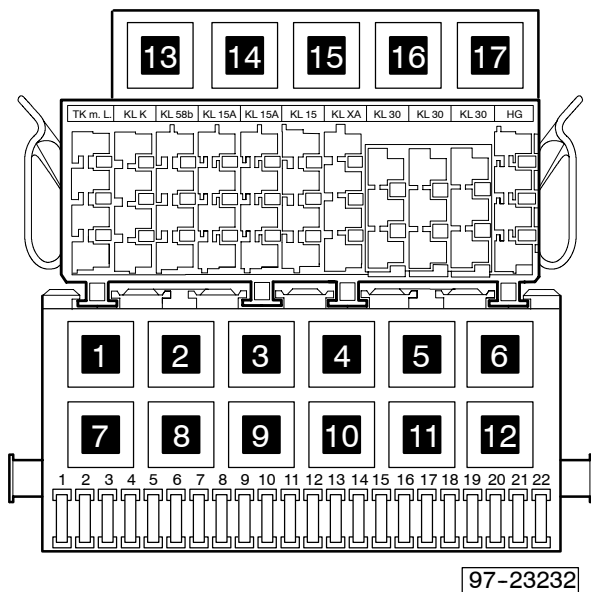


## 2.8 L- Engine - Motronic Multiport Fuel Injection (MFI)/103 kW, code AES,

from September 1998

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

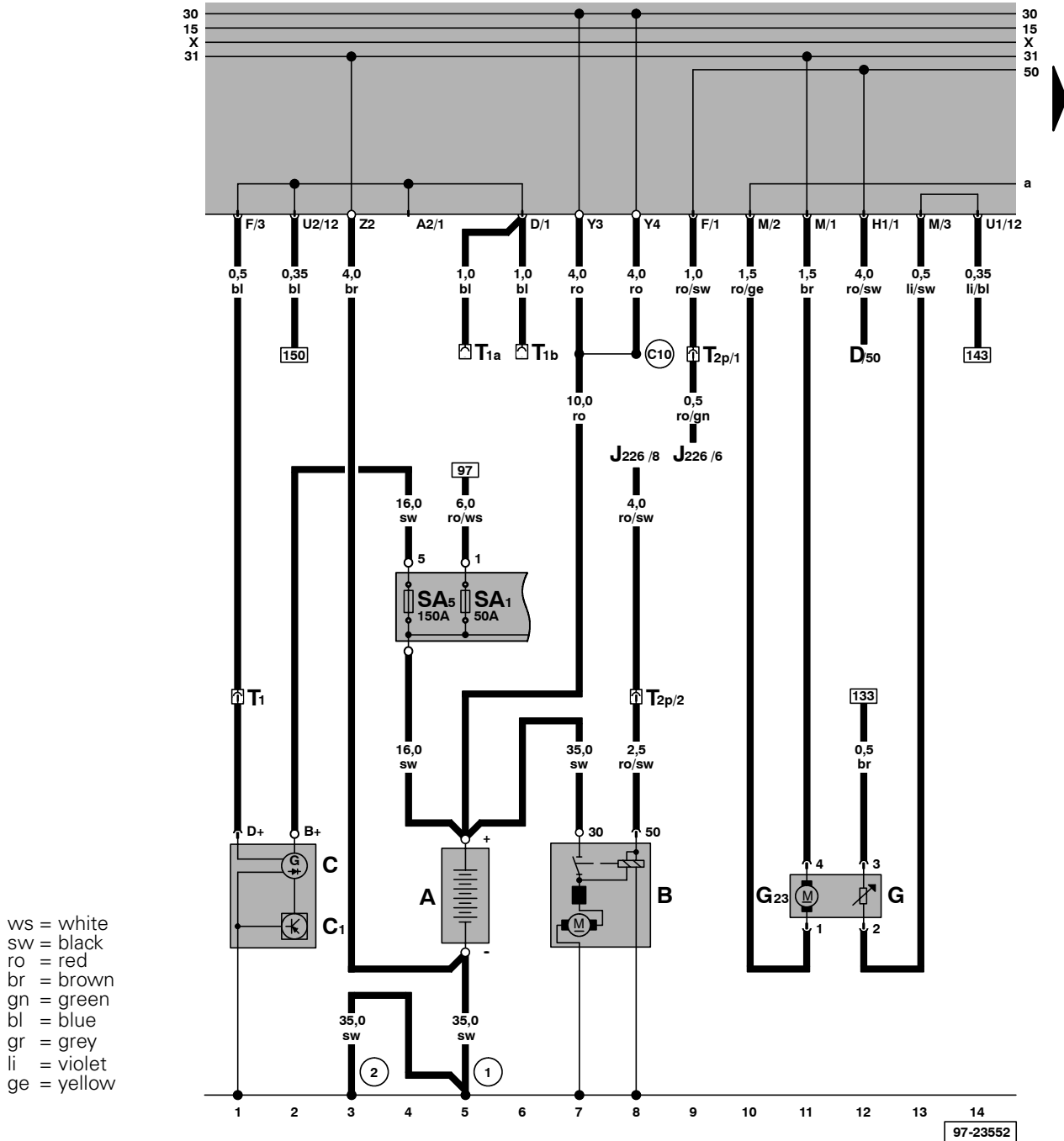


- 12** Fuel Pump (FP) Relay (167)
- 13** Coolant Circulation Pump Relay (53)
- 15** Secondary Air Injection (AIR) Pump Relay (53)

Note: Number in parentheses indicates production control number stamped on relay housing.

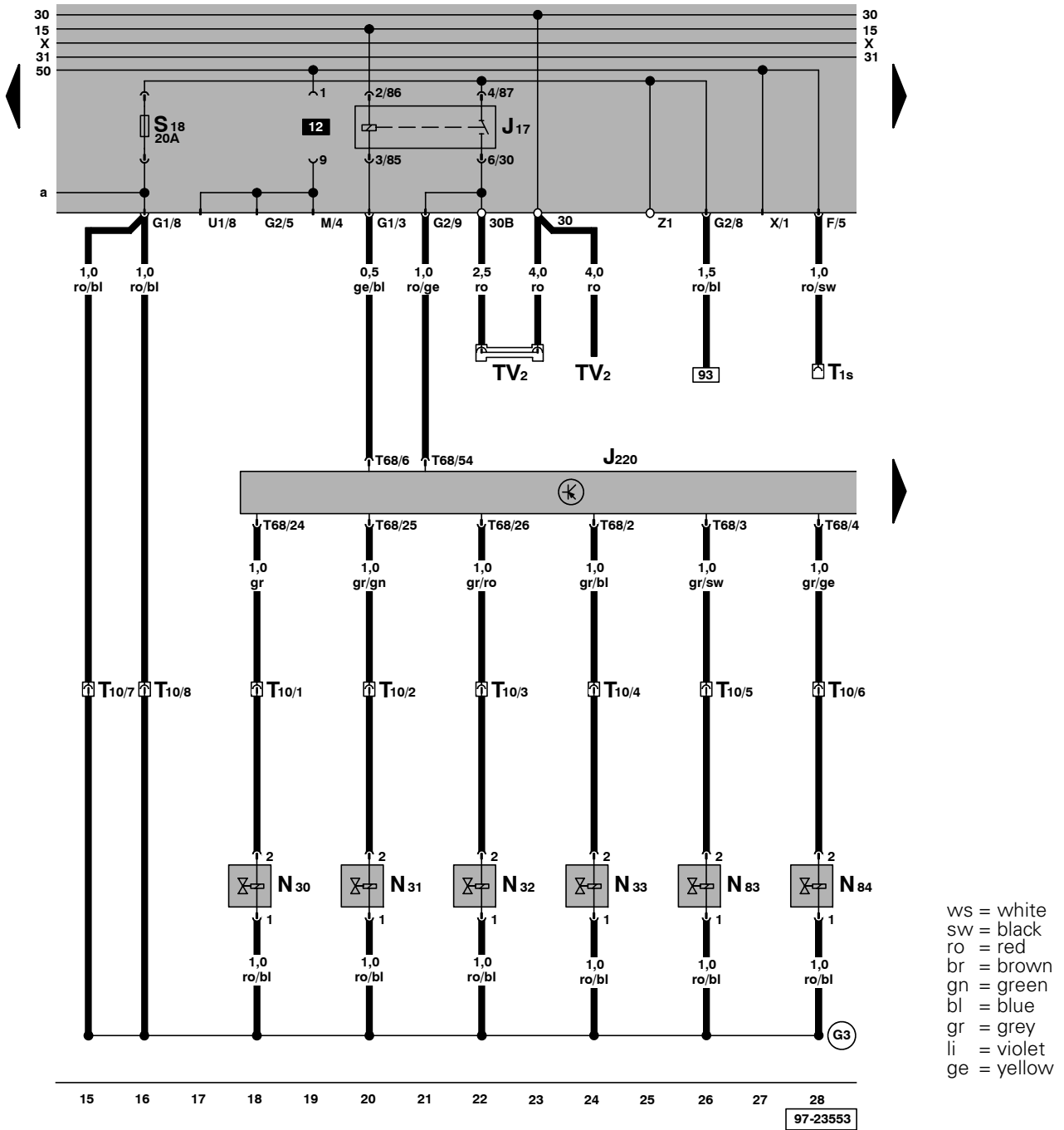
Fuse colors

- 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



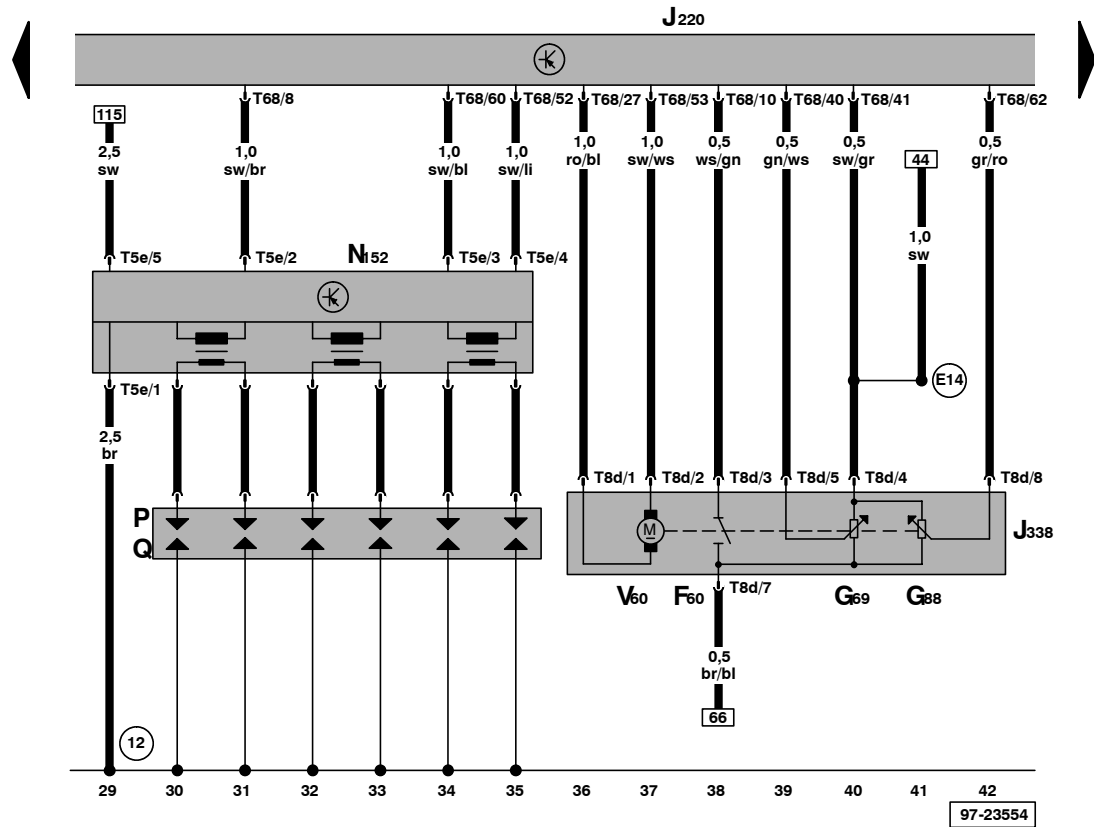
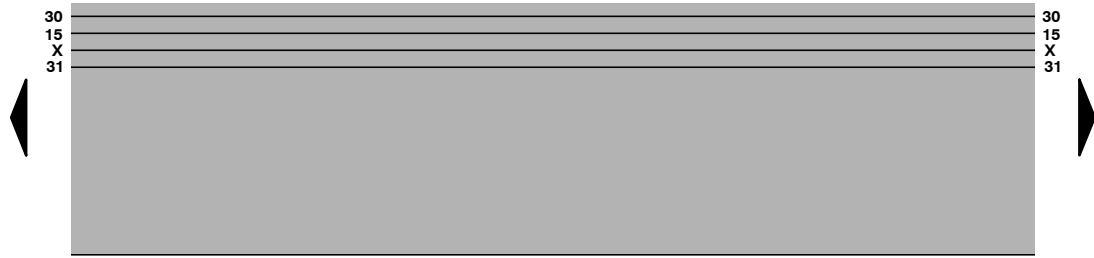
- A - Battery
- B - Starter
- C - Generator (GEN)
- C1 - Voltage Regulator (VR)
- D - Ignition/Start Switch
- G - Fuel Level Sensor
- G23 - Transfer Fuel Pump (FP)
- J226 - Park/Neutral Position (PNP) Relay, behind instrument panel, center
- SA1 - Fuse -1- in fuse bracket/battery
- SA5 - Fuse -5- in fuse bracket/battery
- T1 - Single Connector, near starter
- T1a - Single Connector, behind fuse/relay panel
- T1b - Single Connector, behind fuse/relay panel
- T2p - Double Connector, behind fuse/relay panel

- (1) - Ground strap, battery to body
- (2) - Ground strap, transmission to body
- (C10) - Plus connection -1- (30), in headlight wiring harness



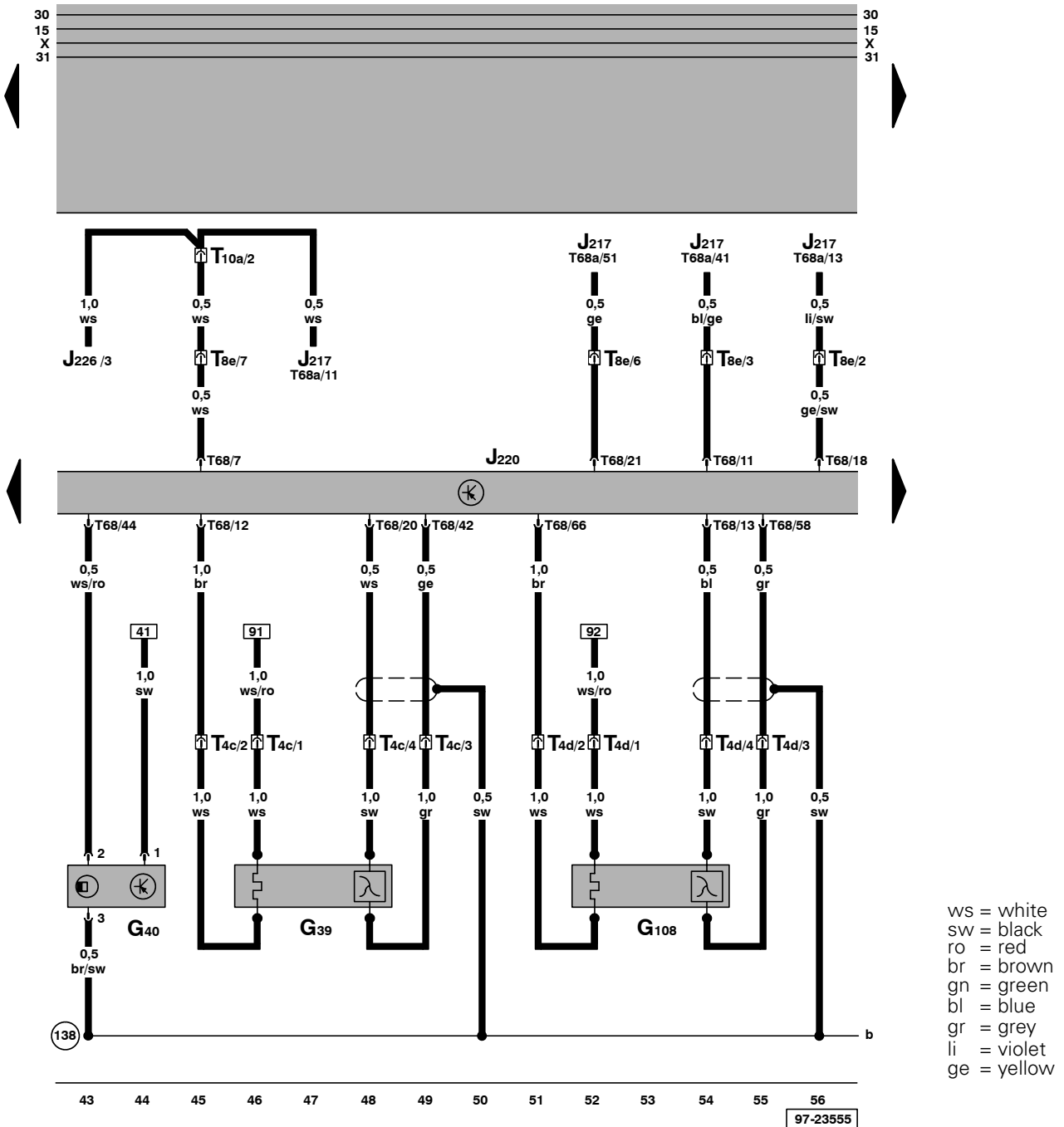
- J17 - Fuel Pump (FP) Relay
- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- N30 - Cylinder 1 Fuel Injector
- N31 - Cylinder 2 Fuel Injector
- N32 - Cylinder 3 Fuel Injector
- N33 - Cylinder 4 Fuel Injector
- N83 - Cylinder 5 Fuel Injector
- N84 - Cylinder 6 Fuel Injector
- T1s - Single Connector, behind fuse/relay panel
- T10 - 10-Pin Connector, near cylinder head cover
- T68 - 68-Pin Connector
- TV2 - Terminal 30 (B+) Wire Connector, red, each 6 points

(G3) - Plus connection, in injector wiring harness



- F60 - Closed Throttle Position (CTP) Switch
- G69 - Throttle Position (TP) Sensor
- G88 - Throttle Position (TP) Sensor
- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- J338 - Throttle Valve Control Module
- N152 - Ignition Coil
- P - Spark Plug Connectors
- Q - Spark Plugs
- T5e - 5-Pin Connector
- T8d - 8-Pin Connector
- T68 - 68-Pin Connector
- V60 - Throttle Position (TP) Actuator

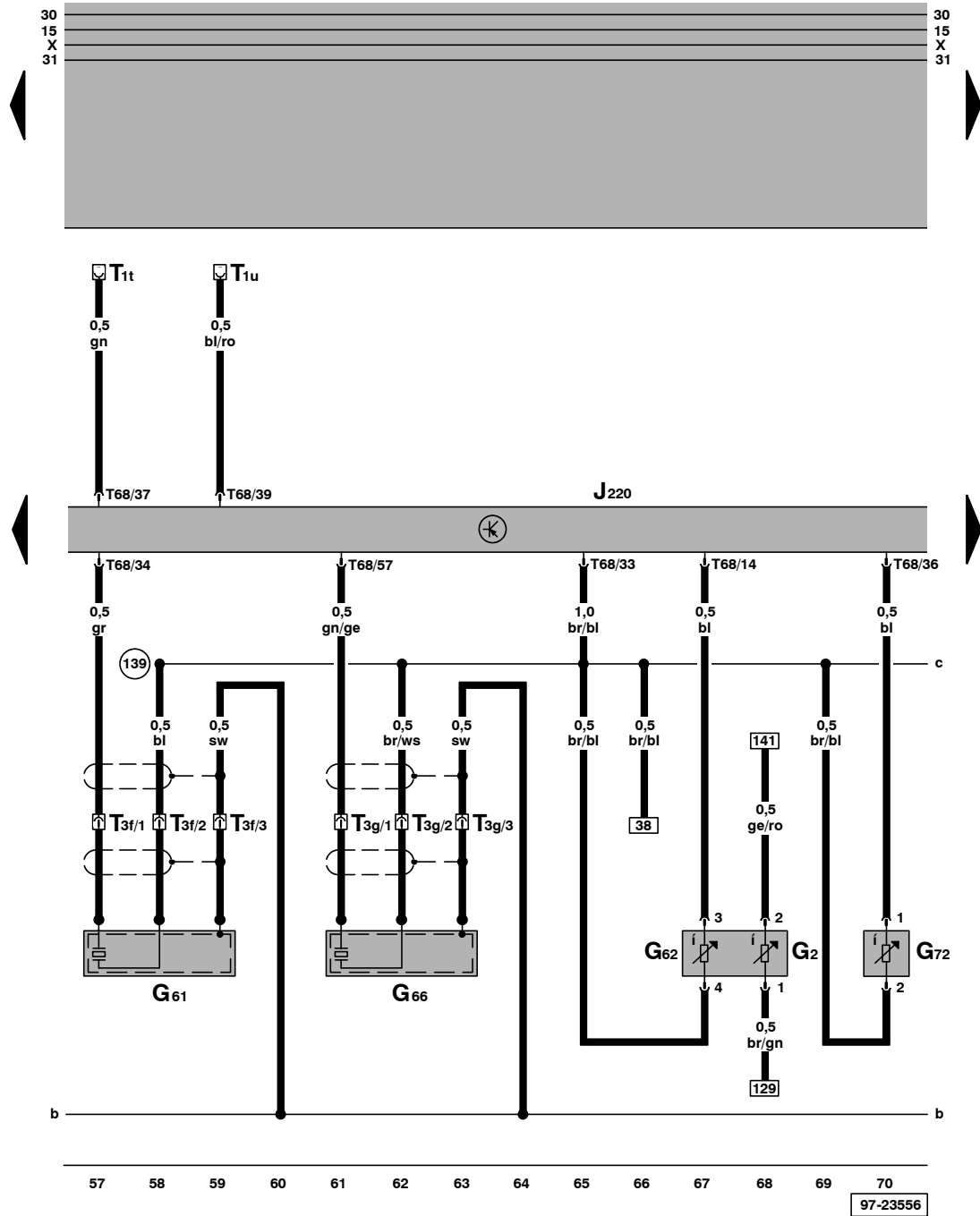
E14 - Wire connection -1-, in Motronic Multiport Fuel Injection (MFI) wiring harness



- G39 - Heated Oxygen Sensor (HO2S)
- G40 - Camshaft Position (CMP) Sensor
- G108 - Heated Oxygen Sensor (HO2S) 2
- J217 - Transmission Control Module (TCM), on left A-pillar, lower part
- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- J226 - Park/Neutral Position (PNP) Relay, behind instrument panel, center
- T4c - 4-Pin Connector, near Heated Oxygen Sensor (HO2S)
- T4d - 4-Pin Connector, near Heated Oxygen Sensor (HO2S)
- T8e - 8-Pin Connector, behind fuse/relay panel
- T10a - 10-Pin Connector, behind fuse/relay panel
- T68 - 68-Pin Connector

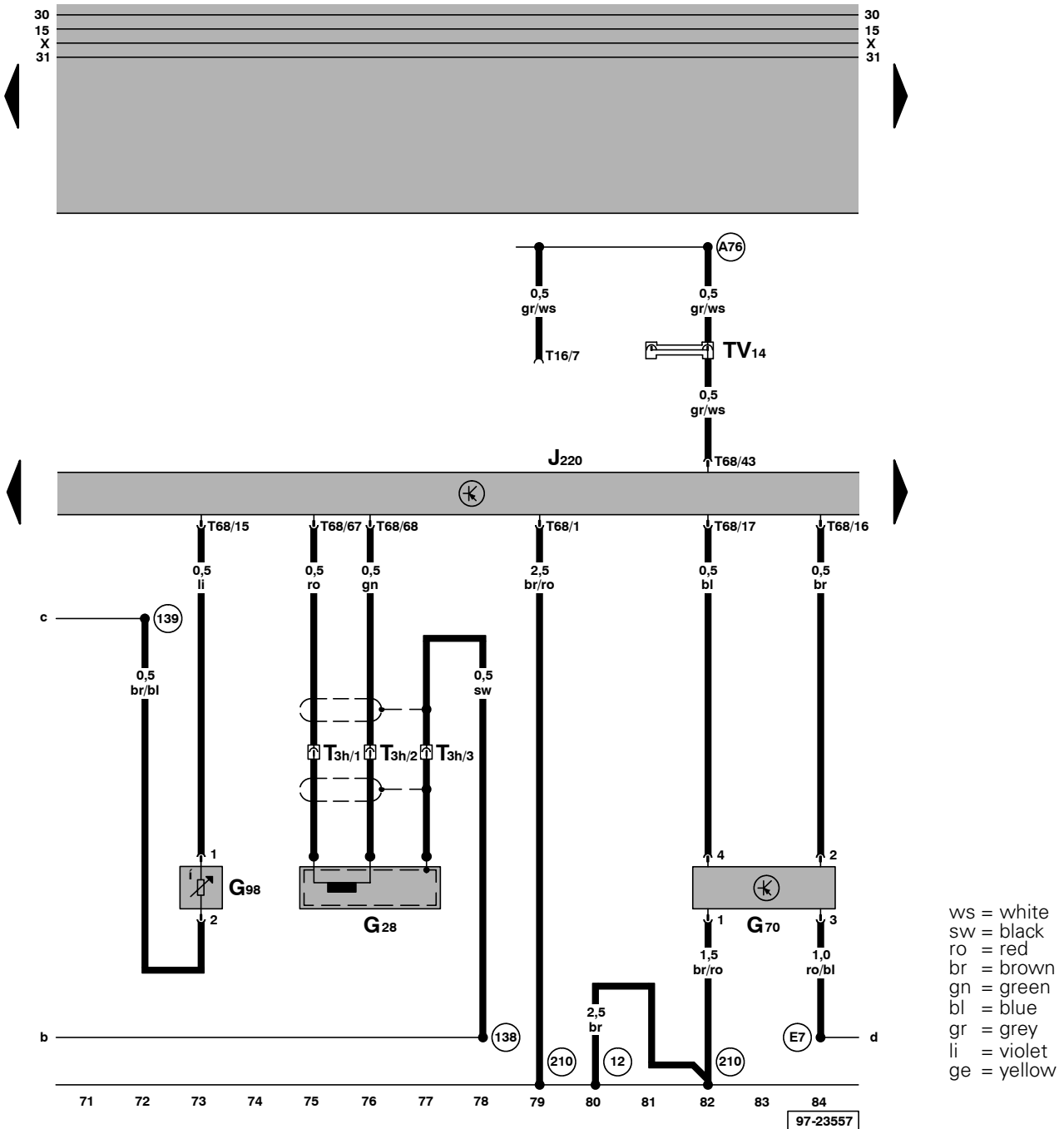
T68a - 68-Pin Connector, on transmission control module (TCM)

138 - Ground connection (control module), in Motronic Multiport Fuel Injection (MFI) wiring harness



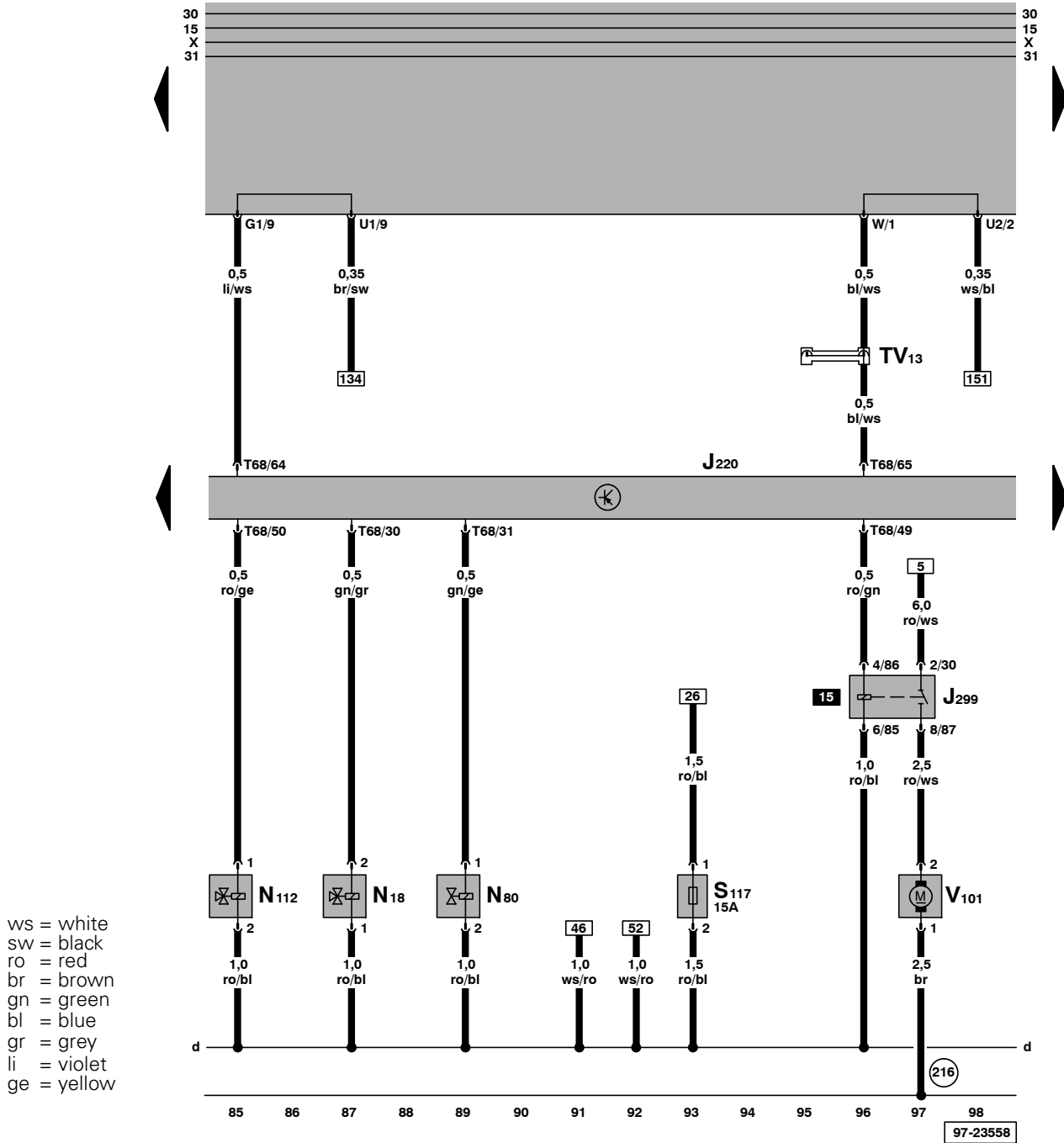
- G2 - Engine Coolant Temperature (ECT) Sensor
- G61 - Knock Sensor (KS) 1
- G62 - Engine Coolant Temperature (ECT) Sensor
- G66 - Knock Sensor (KS) 2
- G72 - Intake Air Temperature (IAT) Sensor
- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- T1t - Single Connector (Connection A/C), behind fuse/relay panel
- T1u - Single Connector (Connection A/C), behind fuse/relay panel
- T3f - 3-Pin Connector, near cylinder head cover
- T3g - 3-Pin Connector, near cylinder head cover
- T68 - 68-Pin Connector

(139) - Ground connection (sensor Ground), in Motronic Multiport Fuel Injection (MFI) wiring harness



- G28 - Engine Speed (RPM) Sensor
- G70 - Mass Air Flow (MAF) Sensor
- G98 - EGR Temperature Sensor
- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- T3h - 3-Pin Connector, near starter
- T16 - Data Link Connector (DLC), behind steering column cover
- T68 - 68-Pin Connector
- TV14 - Data Link Connector (DLC) wire Connector, white
- (12) - Ground connection, in engine compartment, left

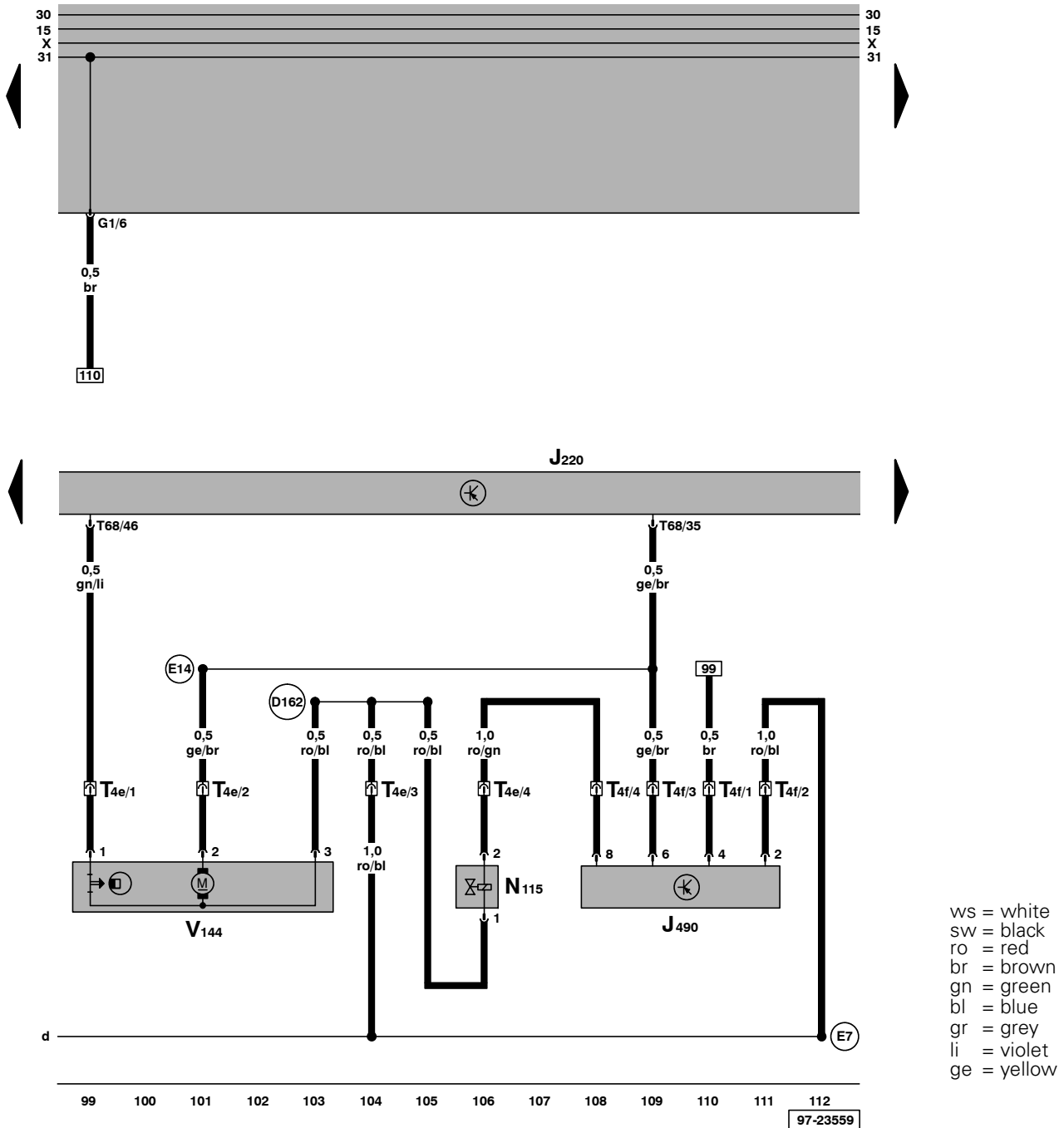
- (138) - Ground connection (control module), in Motronic Multiport Fuel Injection (MFI) wiring harness
- (139) - Ground connection (sensor Ground), in Motronic Multiport Fuel Injection (MFI) wiring harness
- (210) - Ground connection -1-, in Motronic Multiport Fuel Injection (MFI) wiring harness
- (A76) - Connector (K-diagnosis wire), in instrument panel wiring harness
- (E7) - Plus connection (87a), in Motronic Multiport Fuel Injection (MFI) wiring harness



- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- J299 - Secondary Air Injection (AIR) Pump Relay, above fuse/relay panel
- N18 - EGR Vacuum Regulator Solenoid Valve
- N80 - Evaporative Emission (EVAP) Canister Purge Regulator Valve
- N112 - Secondary Air Injection (AIR) Solenoid Valve
- S117 - Fuse for control elements, above fuse/relay panel
- T68 - 68-Pin Connector
- TV13 - Vehicle Speed Signal Wire Connector, blue
- V101 - Secondary Air Injection (AIR) Pump Motor

(216) - Ground connection -2-, in Motronic Multiport Fuel Injection (MFI) wiring harness

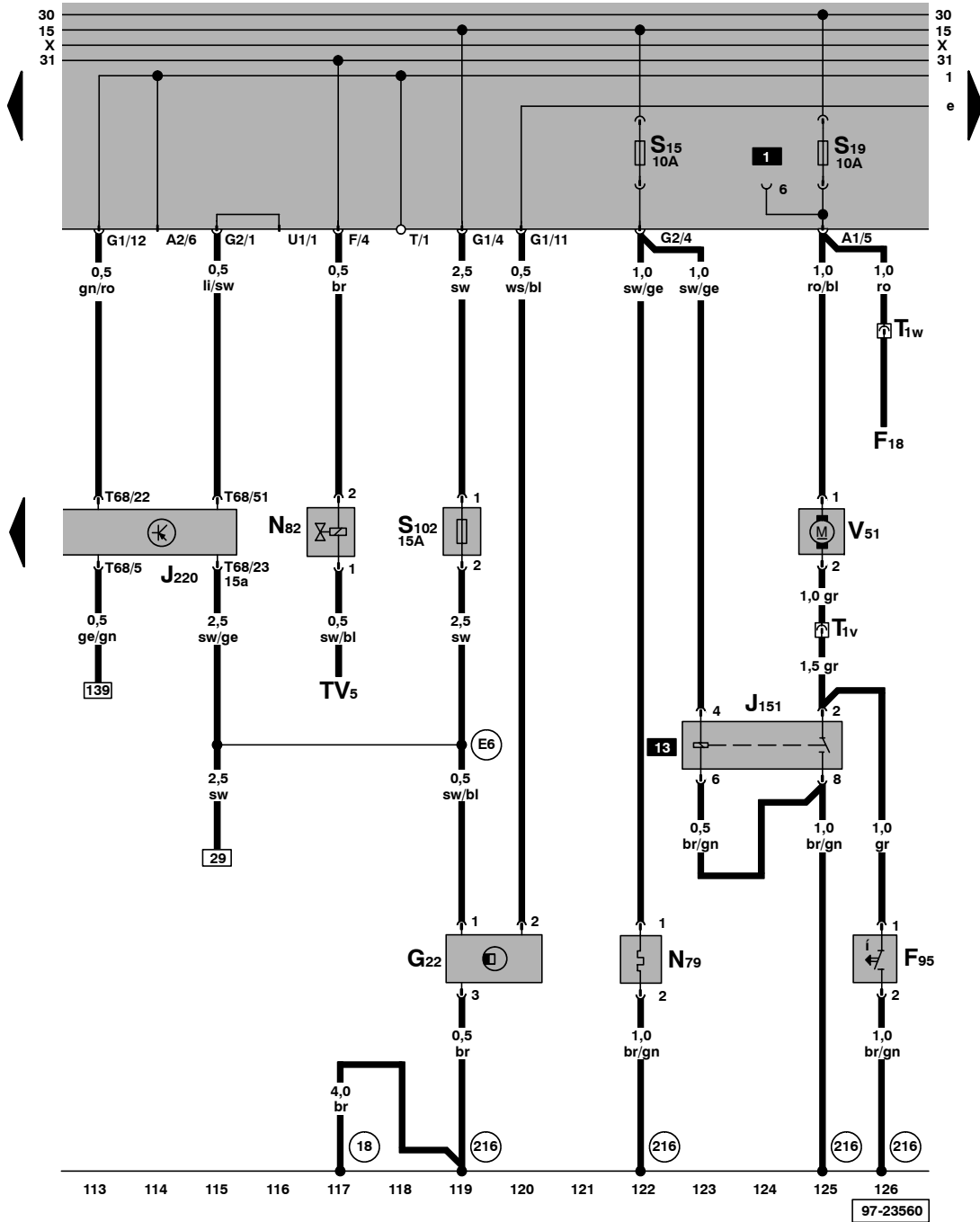




- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- J490 - Fuel system Diagnostic control module, production control number (194), behind instrument panel, center
- N115 - Evaporative Emission (EVAP) Canister Purge Solenoid Valve
- T4e - 4-Pin Connector, in engine compartment, left
- T4f - 4-Pin Connector, behind instrument panel, center
- T68 - 68-Pin Connector
- V144 - Leak detection pump (LDP)

- (E7) - Plus connection (87a), in Motronic Multipoint Fuel Injection (MFI) wiring harness
- (E14) - Wire connection -1-, in Motronic Multipoint Fuel Injection (MFI) wiring harness

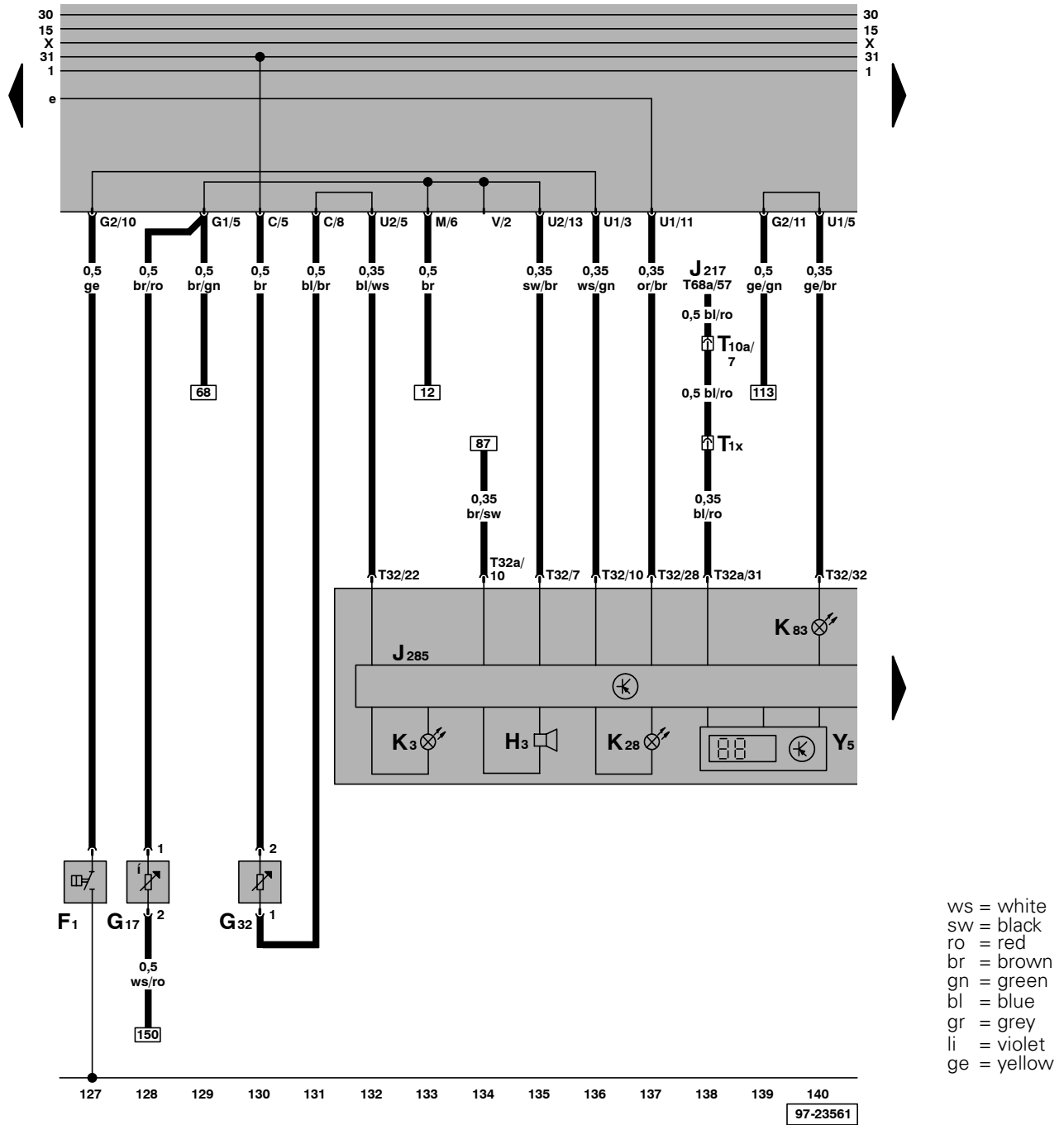
- (D162) - Wire connection, leak detection pump, in engine wiring harness



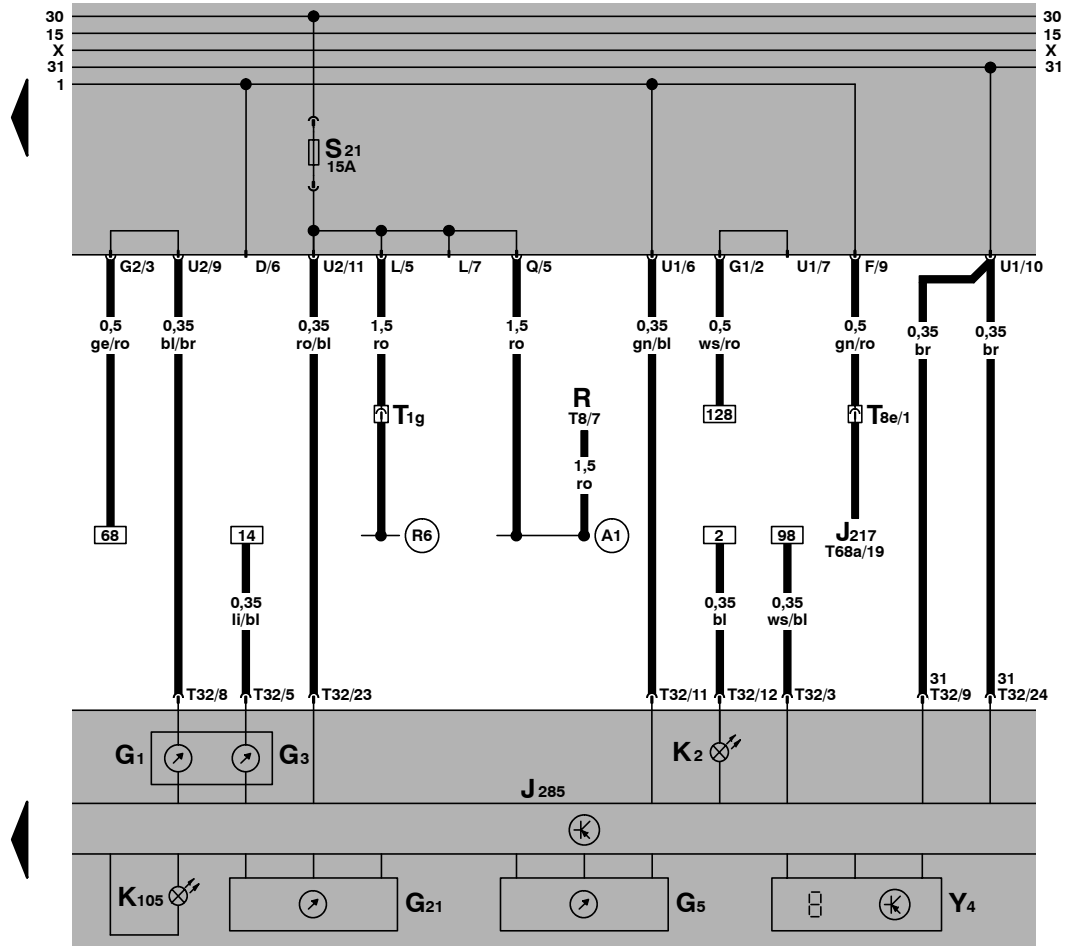
ws = white  
 sw = black  
 ro = red  
 br = brown  
 gn = green  
 bl = blue  
 gr = grey  
 li = violet  
 ge = yellow

- F18 - Coolant Fan Control (FC) Thermal Switch
- F95 - After-Run Coolant Thermal Switch
- G22 - Speedometer Vehicle Speed Sensor
- J151 - Coolant Circulation Pump Relay, above fuse/relay panel
- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- N79 - Positive Crankcase Ventilation (PCV) Heating Element
- N82 - Coolant Cut-off Valve
- S102 - Engine Control Module (ECM) Fuse, above fuse/relay panel
- T1v - Single Connector, behind fuse/relay panel
- T1w - Single Connector, behind fuse/relay panel
- T68 - 68-Pin Connector

- TV5 - Terminal 15a Wire Connector, green, 4-Pin and 8-Pin
- V51 - After-Run Coolant Pump
- (18) - Ground connection, on engine block
- (216) - Ground connection -2-, in Motronic Multiport Fuel Injection (MFI) wiring harness
- (E6) - Plus connection -1- (15), in Motronic Multiport Fuel Injection (MFI) wiring harness



- F1 - Oil Pressure Switch
- G17 - Outside Air Temperature Sensor
- G32 - Engine Coolant Level (ECL) Sensor
- H3 - Warning Buzzer
- J217 - Transmission Control Module (TCM), on left A-pillar, lower part
- J285 - Control module with indicator unit in instrument panel insert
- K3 - Oil Pressure Warning Light
- K28 - Engine Coolant Level/Temperature (ECL)/ECT Warning Light
- K83 - Malfunction Indicator Lamp (MIL)
- T1x - Single Connector, behind fuse/relay panel
- T10a - 10-Pin Connector, behind fuse/relay panel
- T32 - 32-Pin Connector, blue
- T32a - 32-Pin Connector, green
- T68a - 68-Pin Connector, on Transmission Control Module (TCM)
- Y5 - Transmission Range (TR) Selector Lever Display



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

141 142 143 144 145 146 147 148 149 150 151 152 153 154  
 97-23562

- G1 - Fuel gauge
- G3 - Engine Coolant Temperature (ECT) Gauge
- G5 - Tachometer
- G21 - Speedometer
- J217 - Transmission Control Module (TCM), on left A-pillar, lower part
- J285 - Control module with indicator unit in instrument panel insert
- K2 - Generator (GEN) Warning Light
- K105 - Low Fuel Level Warning Light
- R - Radio
- T1g - Single Connector, behind fuse/relay panel
- T8 - 8-Pin Connector, on radio
- T8e - 8-Pin Connector, behind fuse/relay panel
- T32 - 32-Pin Connector, blue

- T68a - 68-Pin Connector, on transmission control module (TCM)
- Y4 - Odometer Display
- (A1) - Plus connection (30a), in instrument panel wiring harness
- (R6) - Plus connection -1-, in interior light wiring harness