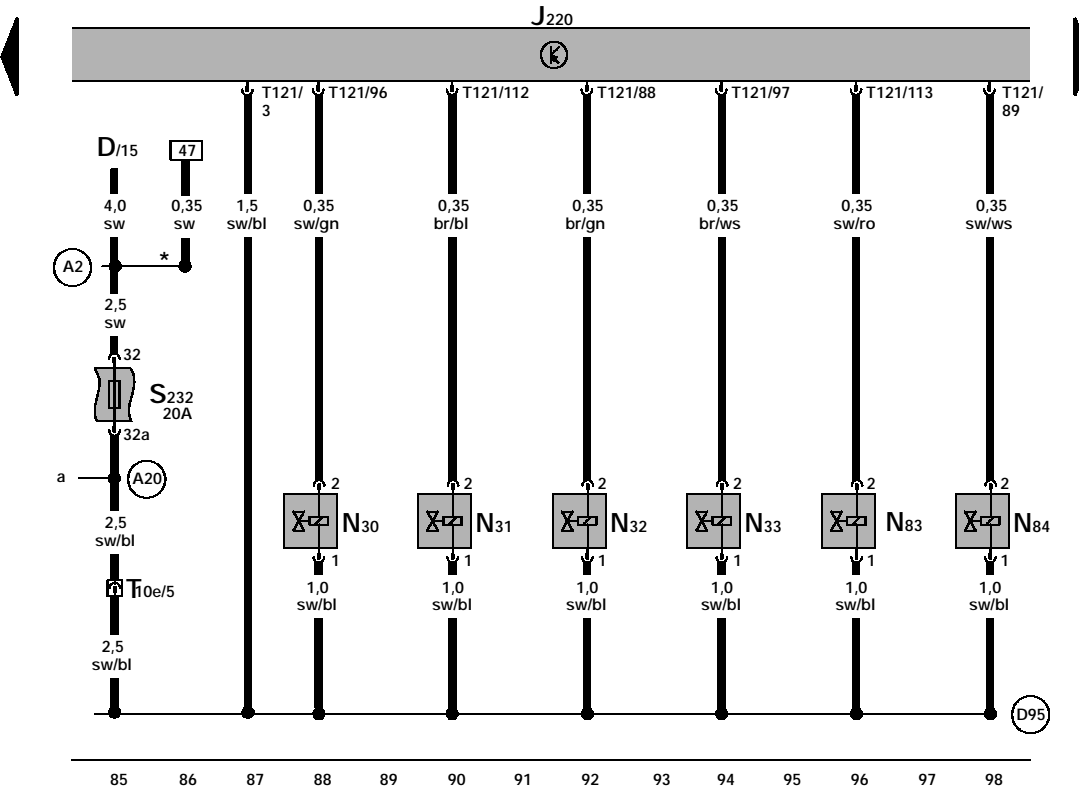
- (A20) - wire connection (15a), in instrument panel wiring harness
- (A89) - Connection 2 (54) (in instrument panel wiring harness)
- (A104) - Plus connection -2- (15), in instrument panel wiring harness
- (A130) - Connection for Cruise Control (instrument panel wiring harness)
- (A154) - Brake Pedal Switch Connection (in instrument panel wiring harness)

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

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**Motronic Engine Control Module (ECM), Fuel injectors**



- D - Ignition/Starter Switch
- J220 - Motronic Engine Control Module (ECM)
- N30 - Cylinder 1 Fuel Injector
- N31 - Cylinder 2 Fuel Injector
- N32 - Cylinder 3 Fuel Injector
- N33 - Cylinder 4 Fuel Injector
- N83 - Cylinder 5 Fuel Injector
- N84 - Cylinder 6 Fuel Injector
- S232 - Fuse in fuse holder
- T10e - 10-Pin Connector, orange, on protective housing for control module, in engine compartment, left
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)

- (A2) - plus connection (15), in instrument panel wiring harness
- (A20) - wire connection (15a), in instrument panel wiring harness
- (D95) - wire connection (injectors), in engine compartment wiring harness
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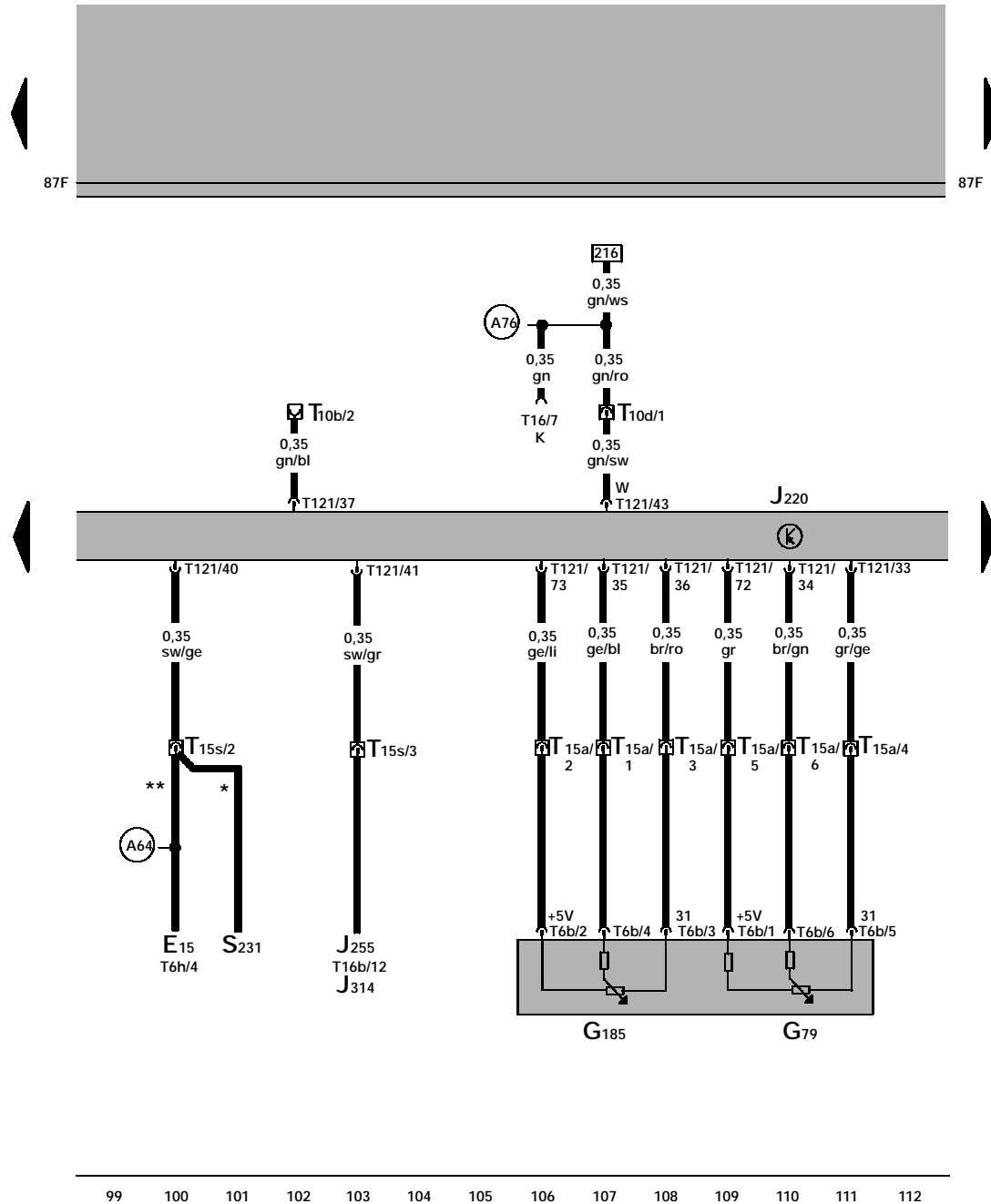


**Motronic Engine Control Module (ECM), Throttle Position Sensor, Data Link Connector (DLC)**

- E15 - Rear window defogger switch
- G79 - Throttle Position (TP) Sensor
- G185- Sender -2- for accelerator pedal position
- J220 - Motronic Engine Control Module (ECM)
- J255 - Climatronic Control Module
- J314 - A/C Cut-Off Control Module
- S231 - Fuse in fuse holder
- T6b - 6-Pin Connector, on Throttle Position Sensor
- T6h - 6-Pin Connector, black, on Rear window defogger switch
- 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
- T15a - 15-Pin Connector, while, 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)
- T16b - 16-Pin Connector, brown
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)
- (A64) - Connector (30, idle boost), in instrument panel wiring harness
- (A76) - Connector (K-diagnosis wire) in instrument panel wiring harness

- \* - front wheel drive only
- \*\* - 4-Motion only

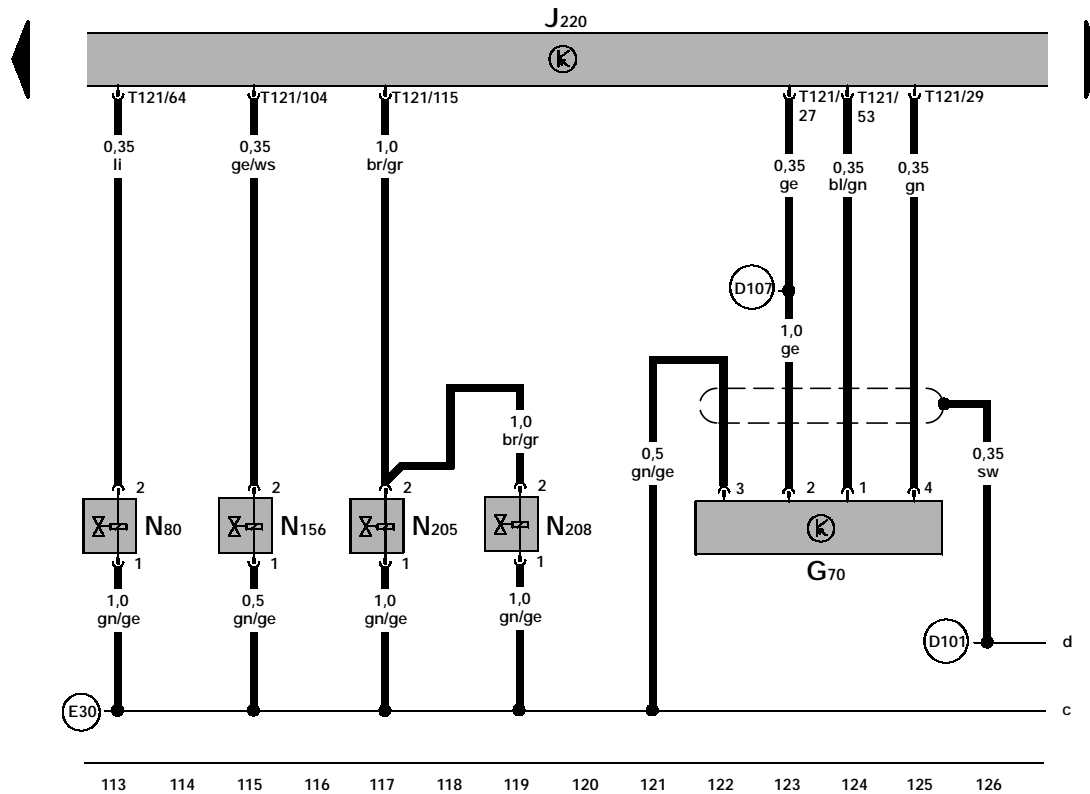
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**Motronic Engine Control Module (ECM), Valve for camshaft adjustment, Evaporative Emission (EVAP) Canister Purge Regulator Valve, Mass Air Flow Sensor**

- G70 - Mass Air Flow (MAF) Sensor
- J220 - Motronic Engine Control Module (ECM)
- N80 - Evaporative Emission (EVAP) Canister Purge Regulator Valve
- N156 - Intake Manifold Change-Over Valve
- N205 - Valve -1- for camshaft adjustment
- N208 - Valve -2- for camshaft adjustment
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)

- (E30) - Connector (87a), in wiring harness engine
- (D101) - Wire connection -1-, in engine compartment wiring harness
- (D107) - wire connection -5-, in engine compartment wiring harness



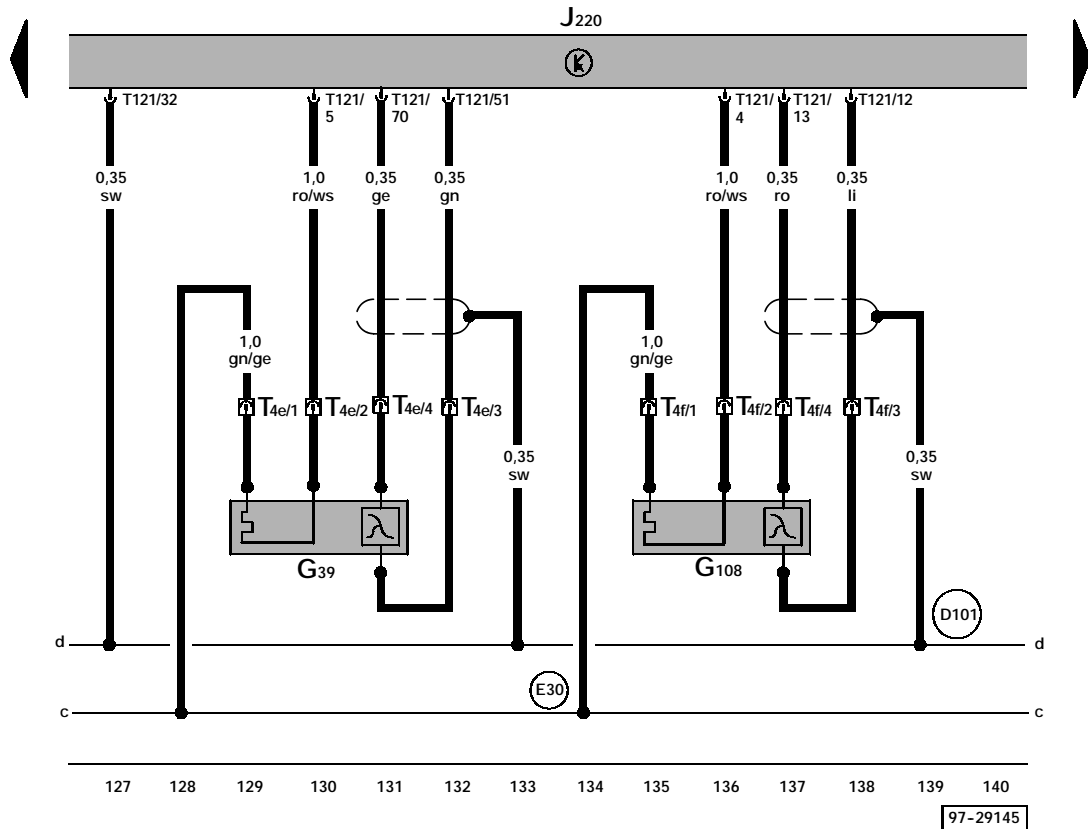
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**Motronic Engine Control Module (ECM), Heated Oxygen Sensors**

- G39 - Heated Oxygen Sensor (HO2S)
- G108 - Heated Oxygen Sensor (HO2S) 2
- J220 - Motronic Engine Control Module (ECM)
- T4e - 4-Pin Connector, black
- T4f - 4-Pin Connector, black
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)

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

(D101) - Wire connection -1-, in engine compartment wiring harness



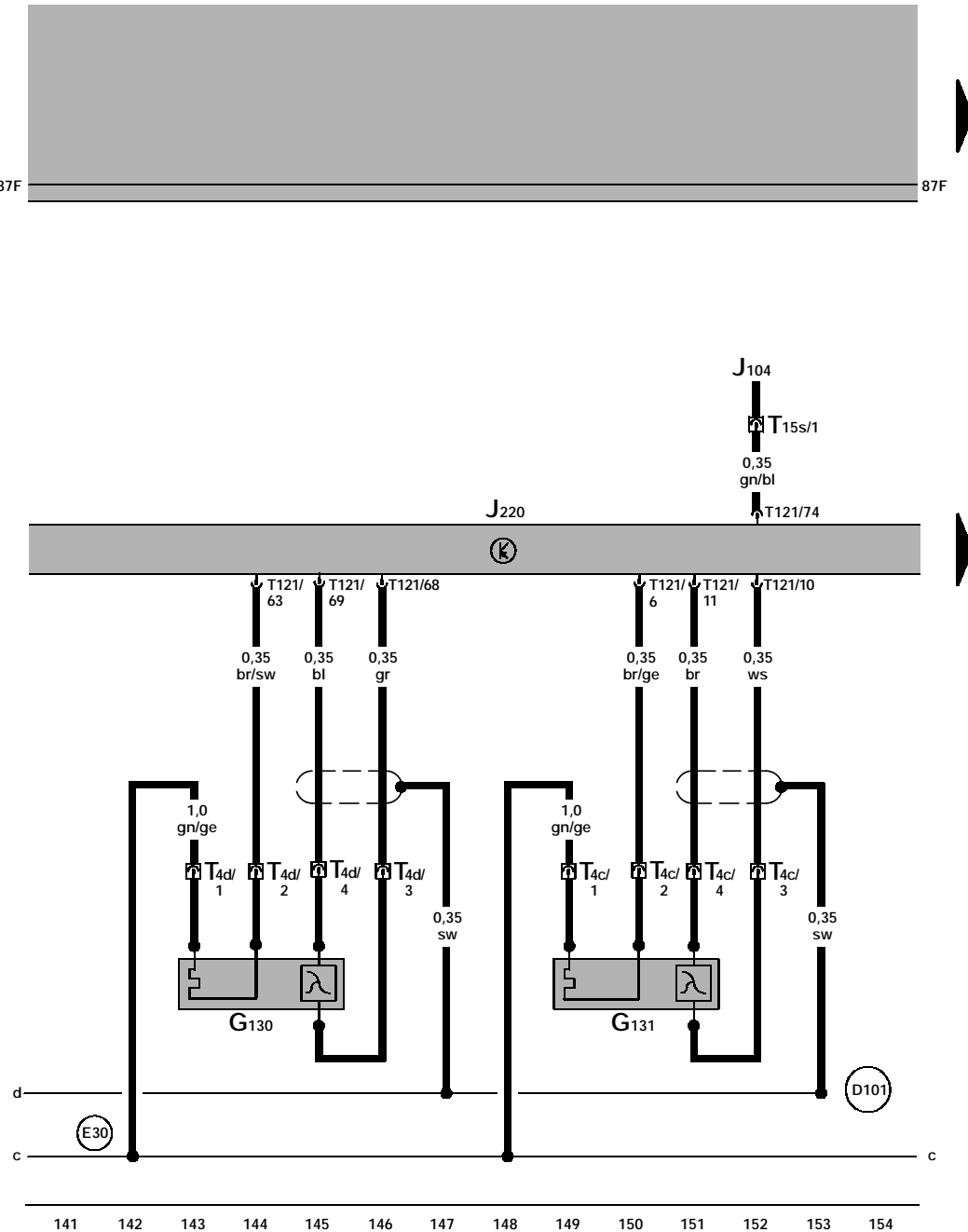
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**Motronic Engine Control Module (ECM), Oxygen Sensors behind Three Way Catalytic Converter**

- G130 - Oxygen Sensor (O2S) Behind Three Way Catalytic Converter (TWC)
- G131 - Oxygen Sensor (O2S) 2 Behind Three Way Catalytic Converter (TWC)
- J104 - ABS Control Module (w/EDL)
- J220 - Motronic Engine Control Module (ECM)
- T4c - 4-Pin Connector, brown
- T4d - 4-Pin Connector, green
- T15s - 15-Pin Connector, red, on protective housing for control module, in engine compartment, left
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)

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

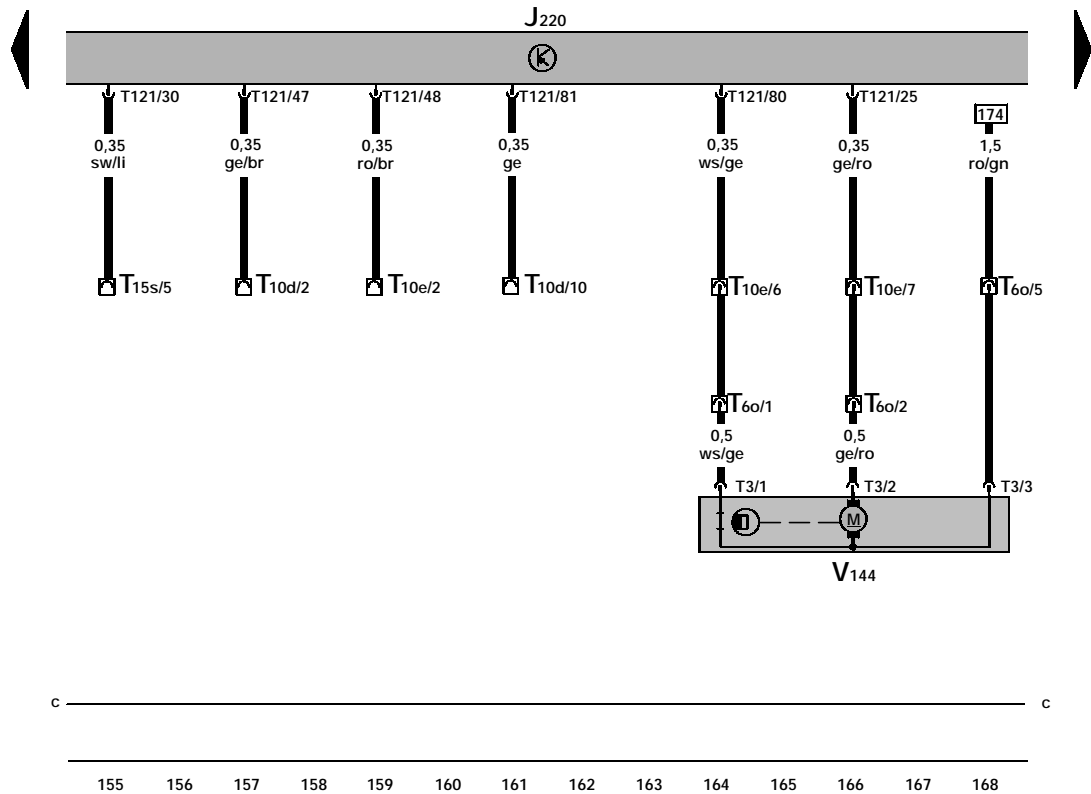
(D101) - Wire connection -1-, in engine compartment wiring harness



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

- J220 - Motronic Engine Control Module (ECM)
- T6o - 6-Pin Connector, brown, connector station A-pillar, right
- 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
- T15s - 15-Pin Connector, red, on protective housing for control module, in engine compartment, left
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)
- V144 - Leak Detection Pump (LDP)



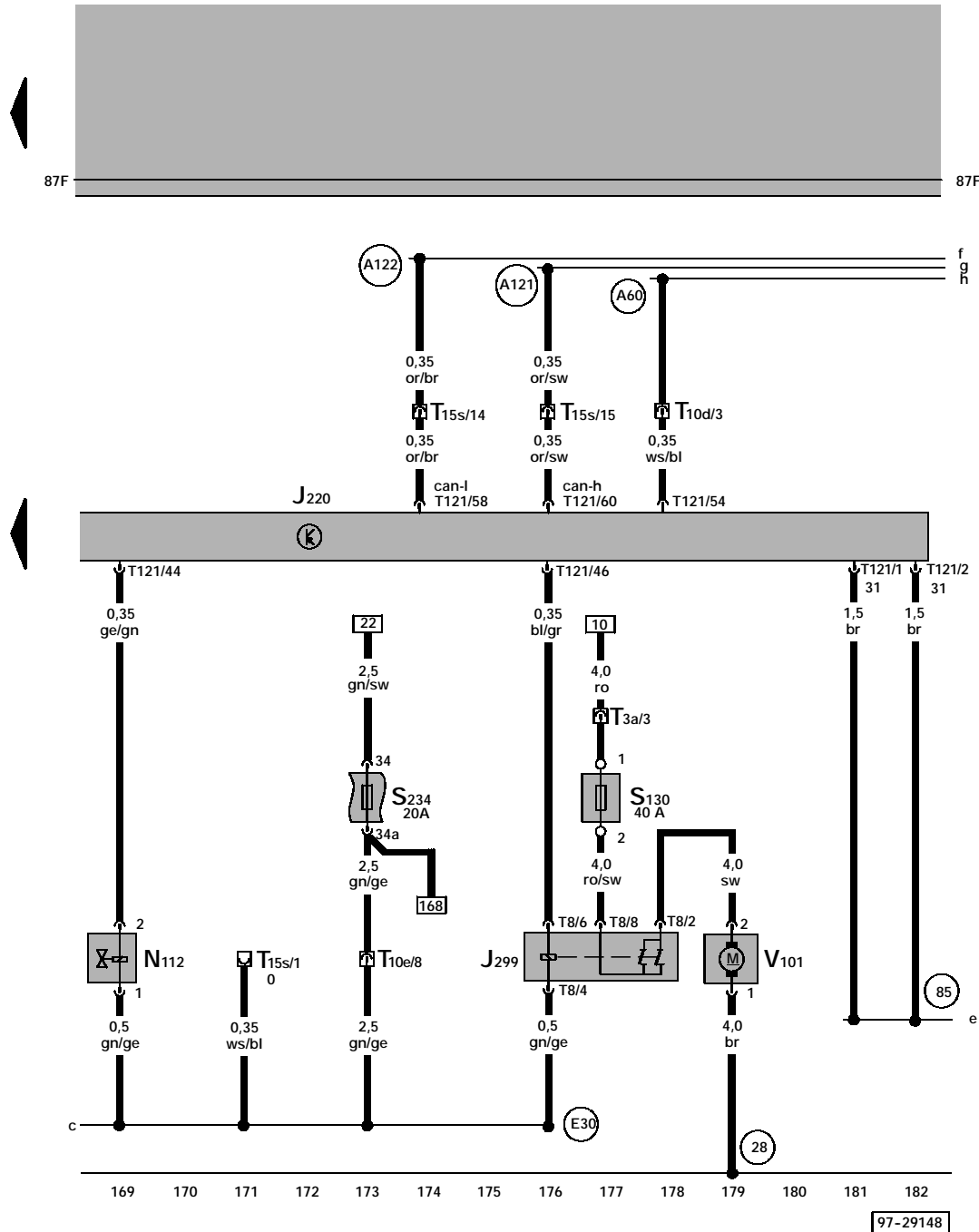
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**Motronic Engine Control Module (ECM), Secondary Air Injection (AIR) Pump Relay and Motor, Secondary Air Injection (AIR) Solenoid Valve**

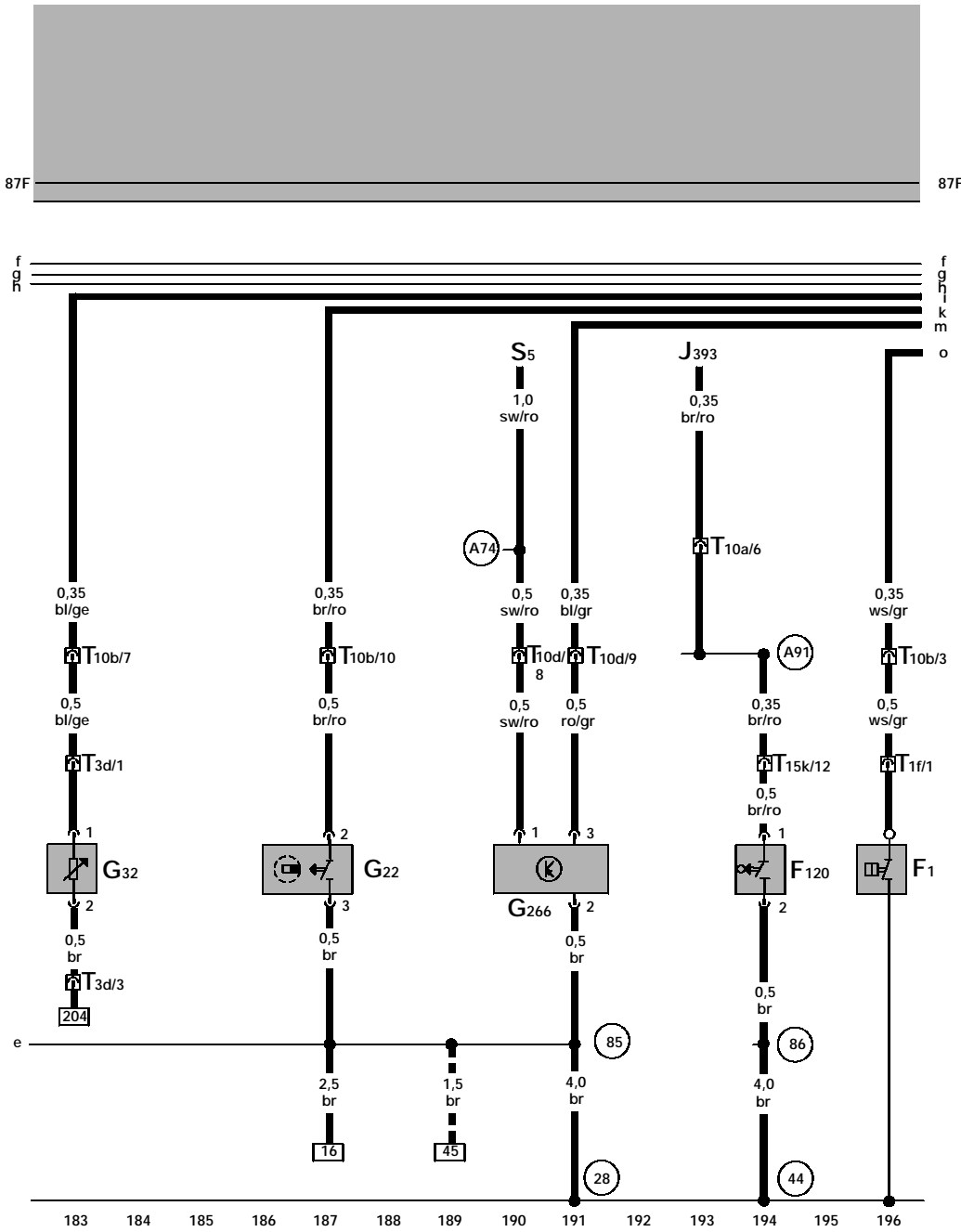
- J220 - Motronic Engine Control Module (ECM)
- J299 - Secondary Air Injection (AIR) Pump Relay
- N112 - Secondary Air Injection (AIR) Solenoid Valve
- S130 - Fuse for secondary air pump
- S234 - Fuse in fuse holder
- T3a - 3-Pin Connector, green
- T8 - 8-Pin Connector, brown, on Secondary Air Injection (AIR) Pump Relay
- 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
- T15s - 15-Pin Connector, red, on protective housing for control module, in engine compartment, left
- T121 - Connector, 121 point, on Motronic Engine Control Module (ECM)
- V101 - Secondary Air Injection (AIR) Pump Motor

- (28) - Ground connection, on firewall
- (85) - Ground connection -1-, in engine compartment wiring harness
- (A60) - Wire connection (Vehicle speed signal), in instrument cluster wiring harness
- (A121) - Connection (high bus) in instrument panel wiring harness
- (A122) - Connection (low bus) in instrument panel wiring harness
- (E30) - Connector (87a), in wiring harness engine

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**Oil Pressure Switch, Hood Alarm Switch, Speedometer Vehicle Speed Sensor (VSS), Engine Coolant Level (ECL) Sensor, Oil Level Thermal Sensor**



- F1 - Oil Pressure Switch
- F120 - Hood Alarm Switch
- G22 - Speedometer Vehicle Speed Sensor (VSS)
- G32 - Engine Coolant Level (ECL) Sensor
- G266 - Oil Level Thermal Sensor
- J393 - Central control module for comfort system
- S5 - Fuse
- T1f - Single Connector, black
- T3d - 3-Pin Connector,
- T10a - 10-Pin Connector, brown
- 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
- T15k - 15-Pin Connector, grey

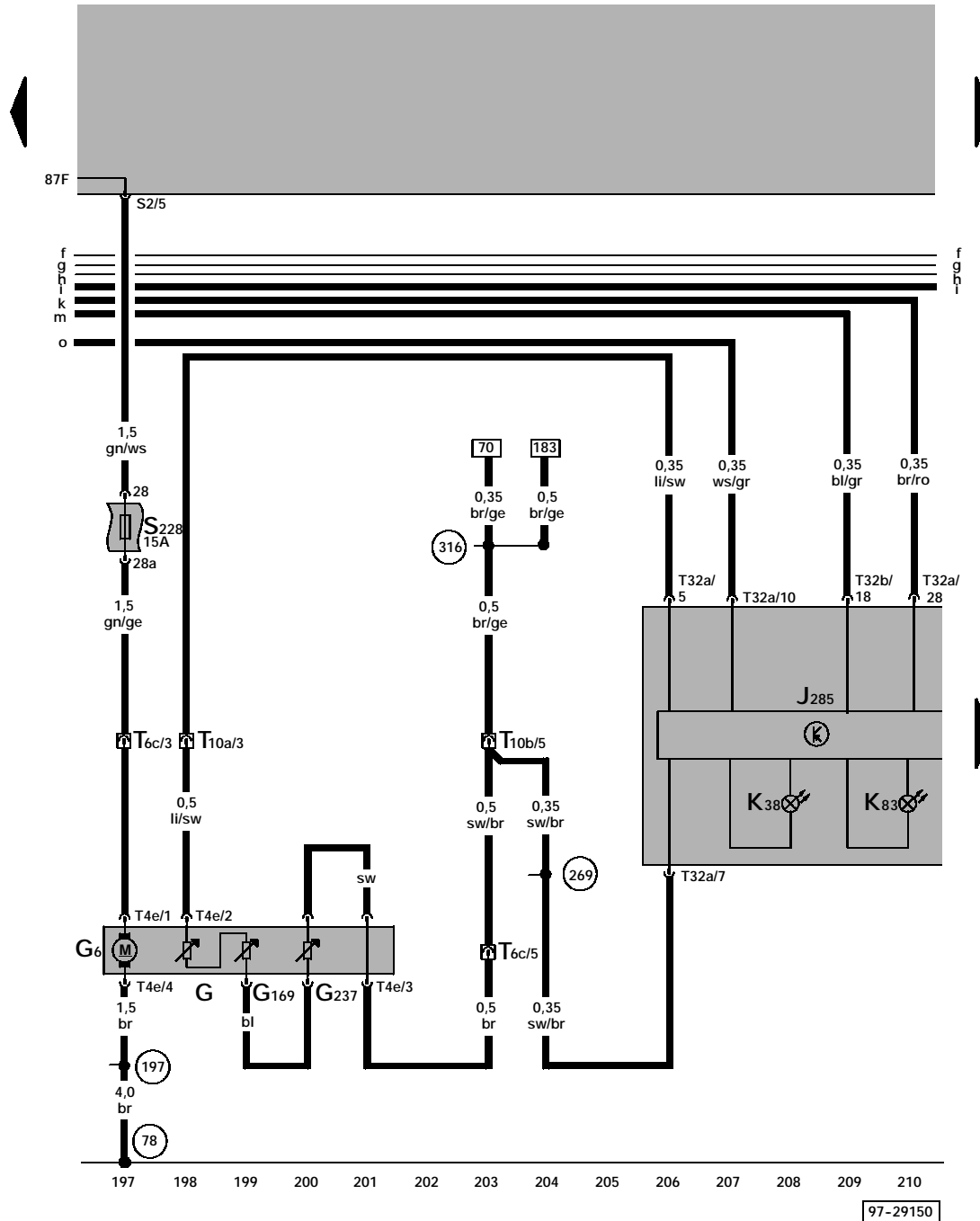
- (28) - Ground connection, on firewall
- (44) - Ground connection, on left A-pillar, lower part
- (85) - Ground connection -1-, in engine compartment wiring harness
- (86) - Ground connection -1-, in rear wiring harness
- (A74) - Connector (15a - fuse 5) in instrument panel wiring harness
- (A91) - Connector (signal for instrument panel insert), in instrument panel wiring harness

--- - automatic transmission only

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**Control module with indicator unit, Fuel Pump (FP), Fuel Level Sensor, Fuel Supply Sensor, Sender for fuel gauge**

- G - Sender for fuel gauge
- G6 - Fuel Pump (FP)
- G169 - Fuel Level Sensor 2
- G237 - Fuel Supply Sensor 3
- S228 - Fuse in fuse holder
- J285 - Control module with indicator unit in instrument panel insert
- K38 - Engine Oil Level Indicator Light
- K83 - Malfunction Indicator Lamp (MIL)
- T4e - 4-Pin Connector, near Fuel Pump (FP)
- T6c - 6-Pin Connector, blue
- T10a - 10-Pin connector, black
- T10b - 10-Pin Connector, black, on protective housing for control module, in engine compartment, left
- T32a - 32-Pin Connector, blue, on instrument cluster
- T32b - 32-Pin Connector, green, on instrument cluster
- (78) - Ground Connection (lower right B-pillar)
- (197) - Ground connection -4-, in wiring harness rear
- (269) - Ground connector (sensor ground) -1-, in instrument panel wiring harness
- (316) - Sensor Ground Connection 2 (in engine wiring harness)



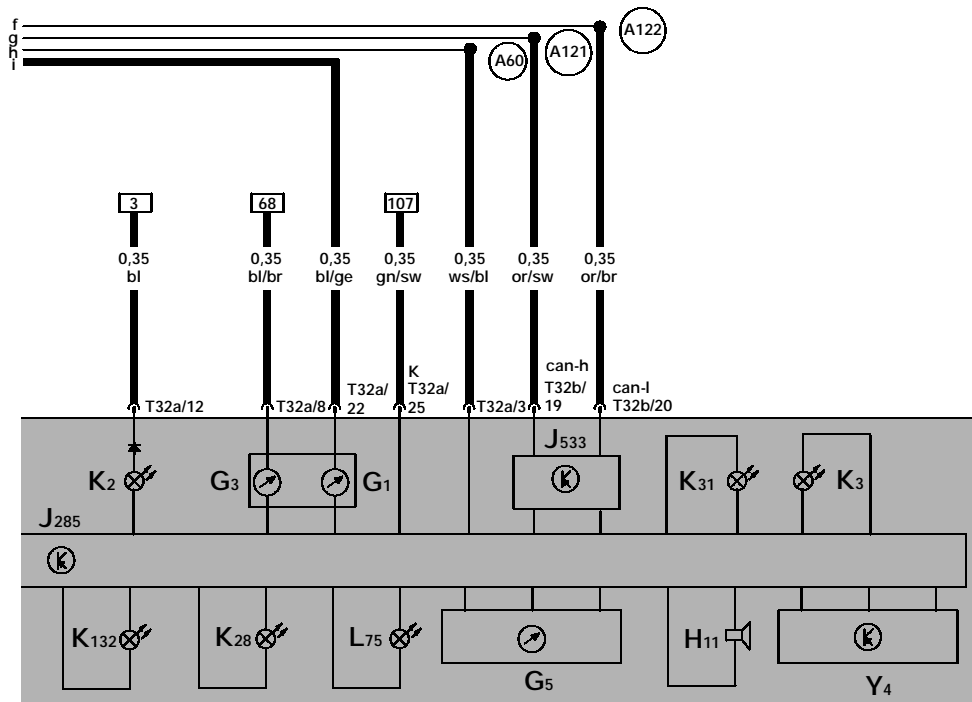
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Control module with indicator unit, Data Bus On Board Diagnostic Interface

- G1 - Fuel Gauge
- G3 - Engine Coolant Temperature (ECT) Gauge
- G5 - Tachometer
- H11 - Oil Pressure Warning Buzzer
- J285 - Control module with indicator unit in instrument panel insert
- J533 - Data Bus On Board Diagnostic Interface
- K2 - Generator (GEN) Warning Light
- K3 - Oil Pressure Warning Light
- K28 - Engine Coolant Level/Temperature (ECL/ECT) Warning Light
- K31 - Cruise Control 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 (Vehicle speed signal), in instrument cluster wiring harness
- (A121) - Connection (high bus) in instrument panel wiring harness
- (A122) - Connection (low bus) in instrument panel wiring harness



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