

2.0L gasoline engine - CAWA

from November 2007

2.0L gasoline engine - CAWB

from November 2007

2.0L gasoline engine - CCTA

from November 2007

Note:

Information for

- ◆ Relay and fuse arrangements

- ◆ Connector arrangements

- ◆ Control Modules and Relays

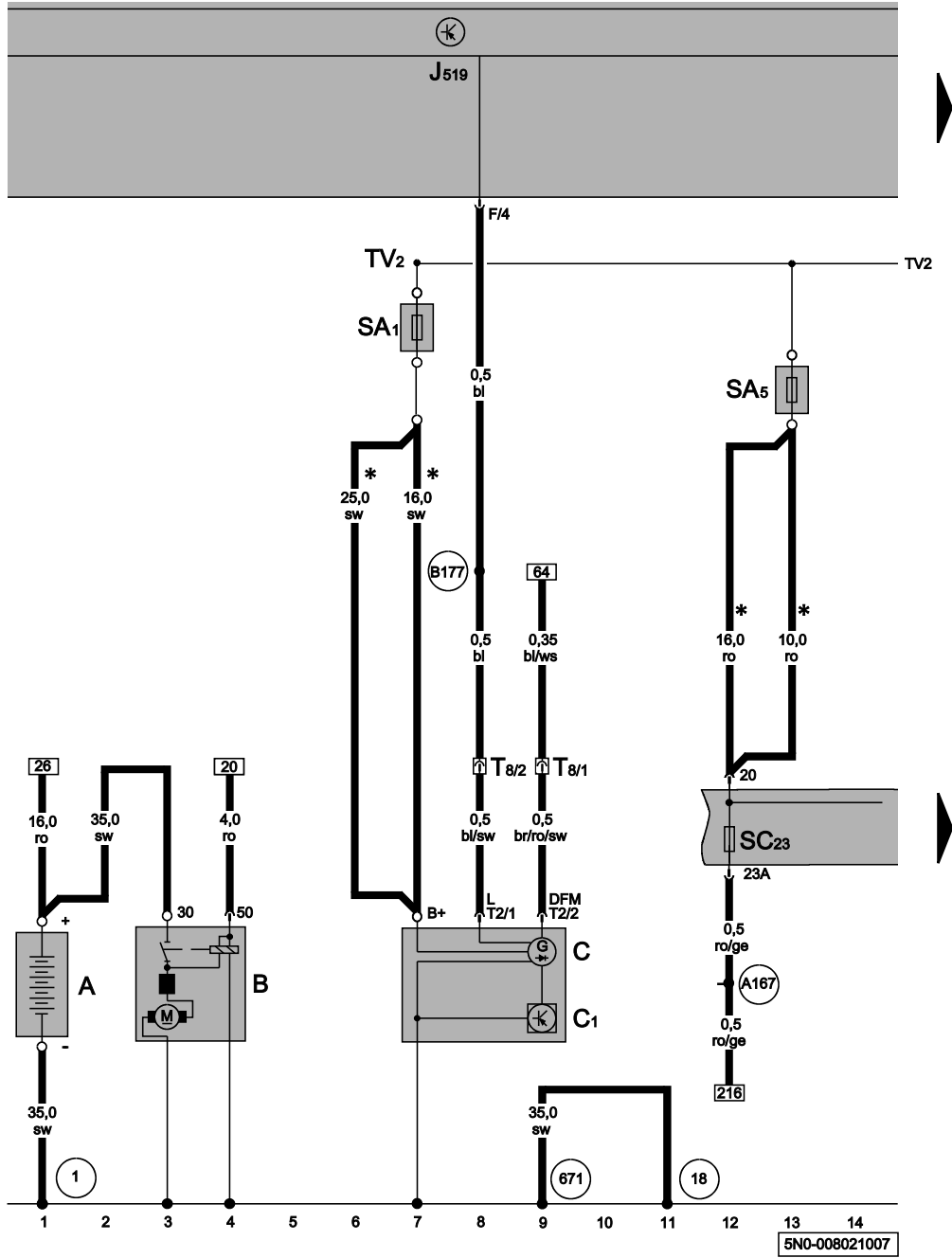
- ◆ Ground connections

⇒ Component Locations

Information for

- ◆ Troubleshooting Procedures

⇒ Guided Fault Finding using VAS 5051 / 5052



Battery, Generator (GEN), Starter, Fuses

- A Battery
- B Starter
- C Generator (GEN)
- C1 Voltage Regulator (VR)
- J519 Vehicle Electrical System Control Module
- SA1 Fuse 1 (on fuse panel A)
- SA5 Fuse 5 (on fuse panel A)
- SC23 Fuse 23 (on fuse panel C)
- TV2 Terminal 30 Wire Junction
- T2 Double Connector
- T8 8-Pin Connector, near starter

- 1 Ground strap, battery to body
- 18 Ground Connection (on engine block)
- 671 Ground Connection 1 (on left front long member)
- A167 Plus Connection 3 (30a) (in instrument panel wiring harness)
- B177 Connection (61) (in interior wiring harness)
- * Where applicable

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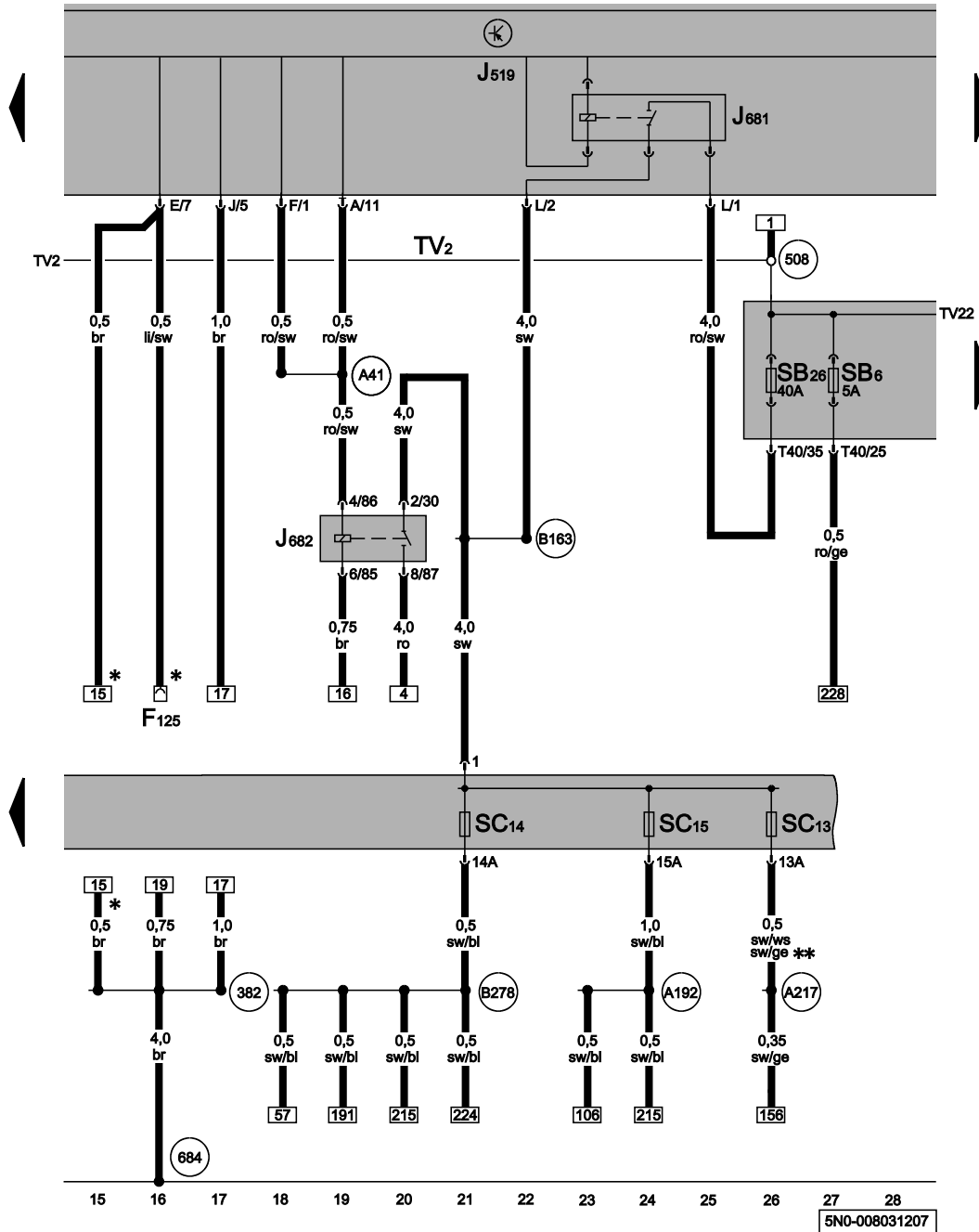
Power Supply Relay (terminal 50), Power Supply Relay 2 (terminal 15), Fuses

- F125 Multi-Function Transmission Range (TR) Switch
- J519 Vehicle Electrical System Control Module
- J681 Power Supply Relay 2 (terminal 15)
- J682 Power Supply Relay (terminal 50)
- SB6 Fuse 6 (on fuse panel B)
- SB26 Fuse 26 (on fuse panel B)
- SC13 Fuse 13 (on fuse panel C)
- SC14 Fuse 14 (on fuse panel C)
- SC15 Fuse 15 (on fuse panel C)
- TV2 Terminal 30 Wire Junction
- TV22 Terminal 30 Wire Junction 2
- T40 40-Pin Connector

- (382) Ground Connection 17 (in main wiring harness)
- (508) Threaded Connection terminal 30 (on electronics box)
- (684) Ground Connection (on left front side member)
- (A41) Plus Connection (50) (in instrument panel wiring harness)
- (A192) Plus Connection 3 (15a) (in instrument panel wiring harness)
- (A217) Plus Connection 8 (15a) (in instrument panel wiring harness)
- (B163) Plus Connection 1 (15) (in interior wiring harness)
- (B278) Plus Connection 2 (15a) (in main wiring harness)

* Where applicable
 ** Insert in model year 2008

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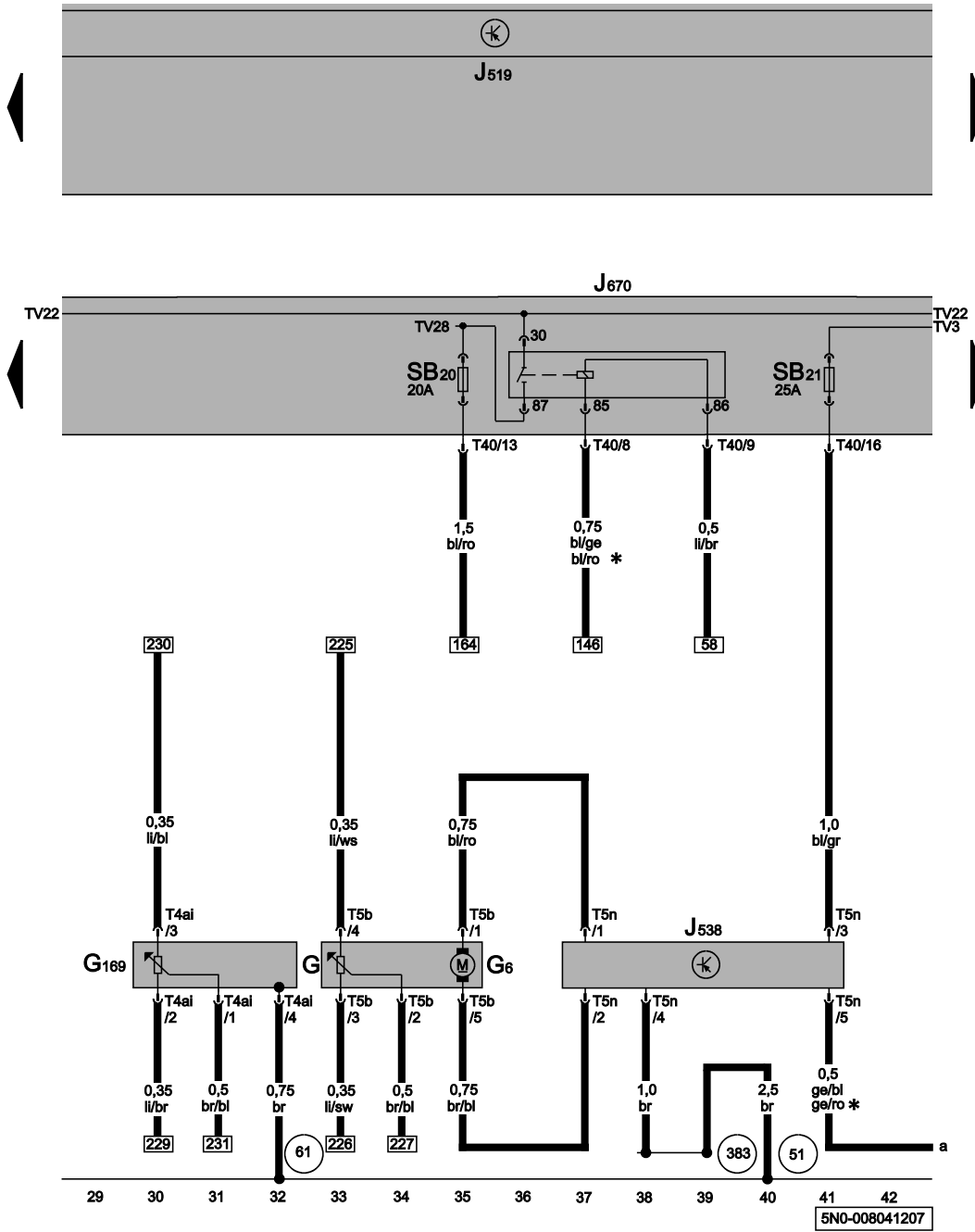


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**Motronic Engine Control Module (ECM) Power Supply
Relay 2, Fuel Pump (FP) Control Module, Fuel Level
Sensor, Fuel Level Sensor 2, Fuel Pump**

- G Fuel Level Sensor
- G6 Transfer Fuel Pump (FP)
- G169 Fuel Level Sensor 2
- J519 Vehicle Electrical System Control Module
- J538 Fuel Pump (FP) Control Module, near Fuel Level Sensor
- J670 Motronic Engine Control Module (ECM) Power Supply Relay 2
- SB20 Fuse 20 (on fuse panel B)
- SB21 Fuse 21 (on fuse panel B)
- TV3 Terminal 30a Wire Junction
- TV22 Terminal 30 Wire Junction 2
- TV28 Terminal 30 Wire Junction 3
- T4ai 4-Pin Connector
- T5b 5-Pin Connector
- T5n 5-Pin Connector
- T40 40-Pin Connector

- 51 Ground Connection (in luggage compartment, right)
- 61 Ground Connection (on left C-pillar)
- 383 Ground Connection 18 (in main wiring harness)
- * Insert in model year 2008

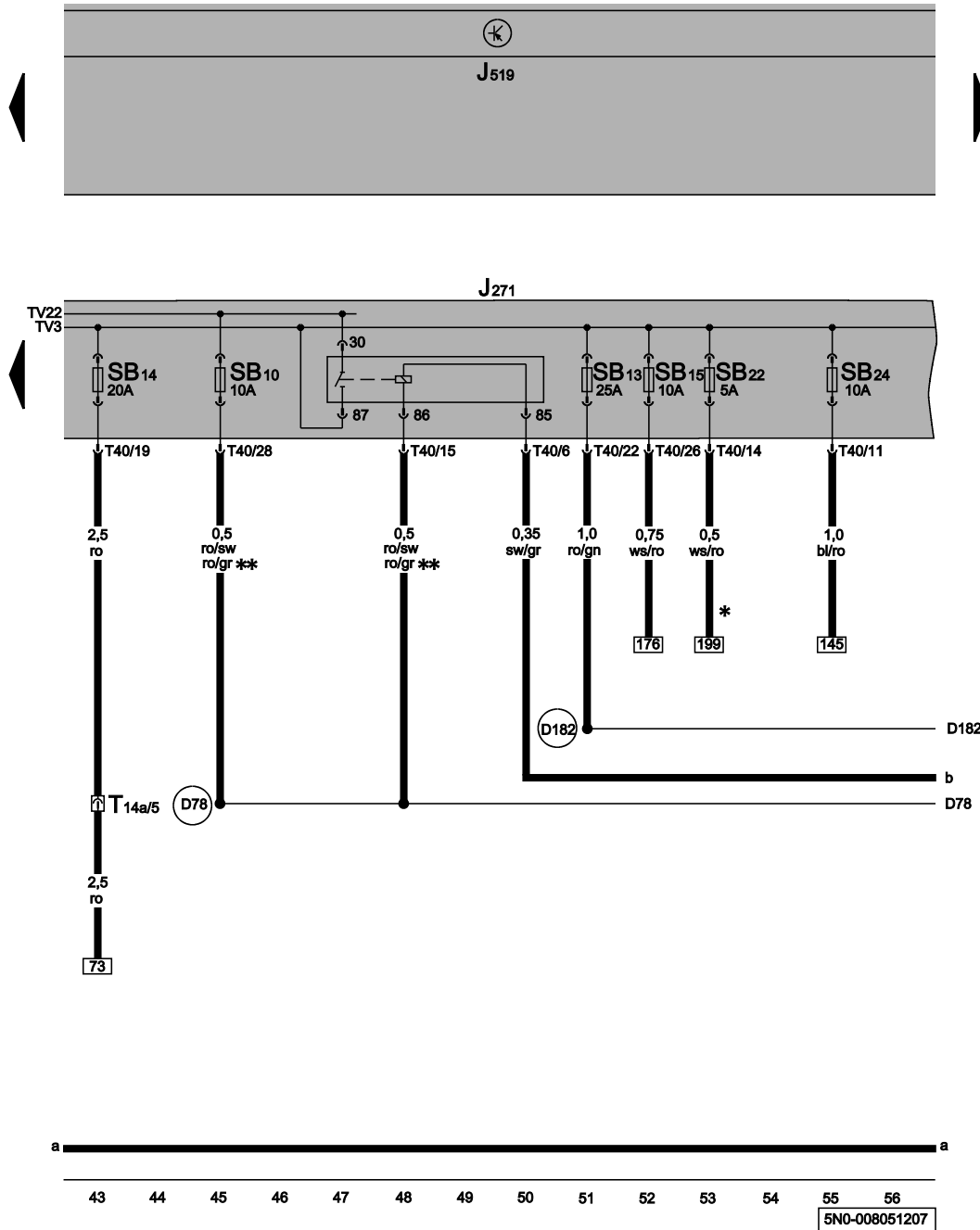


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Motronic Engine Control Module (ECM) Power Supply Relay, Fuses

- J271 Motronic Engine Control Module (ECM) Power Supply Relay, on electronics box, in engine compartment, left
- J519 Vehicle Electrical System Control Module
- SB10 Fuse 10 (on fuse panel B)
- SB13 Fuse 13 (on fuse panel B)
- SB14 Fuse 14 (on fuse panel B)
- SB15 Fuse 15 (on fuse panel B)
- SB22 Fuse 22 (on fuse panel B)
- SB24 Fuse 24 (on fuse panel B)
- TV3 Terminal 30a Wire Junction
- TV22 Terminal 30 Wire Junction 2
- T14a 14-Pin Connector, near battery
- T40 40-Pin Connector

- (D78) Plus Connection 1 (30a) (in engine compartment wiring harness)
- (D182) Connection 3 (87a) (in engine compartment wiring harness)
- * Only models with manual transmission
- ** Insert in model year 2008



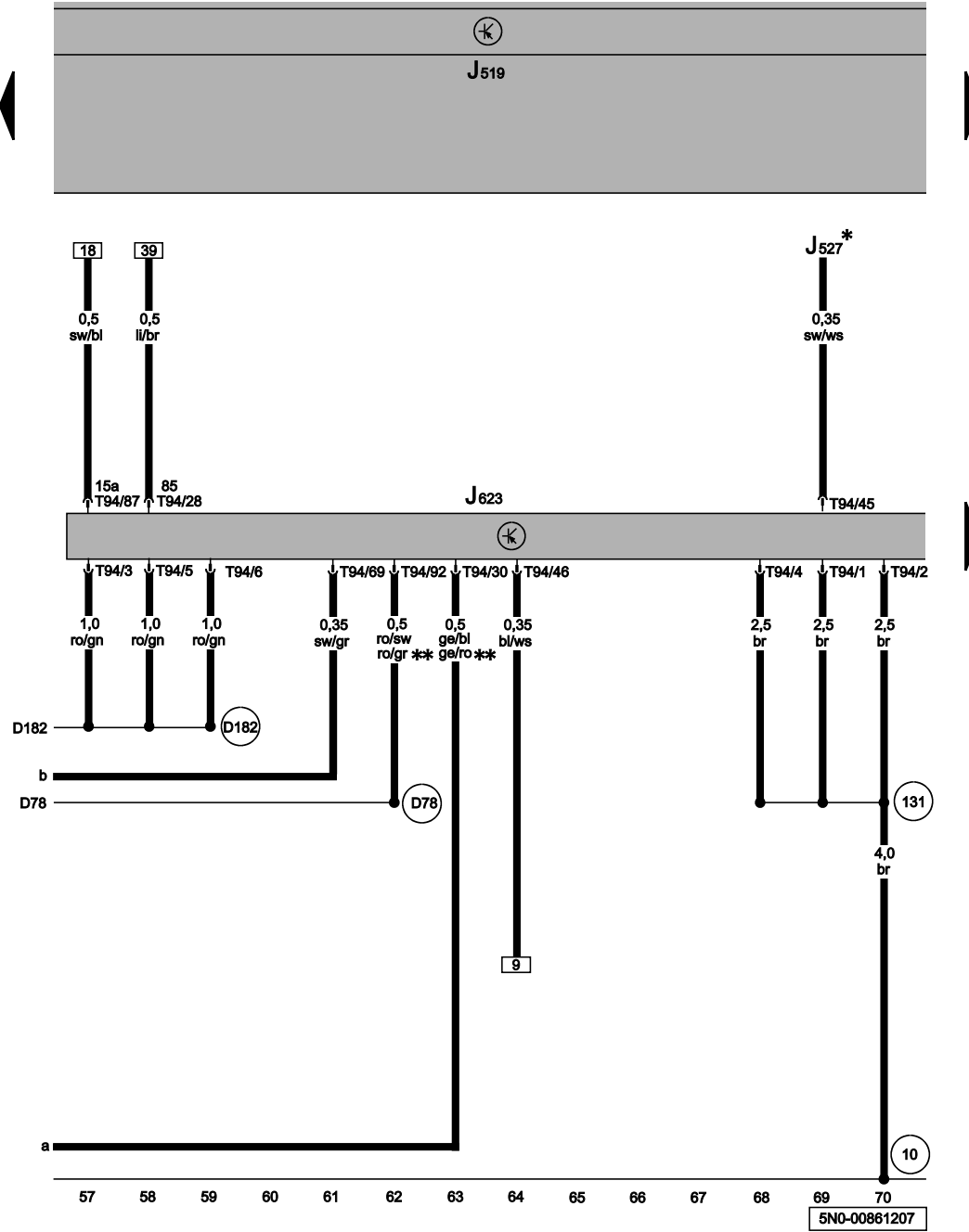
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Engine Control Module (ECM)

- J519 Vehicle Electrical System Control Module
- J527 Steering Column Electronic Systems Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- T94 94-Pin Connector

- 10 Ground Connection (in plenum chamber)
- 131 Ground Connection 2 (in engine compartment wiring harness)
- D78 Plus Connection 1 (30a) (in engine compartment wiring harness)
- D182 Connection 3 (87a) (in engine compartment wiring harness)

* Only for models with cruise control system
 ** Insert in model year 2008



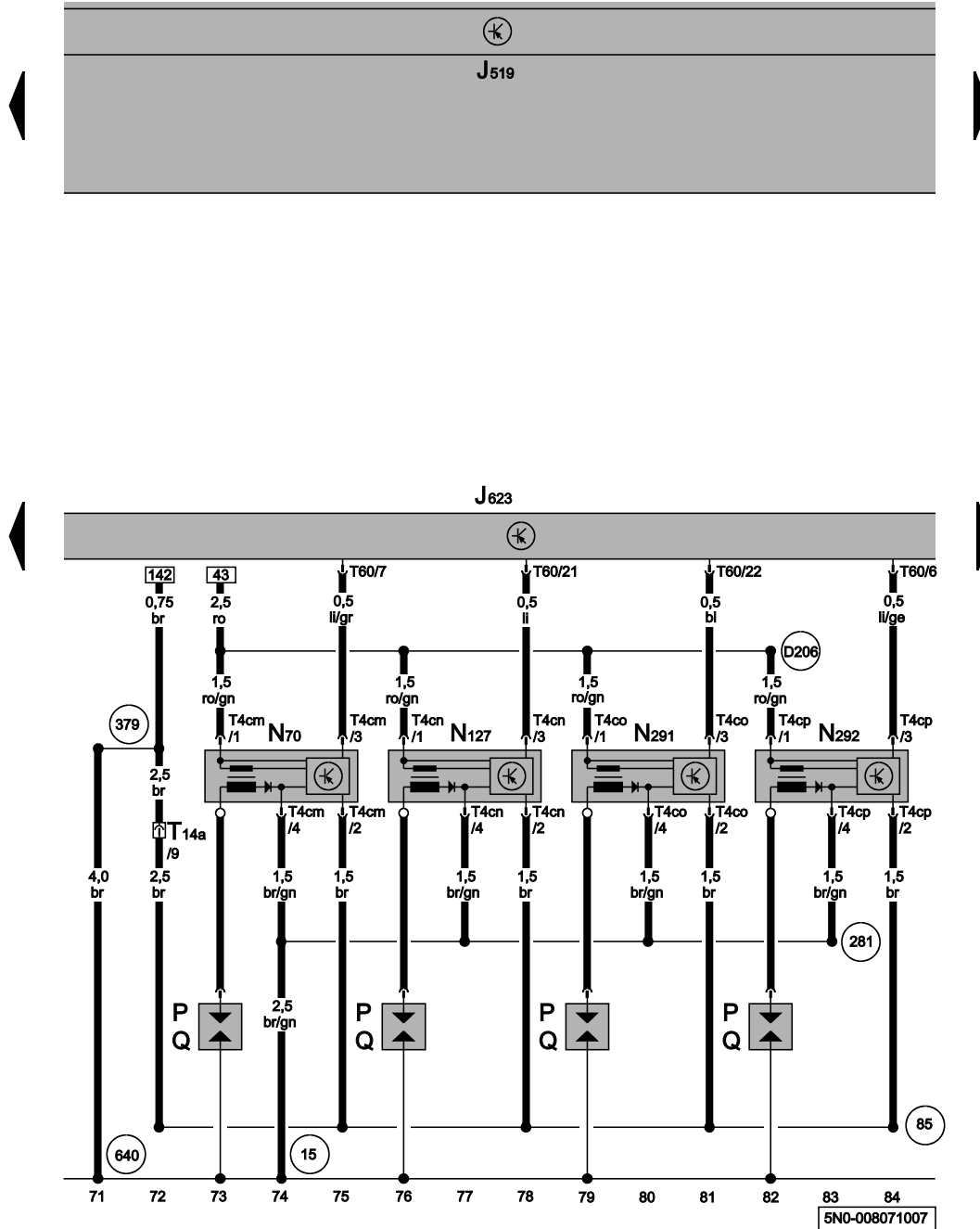
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Engine Control Module (ECM), Ignition Coils with Power Output Stage, Spark Plugs

- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- 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
- T4cm 4-Pin Connector
- T4cn 4-Pin Connector
- T4co 4-Pin Connector
- T4cp 4-Pin Connector
- T14a 14-Pin Connector, near battery
- T60 60-Pin Connector

- (15) Ground Connection (on cylinder head)
- (85) Ground Connection 1 (in engine compartment wiring harness)
- (281) Ground Connection 1 (in engine wiring harness)
- (281) Ground Connection 1 (in engine wiring harness)
- (379) Ground Connection 14 (in main wiring harness)
- (640) Ground Connection 2 (in engine compartment, left)
- (D206) Connection 4 (87a) (in engine wiring harness)

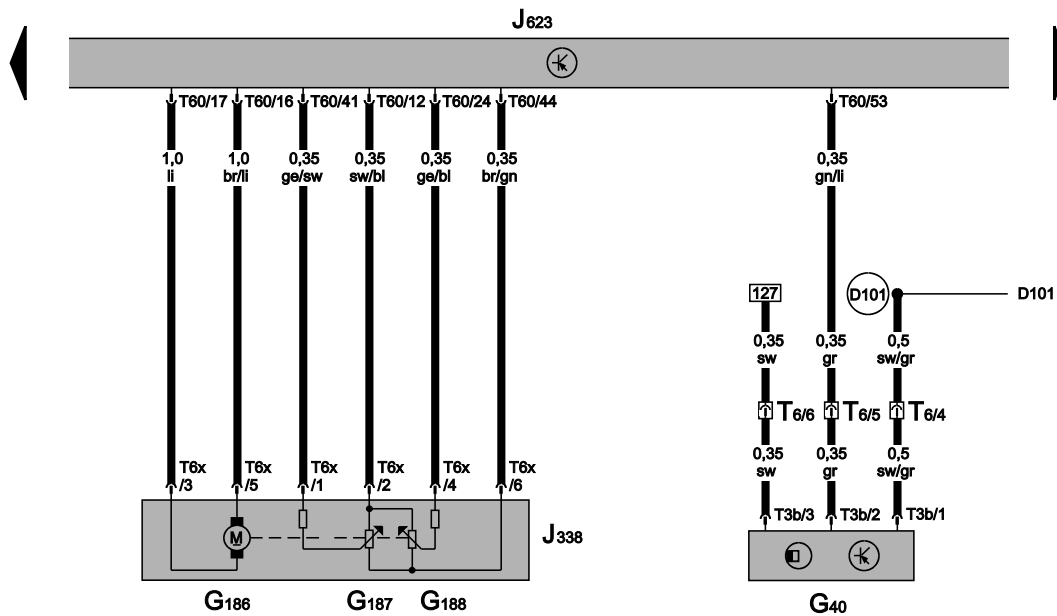
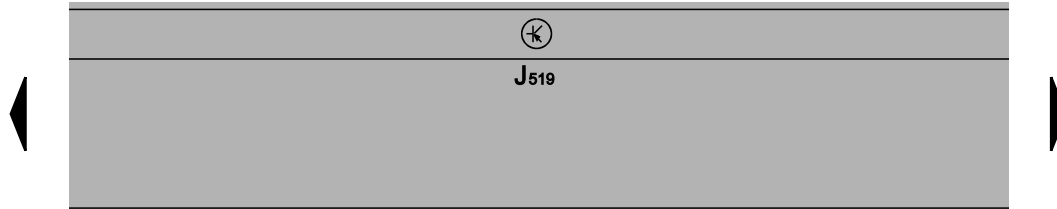
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Engine Control Module (ECM), Throttle Valve Control Module, Camshaft Position (CMP) Sensor

- G40 Camshaft Position (CMP) Sensor
- G186 Throttle Drive (for Electronic Power Control (EPC))
- G187 Throttle Drive Angle Sensor 1 (for Electronic Power Control (EPC))
- G188 Throttle Drive Angle Sensor 2 (for Electronic Power Control (EPC))
- J338 Throttle Valve Control Module
- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- T3b 3-Pin Connector
- T6 6-Pin Connector
- T6x 6-Pin Connector
- T60 60-Pin Connector

D101 Connection 1 (in engine compartment wiring harness)



85 86 87 88 89 90 91 92 93 94 95 96 97 98

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Engine Control Module (ECM), Fuel Pressure Sensor, Leak Detection Pump (LDP), Mass Air Flow (MAF) Sensor, Intake Air Temperature (IAT) Sensor

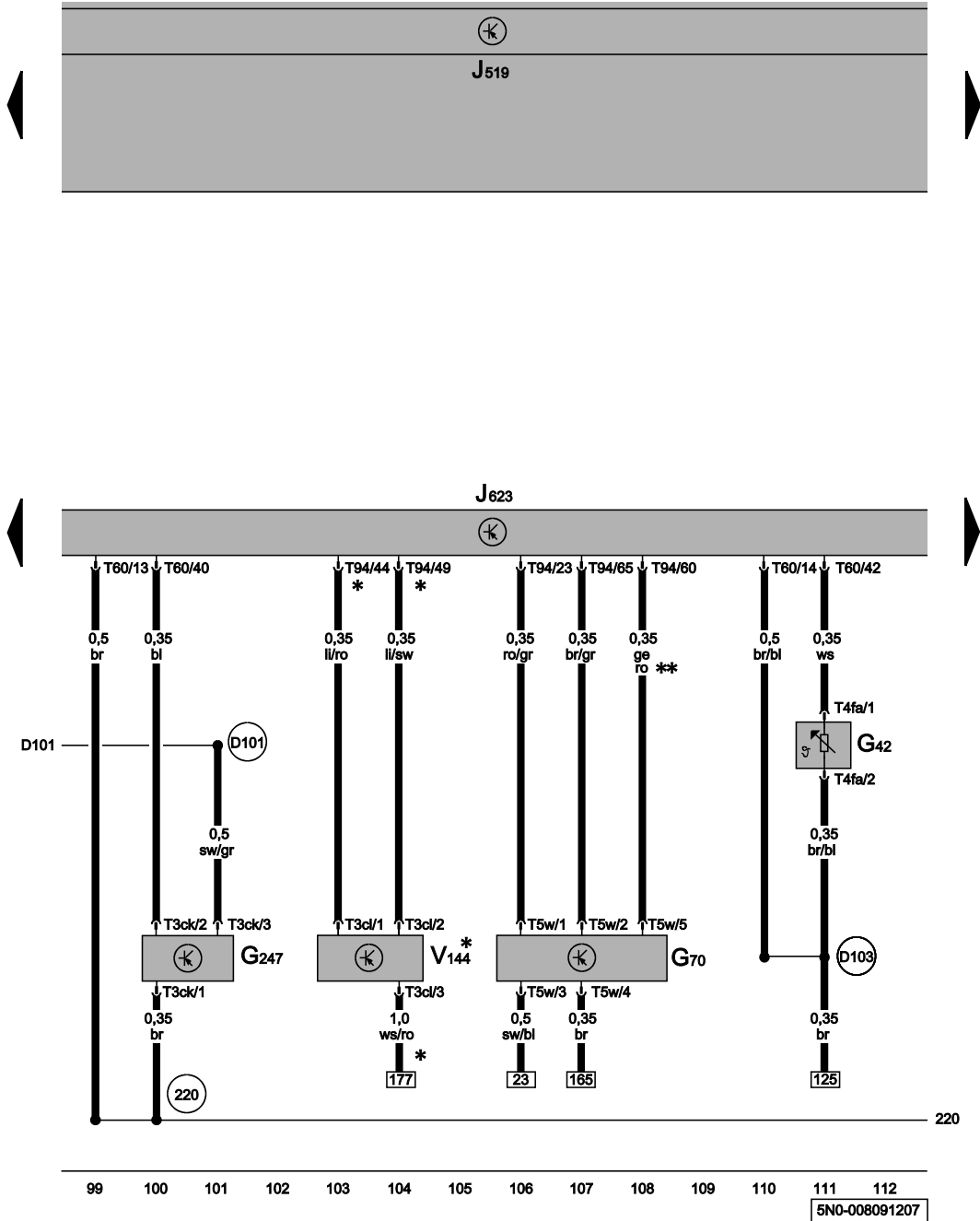
- G42 Intake Air Temperature (IAT) Sensor
- G70 Mass Air Flow (MAF) Sensor
- G247 Fuel Pressure Sensor
- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- T3ck 3-Pin Connector
- T3cl 3-Pin Connector
- T4fa 4-Pin Connector
- T5w 5-Pin Connector
- T60 60-Pin Connector
- T94 94-Pin Connector
- V144 Leak Detection Pump (LDP)

(220) Sensor Ground Connection (in engine compartment wiring harness)

(D101) Connection 1 (in engine compartment wiring harness)

(D103) Connection 3 (in engine compartment wiring harness)

* Only engine code CCTA
 ** Insert in model year 2008

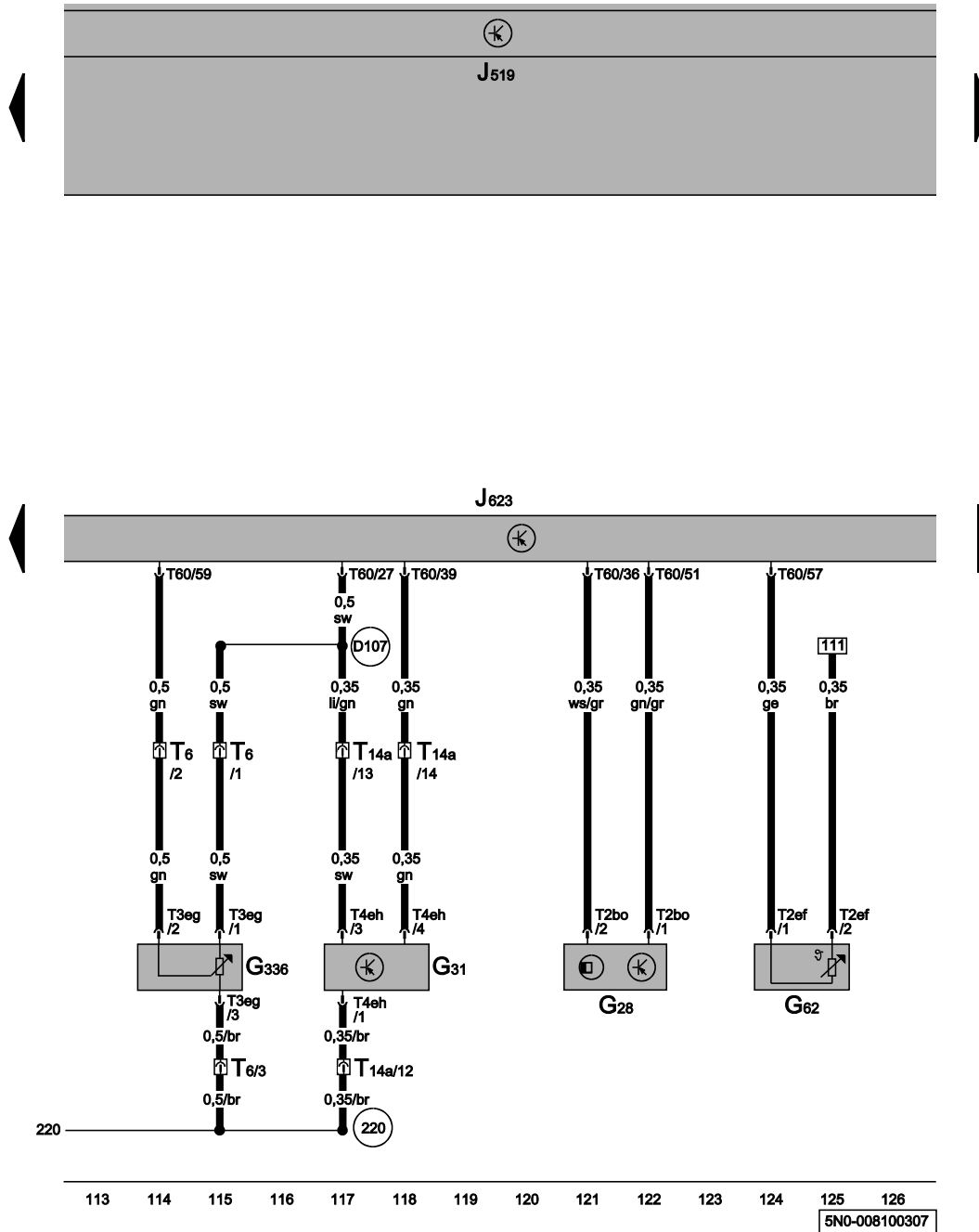


Engine Control Module (ECM), Intake Manifold Runner Position Sensor, Charge Air Pressure Sensor, Engine Speed (RPM) Sensor, Engine Coolant Temperature (ECT) Sensor

- G28 Engine Speed (RPM) Sensor
- G31 Charge Air Pressure Sensor
- G62 Engine Coolant Temperature (ECT) Sensor
- G336 Intake Manifold Runner Position Sensor
- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- T2bo Double Connector
- T2ef Double Connector
- T3eg 3-Pin Connector
- T4eh 4-Pin Connector
- T6 6-Pin Connector, near cylinder head
- T14a 14-Pin Connector, near battery
- T60 60-Pin Connector

(220) Sensor Ground Connection (in engine compartment wiring harness)

(D107) Connection 5 (in engine compartment wiring harness)

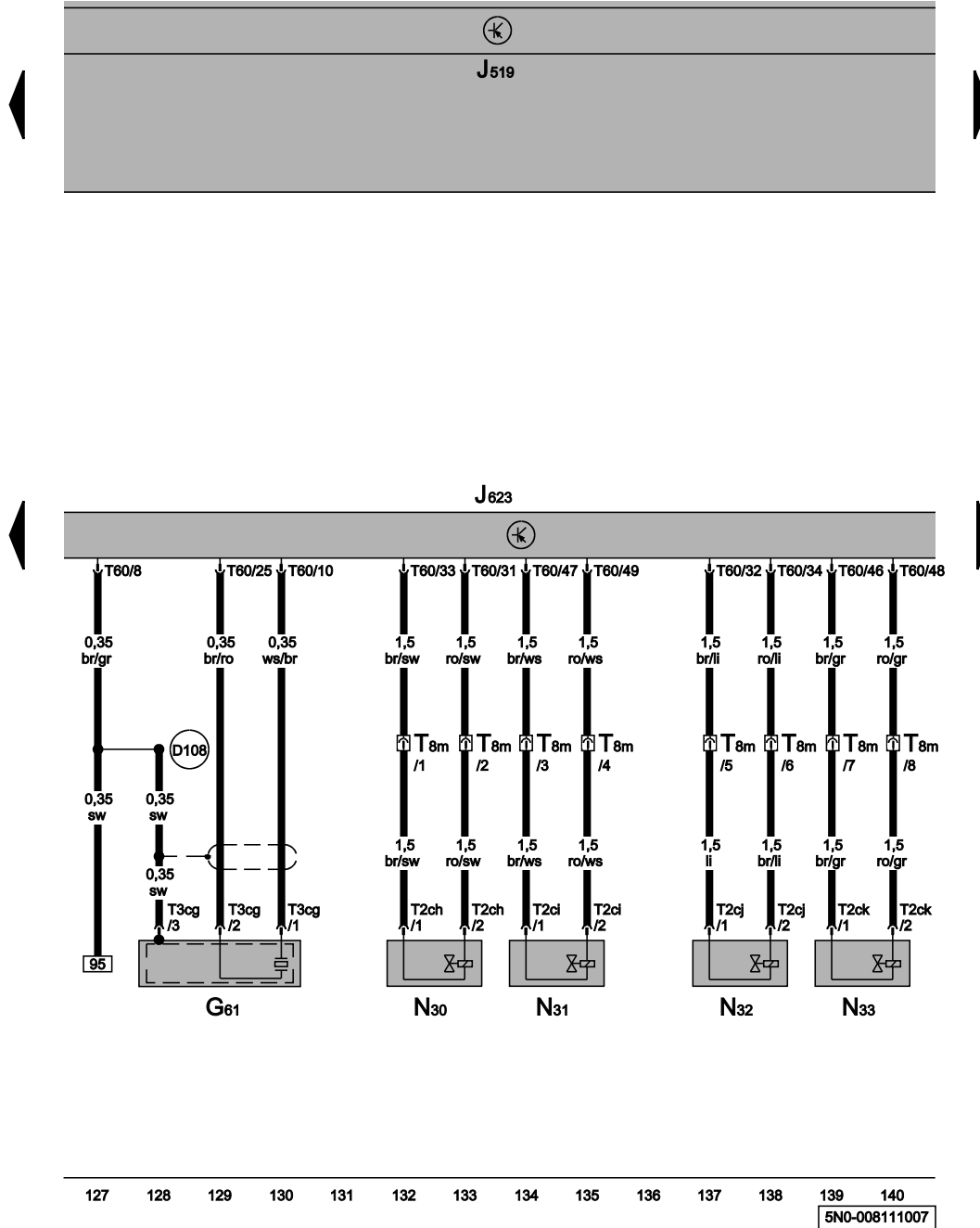


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Engine Control Module (ECM), Knock Sensor, Injectors

- G61 Knock Sensor (KS) 1
- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- N30 Cylinder 1 Fuel Injector
- N31 Cylinder 2 Fuel Injector
- N32 Cylinder 3 Fuel Injector
- N33 Cylinder 4 Fuel Injector
- T2ch Double Connector
- T2ci Double Connector
- T2cj Double Connector
- T2ck Double Connector
- T3cg 3-Pin Connector
- T8m 8-Pin Connector, near cylinder head
- T60 60-Pin Connector

(D108) Connection 6 (in engine compartment wiring harness)



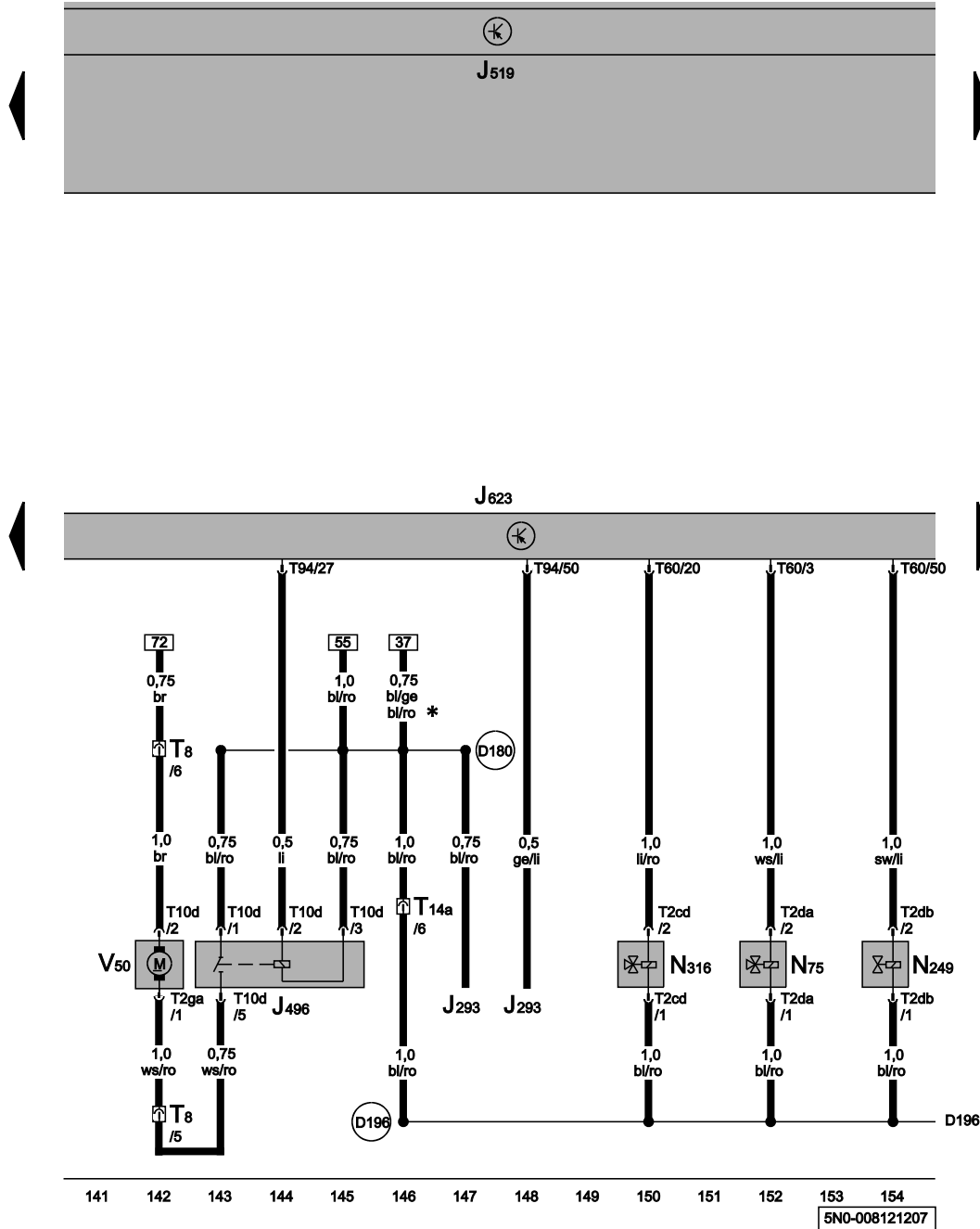
Engine Control Module (ECM), Auxiliary Engine Coolant (EC) Pump Relay, Coolant Pump, Wastegate Bypass Regulator Valve, Turbocharger Recirculating Valve, Intake Manifold Runner Control (IMRC) Valve

- J293 Coolant Fan Control (FC) Control Module
- J496 Auxiliary Engine Coolant (EC) Pump Relay
- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- N75 Wastegate Bypass Regulator Valve
- N249 Turbocharger Recirculating Valve
- N316 Intake Manifold Runner Control (IMRC) Valve
- T2cd Double Connector
- T2da Double Connector
- T2db Double Connector
- T2ga Double Connector
- T8 8-Pin Connector
- T10d 10-Pin Connector
- T14a 14-Pin Connector
- T60 60-Pin Connector
- T94 94-Pin Connector
- V50 Coolant Pump

D180 Connection (87a) (in engine compartment wiring harness)

D196 Connection 2 (87a) (in engine wiring harness)

* Insert in model year 2008

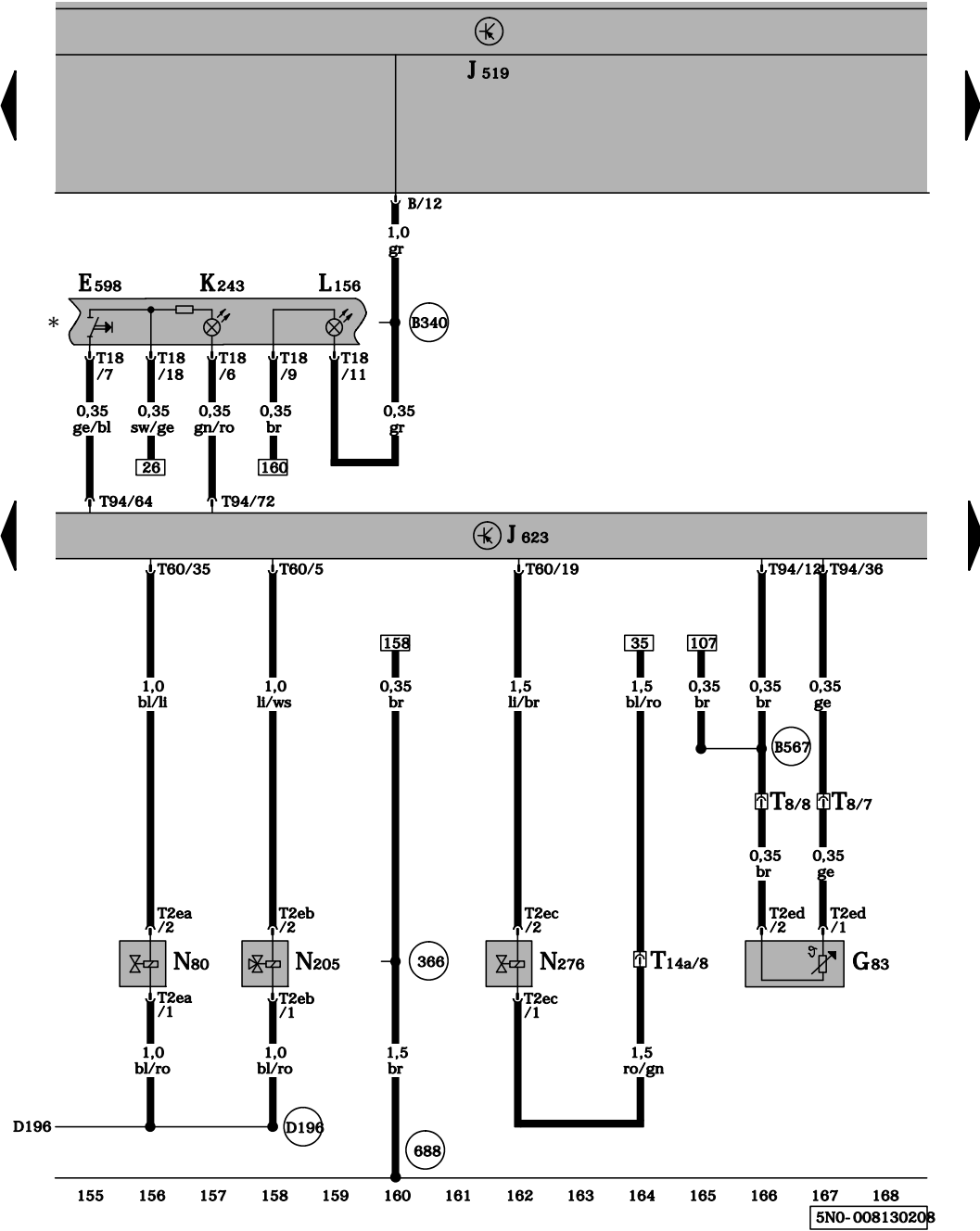


Engine Coolant Level (ECL) Sensor, Driving Program Switch, Camshaft Adjustment Valve, Evaporative Emission (EVAP) Canister Purge Valve, Fuel Pressure Regulator Valve

- E598 Driving Program Button
- G83 Engine Coolant Temperature (ECT) Sensor (on Radiator)
- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- K243 Driving Program Indicator Lamp
- L156 Switch Illumination Lamp
- N80 Evaporative Emission (EVAP) Canister Purge Regulator Valve 1
- N205 Camshaft Adjustment Valve 1
- N276 Fuel Pressure Regulator Valve
- T2ea Double Connector
- T2eb Double Connector
- T2ec Double Connector
- T2ed Double Connector
- T8 8-Pin Connector
- T14a 14-Pin Connector
- T18 18-Pin Connector
- T60 60-Pin Connector
- T94 94-Pin Connector

- (366) Ground Connection 1 (in main wiring harness)
- (688) Ground Connection 2 (on center tunnel)
- (B340) Connection 1 (58d) (in main wiring harness)
- (B567) Connection 34 (in main wiring harness)
- (D196) Connection 2 (87a) (in engine wiring harness)
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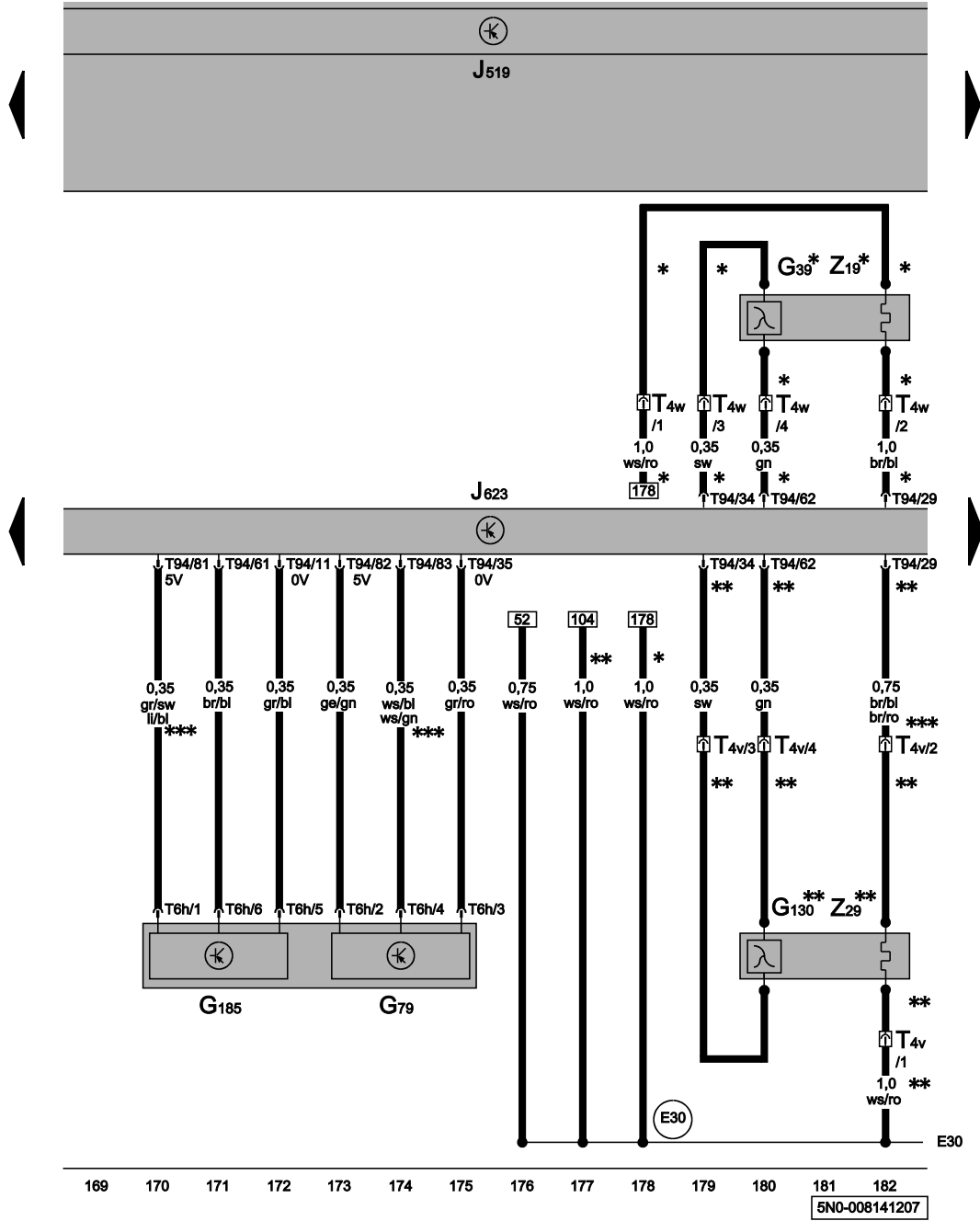
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Engine Control Module (ECM), Oxygen Sensor (O2S) Behind Three Way Catalytic Converter (TWC), Throttle Position (TP) Sensor

- G39 Heated Oxygen Sensor (HO2S)
- G79 Throttle Position (TP) Sensor
- G130 Oxygen Sensor (O2S) Behind Three Way Catalytic Converter (TWC)
- G185 Accelerator Pedal Position Sensor 2
- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- T4v 4-Pin Connector, in front engine compartment
- T4w 4-Pin Connector
- T6h 6-Pin Connector
- T94 94-Pin Connector
- Z19 Oxygen Sensor (O2S) Heater
- Z29 Oxygen Sensor (O2S) Heater 1 (behind Three Way Catalytic Converter (TWC))

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

- * Only engine code CAWA and CAWB
- ** Only engine code CCTA
- *** Insert in model year 2008



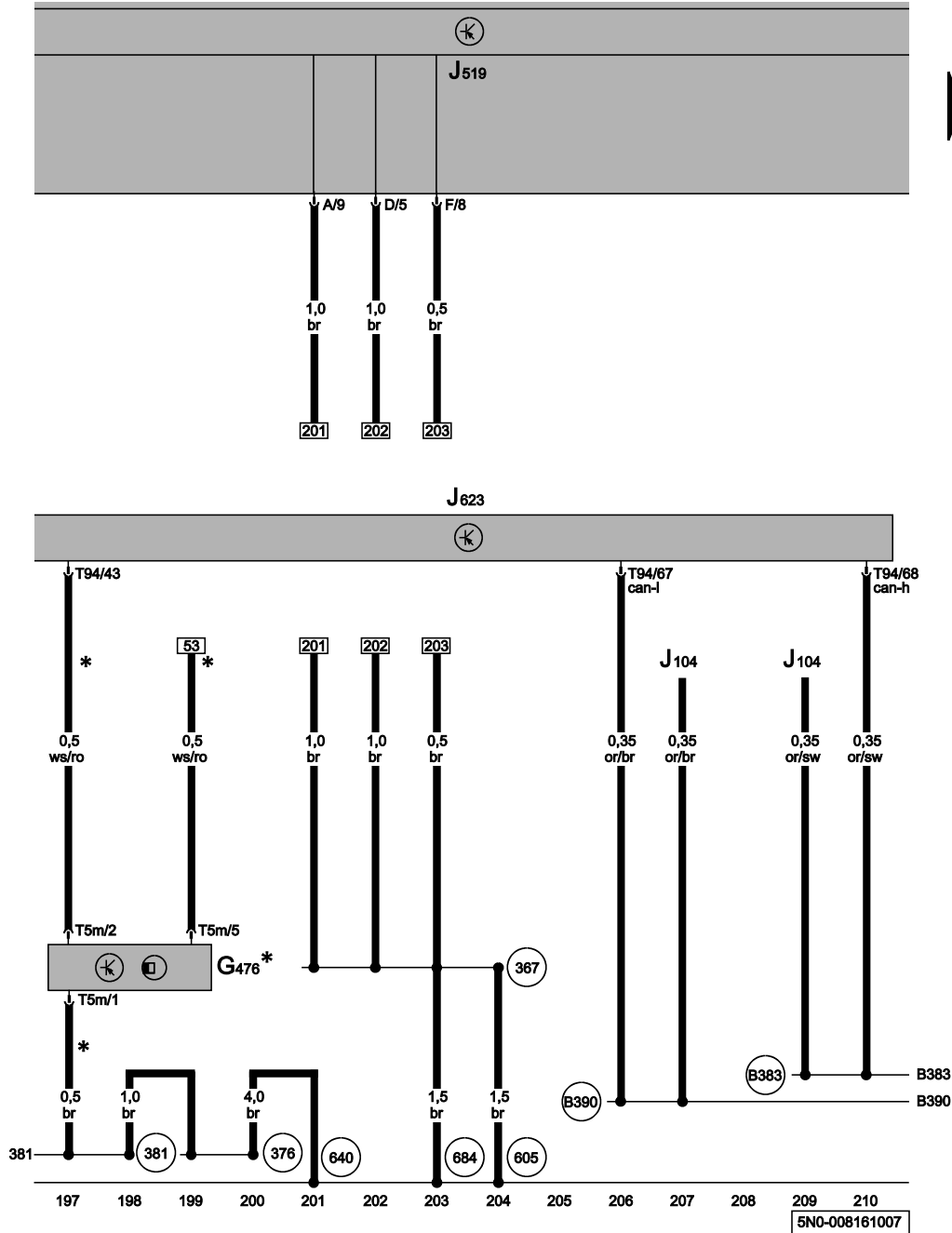
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Engine Control Module (ECM), Clutch Position Sensor

- G476 Clutch Position Sensor
- J104 ABS Control Module
- J519 Vehicle Electrical System Control Module
- J623 Engine Control Module (ECM), in plenum chamber, center
- T5m 5-Pin Connector
- T38 38-Pin Connector
- T94 94-Pin Connector

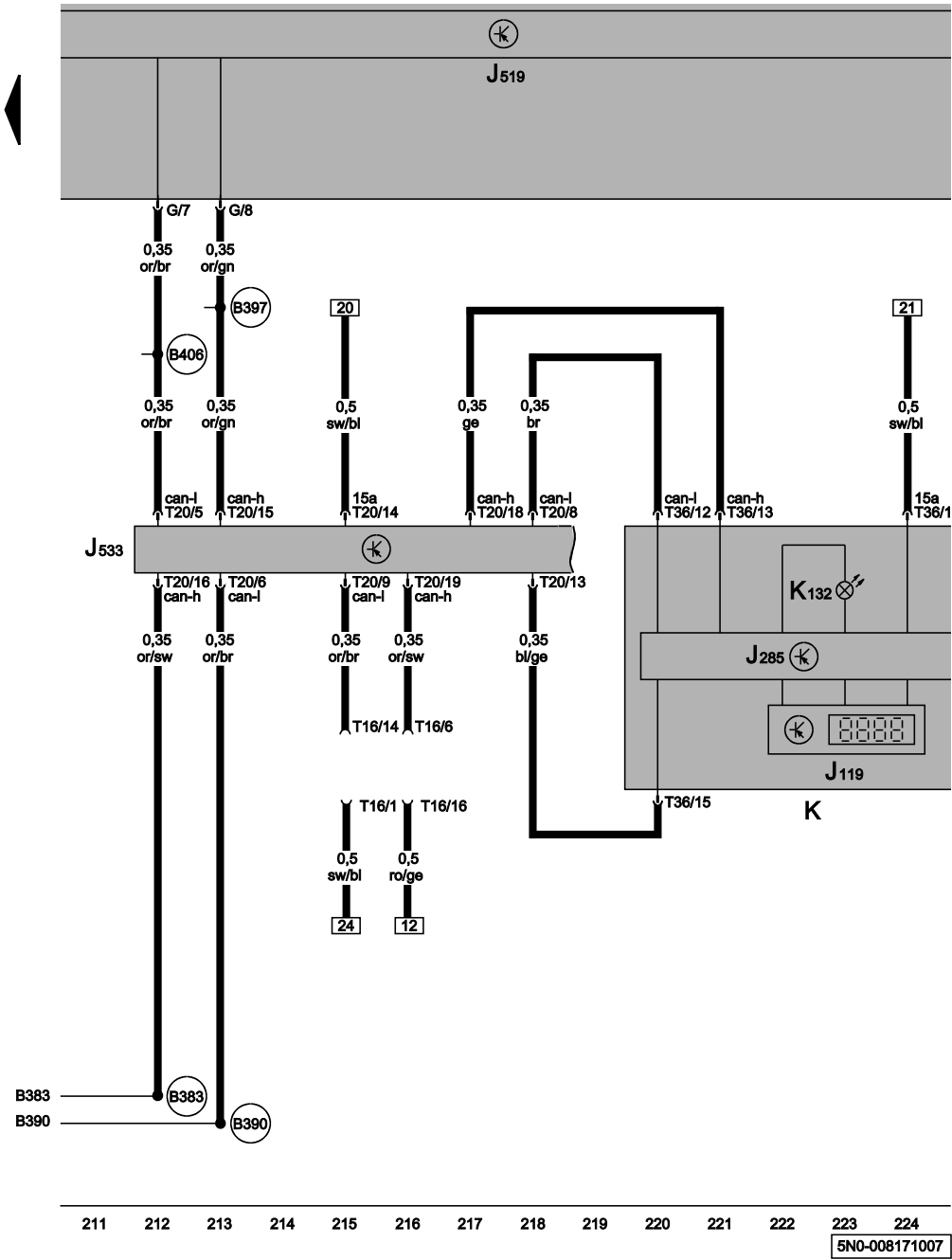
- (367) Ground Connection 2 (in main wiring harness)
- (376) Ground Connection 11 (in main wiring harness)
- (381) Ground Connection 16 (in main wiring harness)
- (605) Ground Connection (on upper steering column)
- (640) Ground Connection 2 (in engine compartment, left)
- (684) Ground Connection (on left front side member)
- (B383) Powertrain CAN-Bus High Connection 1 (in main wiring harness)
- (B390) Powertrain CAN-Bus Low Connection 1 (in main wiring harness)

* Only models with manual transmission



Instrument Cluster, Data Bus On Board Diagnostic Interface, Data Link Connector (DLC), Electronic Power Control (EPC) Warning Lamp, Multi-function Indicator (MFA)

- J119 Multi-function Indicator
- J285 Instrument Cluster Control Module
- J519 Vehicle Electrical System Control Module
- J533 Data Bus On Board Diagnostic Interface, in left footwell, near center console
- K Instrument Cluster
- K132 Electronic Power Control (EPC) Warning Lamp
- T16 16-Pin Connector, under instrument panel, left, Data Link Connector (DLC)
- T20 20-Pin Connector
- T36 36-Pin Connector
- (B383) Powertrain CAN-Bus High Connection 1 (in main wiring harness)
- (B390) Powertrain CAN-Bus Low Connection 1 (in main wiring harness)
- (B397) Comfort System CAN-Bus High Connection 1 (in main wiring harness)
- (B406) Comfort System CAN-Bus Low Connection 1 (in main wiring harness)



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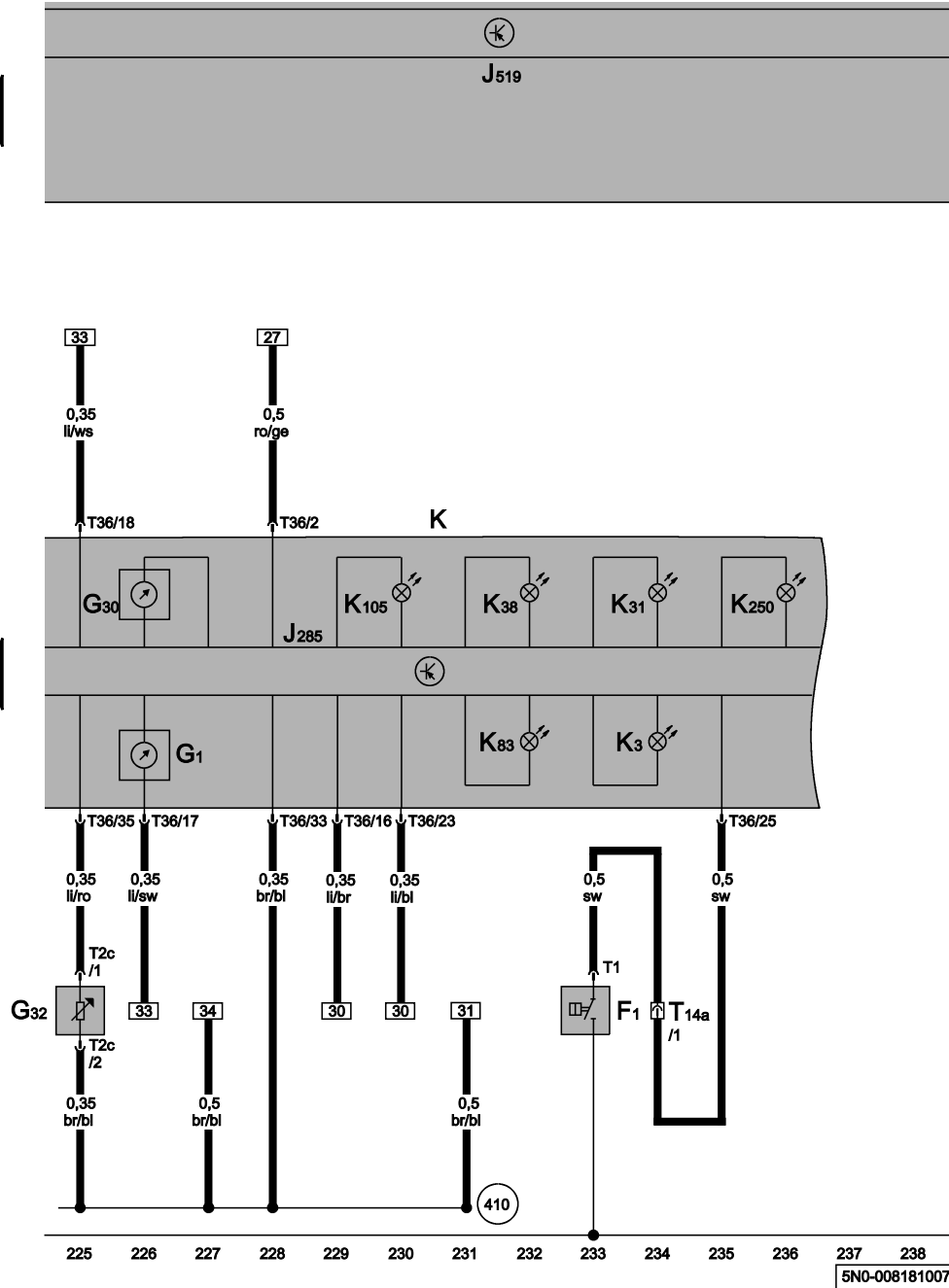
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Instrument Cluster, Engine Coolant Level (ECL) Sensor, Malfunction Indicator Lamp (MIL), Charge Air Pressure Gauge, Fuel Gauge, Oil Pressure Switch, Oil Pressure Warning Lamp and Hill Descent Control Indicator Lamp

- F1 Oil Pressure Switch
- G1 Fuel Gauge
- G30 Charge Air Pressure Gauge
- G32 Engine Coolant Level (ECL) Sensor
- J285 Instrument Cluster Control Module
- J519 Vehicle Electrical System Control Module
- K Instrument Cluster
- K3 Oil Pressure Warning Lamp
- K31 Cruise Control Indicator Lamp
- K38 Oil Level Indicator Lamp (only models with flexible Service Reminder Indicator (SRI))
- K83 Malfunction Indicator Lamp (MIL)
- K105 Fuel Reserve Warning Lamp
- K250 Hill Descent Control Indicator Lamp
- T1 Single Connector
- T2c Double Connector
- T14a 14-Pin Connector, near battery
- T36 36-Pin Connector

410 Sensor Ground Connection 1 (in main wiring harness)



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