

Index

Current Flow Diagrams	No.
● Boat engine, 2.5 litre - TDI and SDI from July 2001	1/1
- Alternator, voltage regulator, starter, starter relay, starting aid relay, earth switch-off relay, diode group, fuse for Ter. 30a, battery spilt charge relay	1/2
- Ignition/starter switch, gearbox switch, throttle level, Terminal 15 relay	1/3
- Diesel direct injection system control unit, idling switch, throttle lever position sender, glow plug relay, voltage supply relay, commencement of injection valve, glow plugs	1/4
- Diesel direct injection system control unit, coolant temperature sender, engine speed sender, intake manifold pressure sender, intake manifold temperature sender, diagnosis plug (engine)	1/5
- Diesel direct injection system control unit, fuel temperature sender, modulating piston-movement sender, metering adjuster, clutch switch, needle lift sender	1/6
- Diesel direct injection system control unit, fuel pump, fuel pump relay, diagnosis plug (panel)	1/7
- Oil extraction pump, engine stop relay, oil extraction pump relay, oil extraction pump button, Emergency-off button, fuel shut-off activation relay, fuel shut-off valve	1/8
- Oil pressure switch, water temperature switch, oil pressure display unit, coolant temperature display unit	1/9
- Acoustic alarm relay, confirmation button, buzzer/gong, operating voltage display unit	1/10
- Consumption display button, water separator sender, multi-function display unit with rev. counter, water level sender, coolant level relay, water separator relay	1/11
- Dimmer button, oil temperature sender, raw water temperature sender, instrument illumination, dimmer	1/12
● Boat engine 1.9 litre - SDI from May 2003	2/1
- Alternator, voltage regulator, starter, starter relay, starting aid relay, earth switch-off relay, diode group, Terminal 30a voltage supply fuse	2/2
- Ignition/starter switch, gearbox switch, emergency-off button, accelerator lever switch, earth isolating relay, marine engine, Terminal 15 relay	2/3
- Diesel direct injection system control unit, coolant temperature sender, engine speed sender, glow plugs, glow plug relay, Terminal 30 voltage supply relay	2/4
- Diesel direct injection system control unit, needle lift sender, intake manifold flap motor, diagnosis connector	2/5
- Diesel direct injection system control unit, clutch switch, fuel temperature sender, modulating piston movement sender, metering adjuster	2/6
- Diesel direct injection system control unit, idling switch, accelerator pedal position sender	2/7
- Diesel direct injection system control unit, fuel pump, fuel pump relay, fuel pump fuse	2/8
- Oil extraction pump, engine stop relay, oil extraction pump relay, fuel cut-off valve, oil extraction pump button, fuel shut-off activation relay	2/9
- Oil pressure switch, water temperature switch, oil pressure warning lamp, coolant temperature warning lamp/coolant temperature shortage display, preheating time warning lamp	2/10
- Switching and instruments - lighting control, acoustic alarm relay, confirmation button, buzzer/gong, Stop/start system stop button, alternator warning lamp	2/11
- Dimmer button, marine engine, consumption display button, marine engine, multi-function display with rev. counter, marine engine	2/12
- Water separator relay, marine engine, coolant level relay, marine engine, starter button, water separator sender, water level sender, dimmer, marine engine	2/13

Overview of current flow diagrams, fault finding programmes and fitting locations published to date

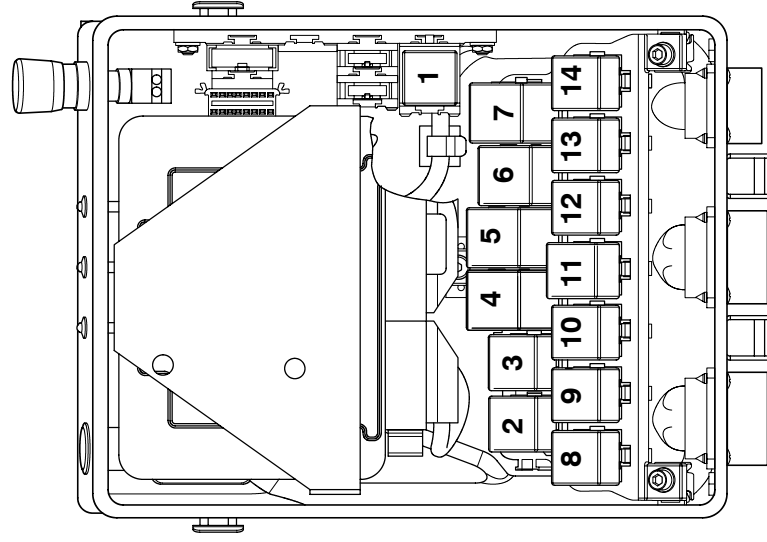
Current Flow Diagram No.	Fault Finding Programme No.	Fitting Locations No.	Published under Figure No.
1	-	-	M5.0001 to M5.00011
2	-	-	M4.0001 to M4.00012

Always specify the Article No. when ordering current flow diagrams, fault finding programmes and fitting locations.

4-Cylinder Boat Engine

● 1.9 ltr. SDI with distributor injection pump

from May 2003



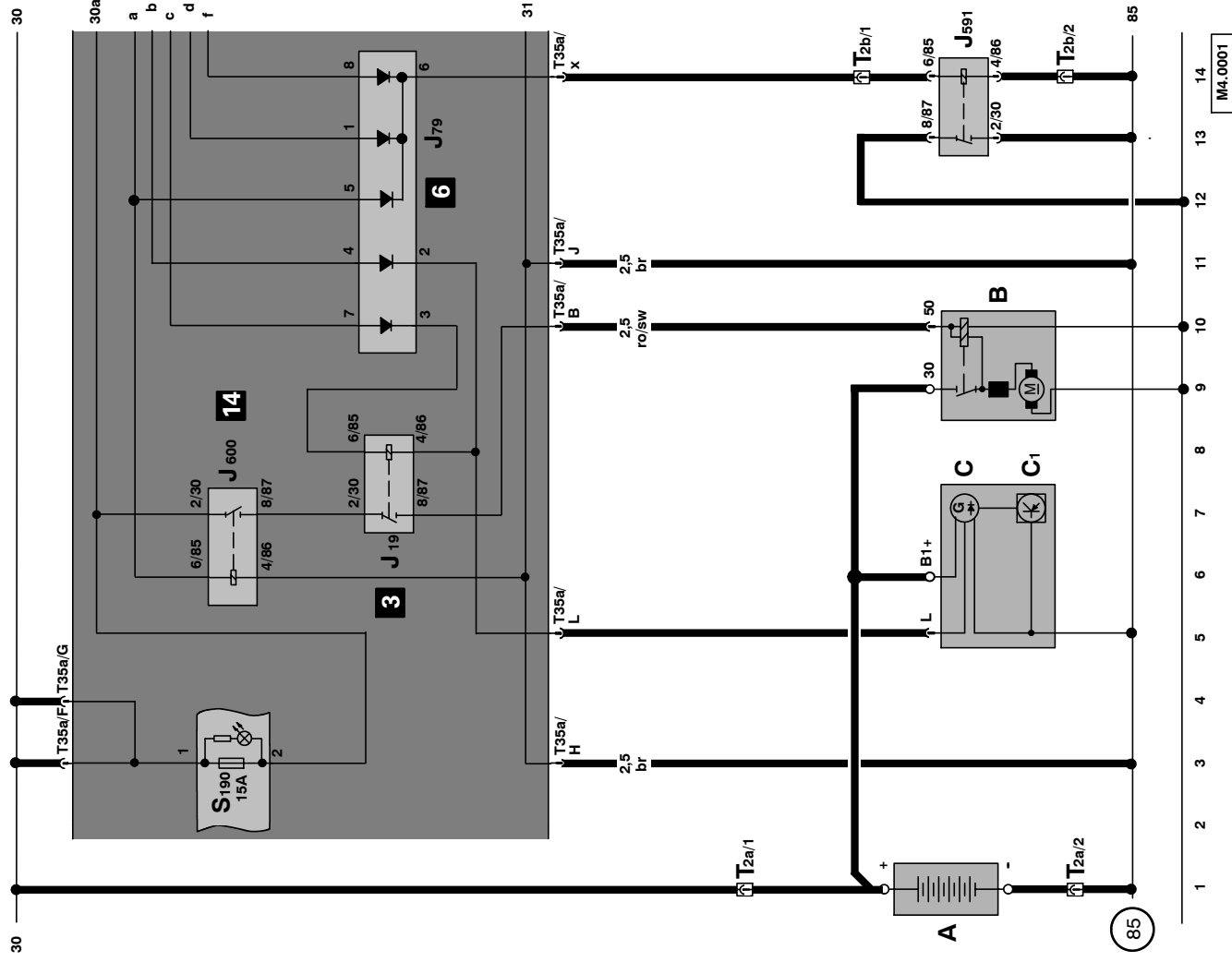
Relay sockets on relay plate:

- 1** Voltage supply relay Ter. 30 (J317)
- 2** Engine stop relay (J594)
- 3** Starter relay (J19)
- 4** Water separator relay (J597)
- 5** Coolant level relay (J596)
- 6** Diode group (J79)
- 7** Acoustic alarm relay (J598)
- 8** Terminal 15 relay (J592)
- 9** Earth isolating relay (J700)
- 10** Fuel shut-off activation relay (J593)
- 11** Glow plug relay (J52)
- 12** Oil extraction pump relay (J595)
- 13** Fuel pump relay (J17)
- 14** Starting aid relay (J600)

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

SLPM-0002

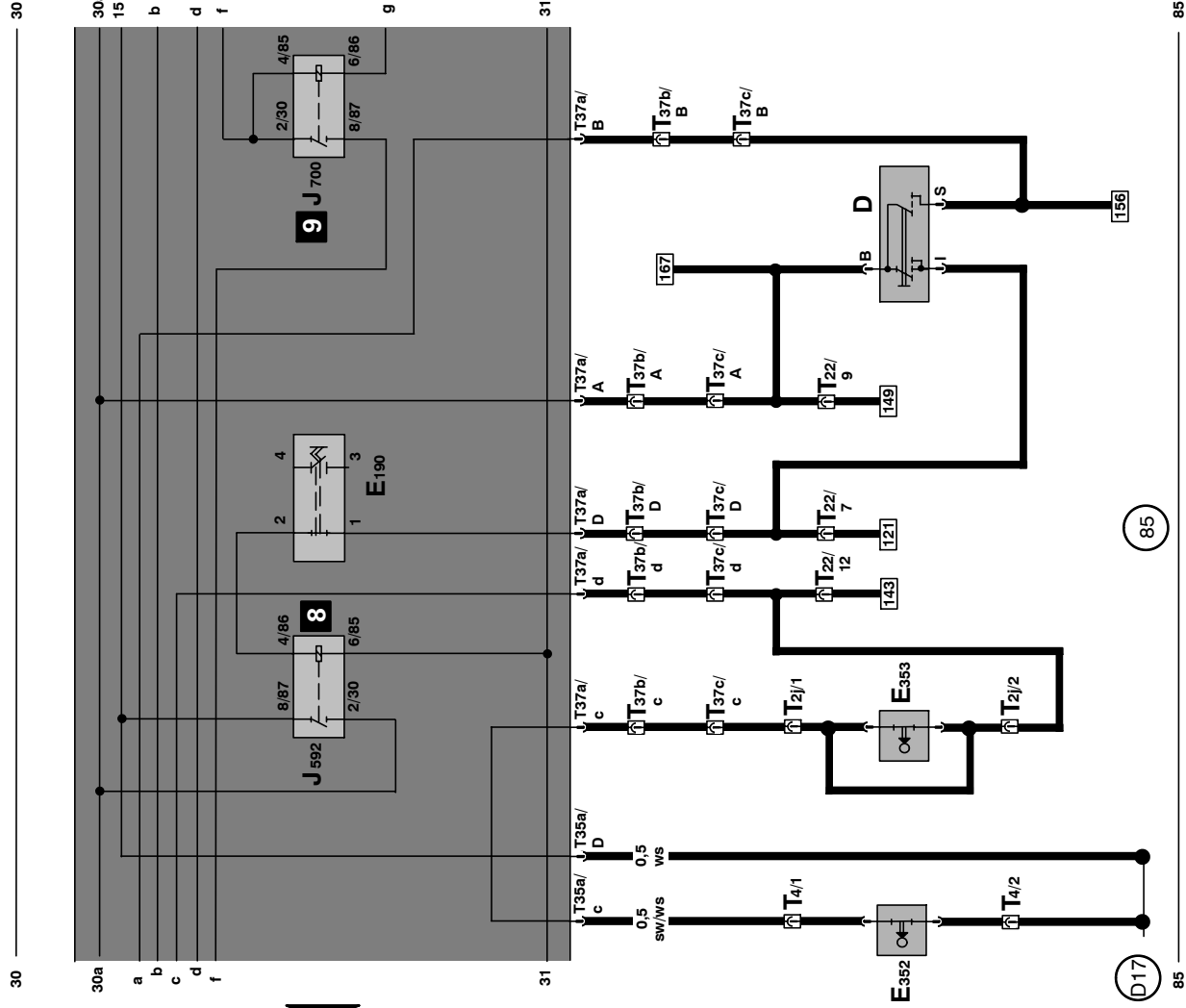
Alternator, voltage regulator, starter, starter relay, starting aid relay, earth switch-off relay, diode group



- A - Battery
- B - Starter
- C - Alternator
- C1 - Voltage regulator
- J19 - Starter relay
- J79 - Diode group
- J591 - Earth switch-off relay, marine engine
- J600 - Starting aid relay, marine engine
- S190 - Terminal 30 voltage supply fuse
- T2a - High-voltage battery connector
- T2b - Connector, 2-pin, near earth switch-off relay, marine engine
- T35a - Connector, 35-pin, fuse box/relay plate to engine wiring harness

- (85) - Earth connection -1-, in engine compartment wiring harness
- - Fuse box/relay plate on engine

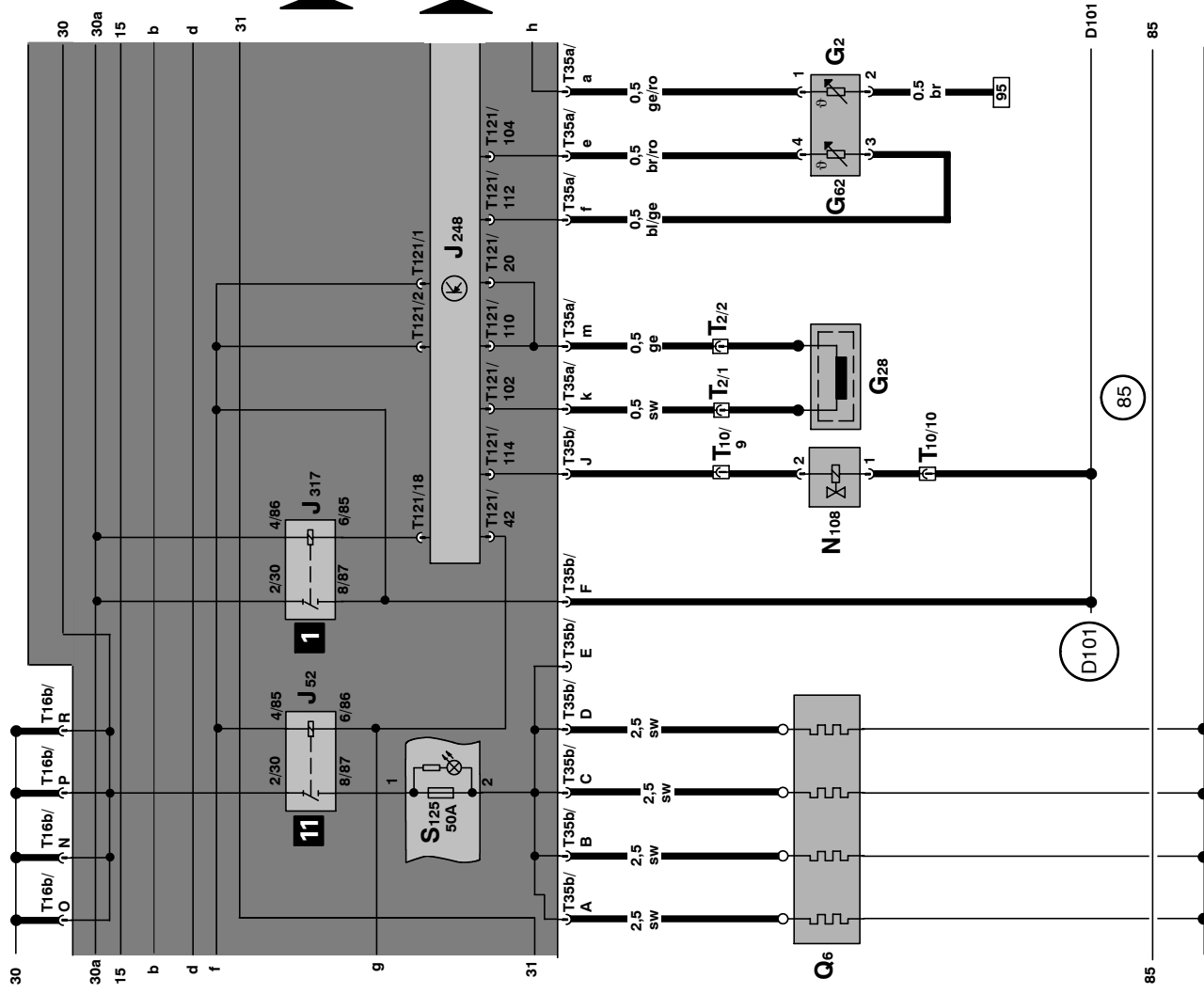
Ignition/starter switch, gearbox switch, emergency-off button, accelerator lever switch, earth isolating relay, marine engine, Terminal 15 relay



WS = white
 SW = black
 RO = red
 BR = brown
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 BL = blue
 GR = grey
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 OR = orange

- D - Ignition/starter switch
- E190 - Emergency-off button
- E352 - Gearbox neutral switch, marine engine
- E353 - Throttle lever neutral switch, marine engine
- J592 - Terminal 15 relay, marine engine
- J700 - Earth isolating relay, marine engine
- T2j - Connector, 2-pin, neutral switch connection
- T4 - Connector, 4-pin, gearbox variant on engine at rear
- T22 - Connector, 22-pin, adapter cable to panel
- T35a - Connector, 35-pin, fuse box/relay plate to engine wiring harness
- T37a - Connector, 37-pin, on fuse box/relay plate
- T37b - Connector, 37-pin, connecting cable to instrumentation
- T37c - Connector, 37-pin, adapter cable to panel
- 85 - Earth connection -1- in engine compartment wiring harness
- D17 - Positive connection -1- (15), in engine harness
- Fuse box/relay plate on engine

Diesel direct injection system control unit, coolant temperature sender, engine speed sender, glow plugs, glow plug relay, Terminal 30 voltage supply relay

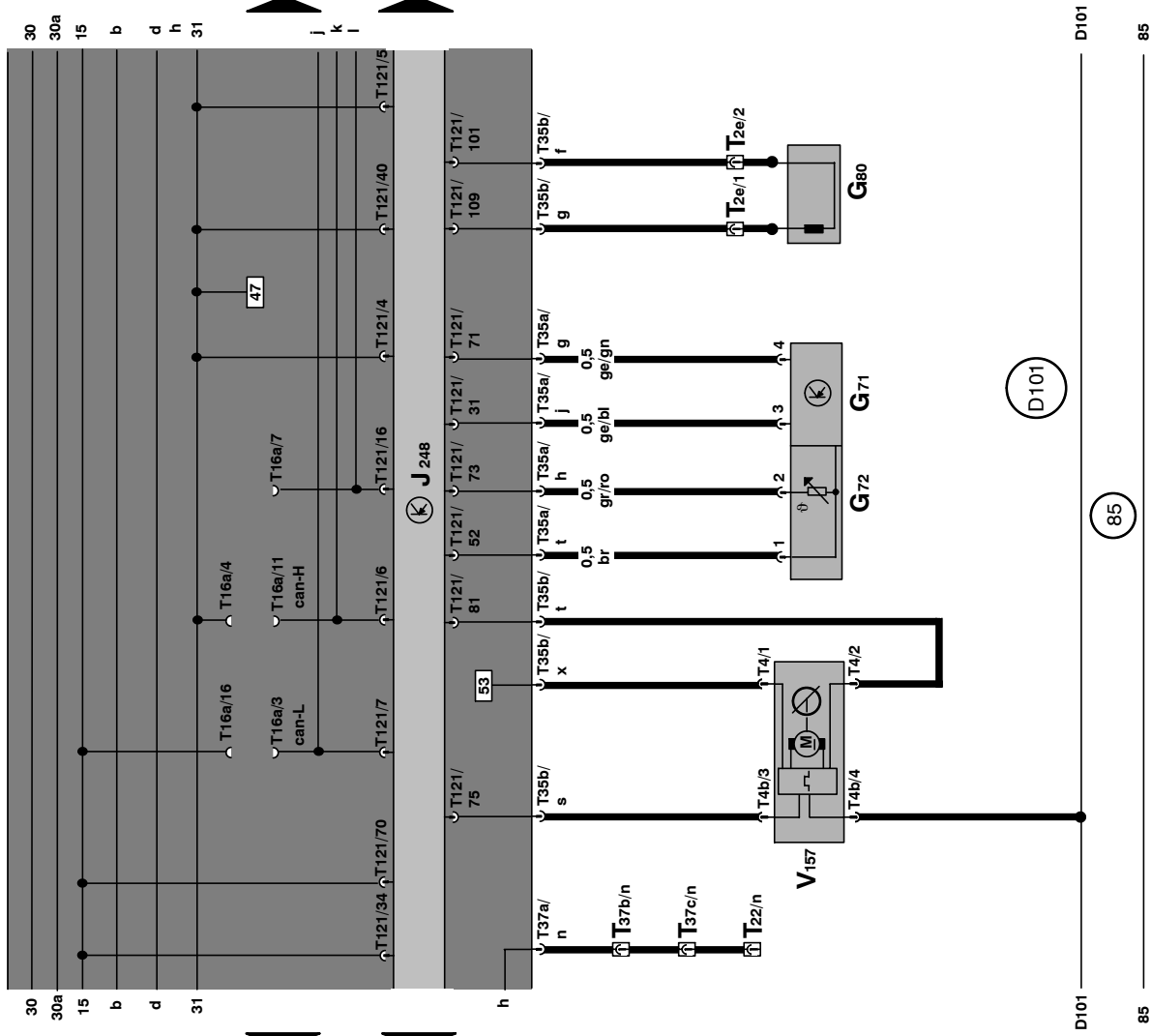


WS = white
 SW = black
 RO = red
 BR = brown
 GN = green
 BL = blue
 GR = grey
 LI = purple
 GE = yellow
 OR = orange

- G2 - Coolant temperature sender
- G28 - Engine speed sender
- G62 - Coolant temperature sender
- J52 - Glow plug relay
- J248 - Diesel direct injection system control unit
- J317 - Terminal 30 voltage supply relay
- N108 - Commencement of injection valve
- Q6 - Glow plugs
- S125 - Glow plug fuse
- T2 - Connector, 2-pin
- T10 - Connector, 10-pin, on injection pump
- T16c - Connector, 16-pin, on fuse box/relay plate
- T35a - Connector, 35-pin, on fuse box/relay plate, at bottom
- T35b - Connector, 35-pin, on fuse box/relay plate, rear wall
- T121 - Connector, 121-pin, on diesel direct injection system control unit

- 85 - Earth connection -1, in engine compartment wiring harness
- D101 - Connection -1, in engine compartment wiring harness
- Fuse box/relay plate on engine

Diesel direct injection system control unit, needle lift sender, intake manifold flap motor, diagnosis connector

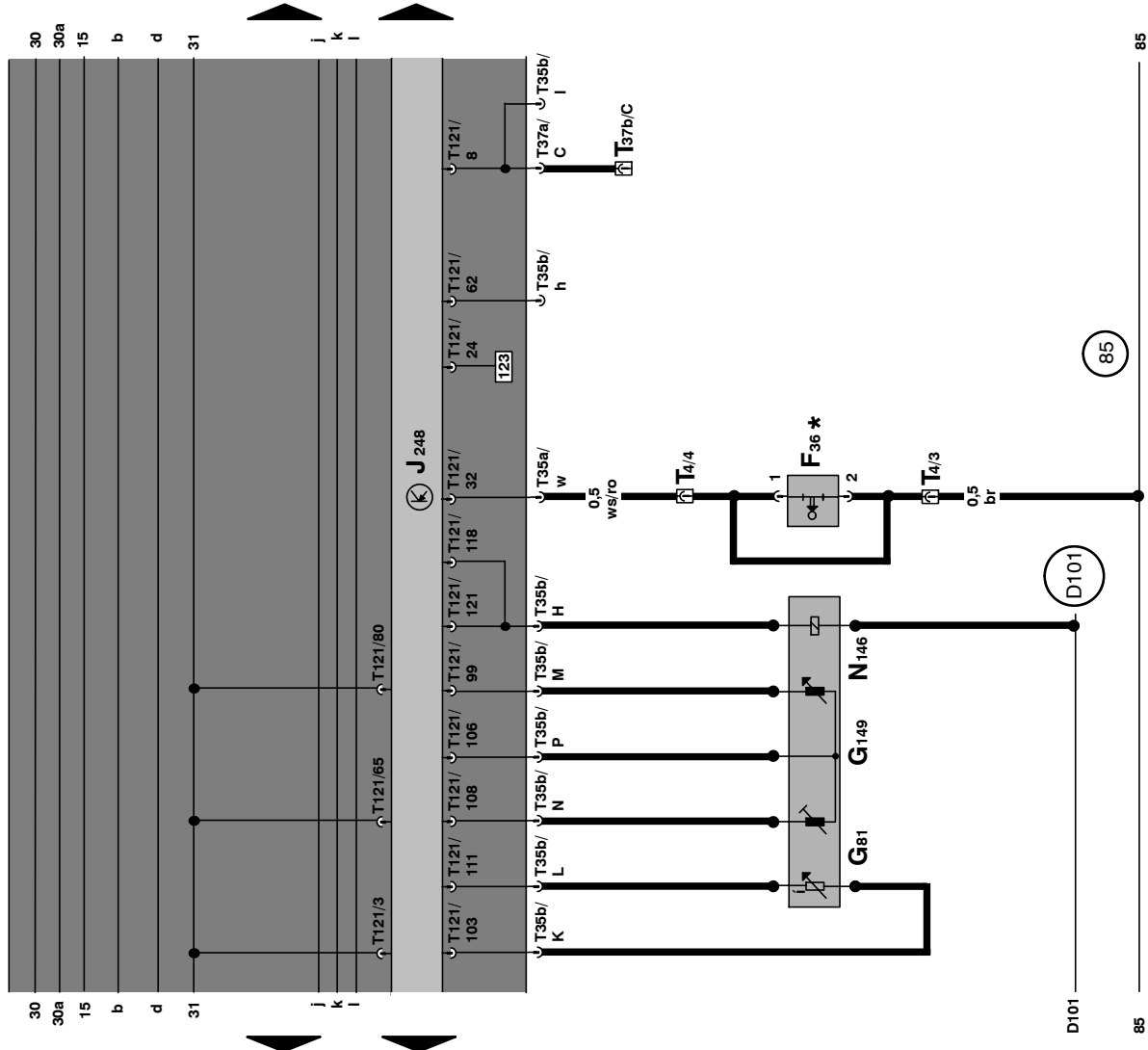


ws = white
 sw = black
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 br = brown
 gn = green
 bl = blue
 gr = grey
 ll = purple
 ge = yellow
 or = orange

- G71 - Intake manifold pressure sender
- G72 - Intake manifold temperature sender
- G80 - Needle lift sender
- J248 - Diesel direct injection system control unit
- T2e - Connector, 2-pin, on needle lift sender
- T16a - Connector, 16-pin on engine, self-diagnosis connection
- T22 - Connector, 22-pin, adapter cable to panel
- T35a - Connector, 35-pin, fuse box/relay plate to engine wiring harness
- T35b - Connector, 35-pin, on fuse box/relay plate, rear wall
- T37a - Connector, 37-pin, on fuse box/relay plate
- T37b - Connector, 37-pin, connecting cable to instrumentation
- T37c - Connector, 37-pin, adapter cable to panel
- T121 - Connector, 121-pin, on diesel direct injection system control unit
- V157 - Intake manifold flap motor
- 85 - Earth connection -1-, in engine compartment wiring harness
- D101 - Connection -1-, in engine compartment wiring harness
- Fuse box/relay plate on engine

M4.0004

Diesel direct injection system control unit, clutch switch, fuel temperature sender, modulating piston movement sender, metering adjuster



ws = white
 sw = black
 ro = red
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 gr = grey
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- F36 - Clutch switch
- G81 - Coolant temperature sender
- G149 - Modulating piston movement sender
- J248 - Diesel direct injection system control unit
- N146 - Metering adjuster
- T4 - Connector, 4-pin
- T35a - Connector, 35-pin, fuse box/relay plate to engine wiring harness
- T35b - Connector, 35-pin, on fuse box/relay plate, rear wall
- T37a - Connector, 37-pin, on fuse box/relay plate
- T37b - Connector, 37-pin, connecting cable to instrumentation
- T121 - Connector, 121-pin, on diesel direct injection system control unit

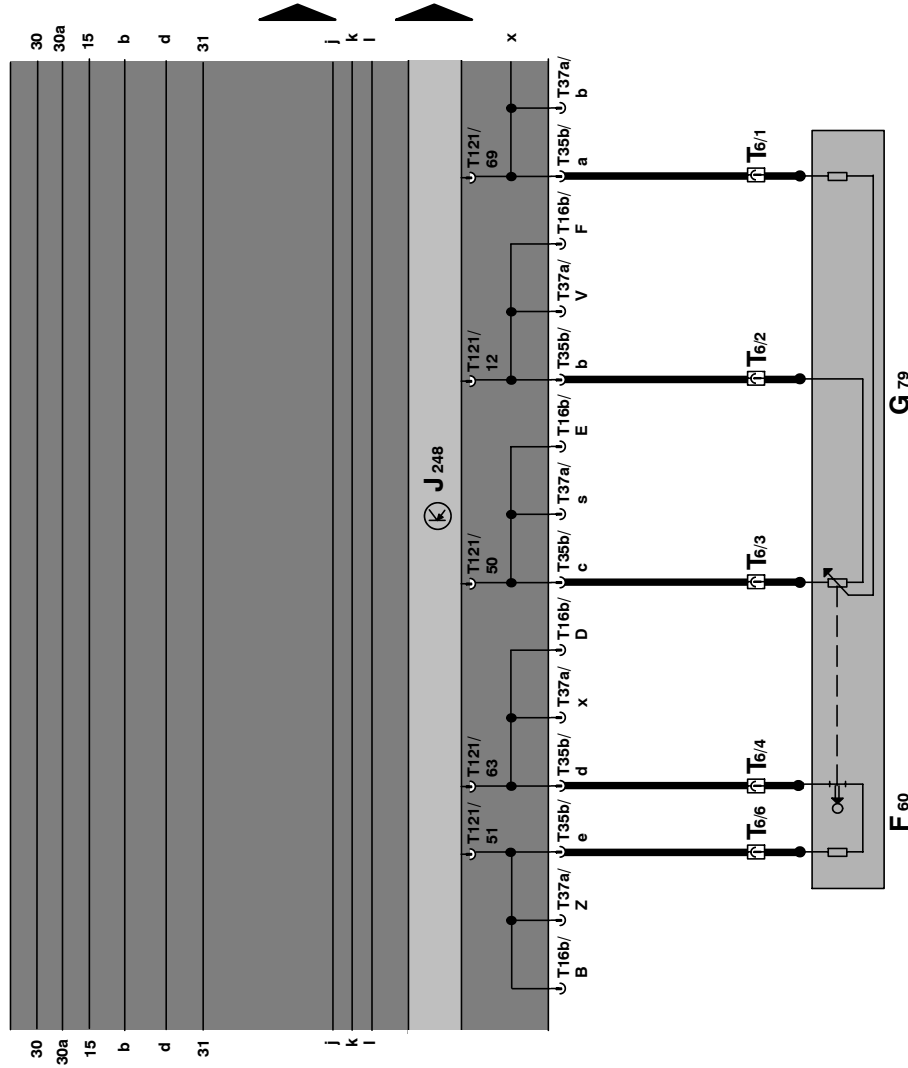
- (85) - Earth connection -1-, in engine compartment wiring harness
- (D101) - Connection -1-, in engine compartment wiring harness

- * - only with Alpha One operation
- - Fuse box/relay plate on engine

Diesel direct injection system control unit, idling switch, accelerator pedal position sender

- F60 - Idling switch
- G79 - Accelerator position sender
- J248 - Diesel direct injection system control unit
- T6 - Connector, 6-pin, on accelerator pedal position sender
- T16b - Connector, 16-pin on fuse box/relay plate
- T35b - Connector, 35-pin, on fuse box/relay plate, rear wall
- T37a - Connector, 37-pin, on fuse box/relay plate
- T121 - Connector, 121-pin, on diesel direct injection system control unit

-  - Earth connection -1-, in engine compartment wiring harness
-  - Fuse box/relay plate on engine



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- bl = blue
- gr = grey
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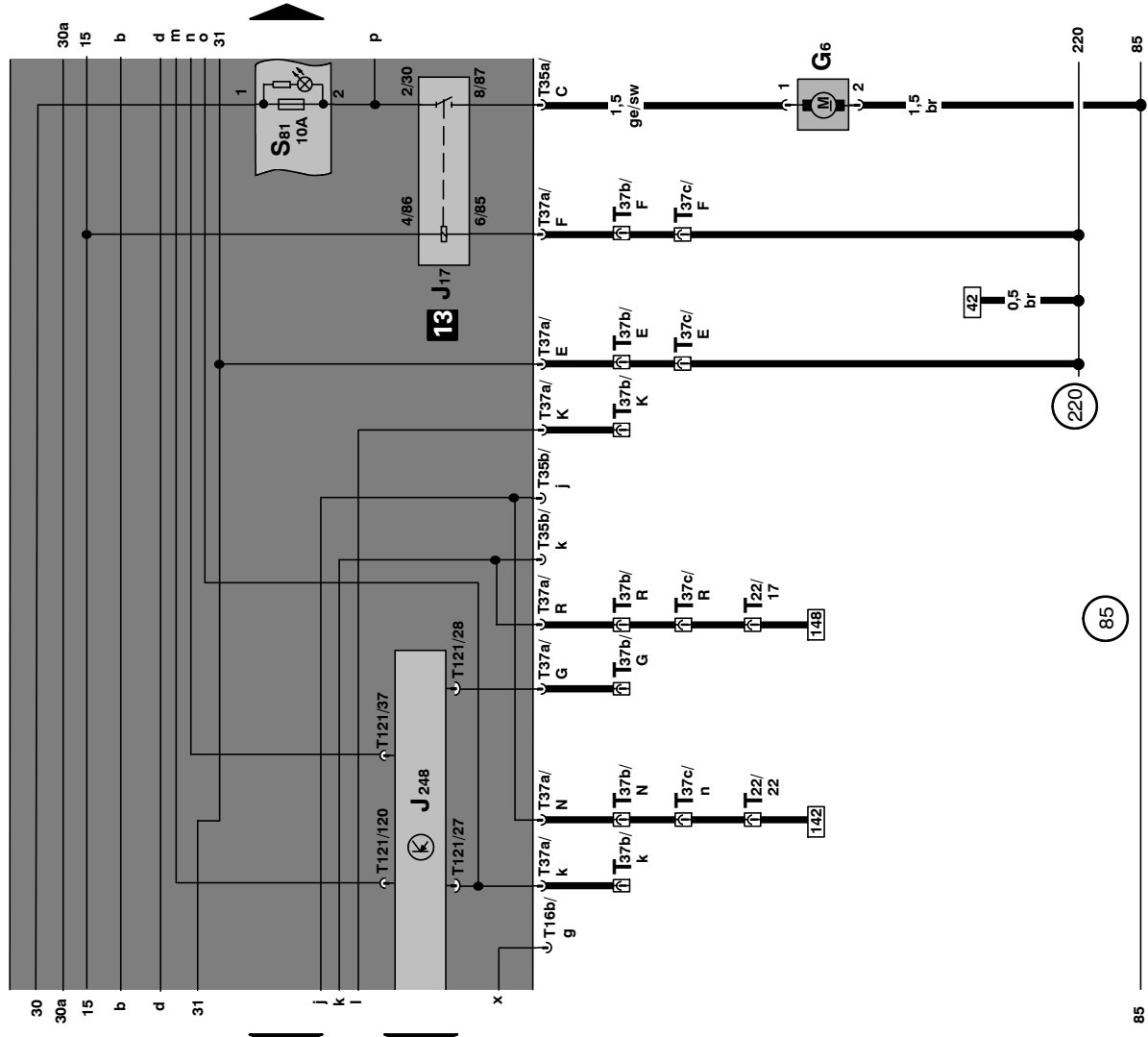
85

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Diesel direct injection system control unit, fuel pump, fuel pump relay

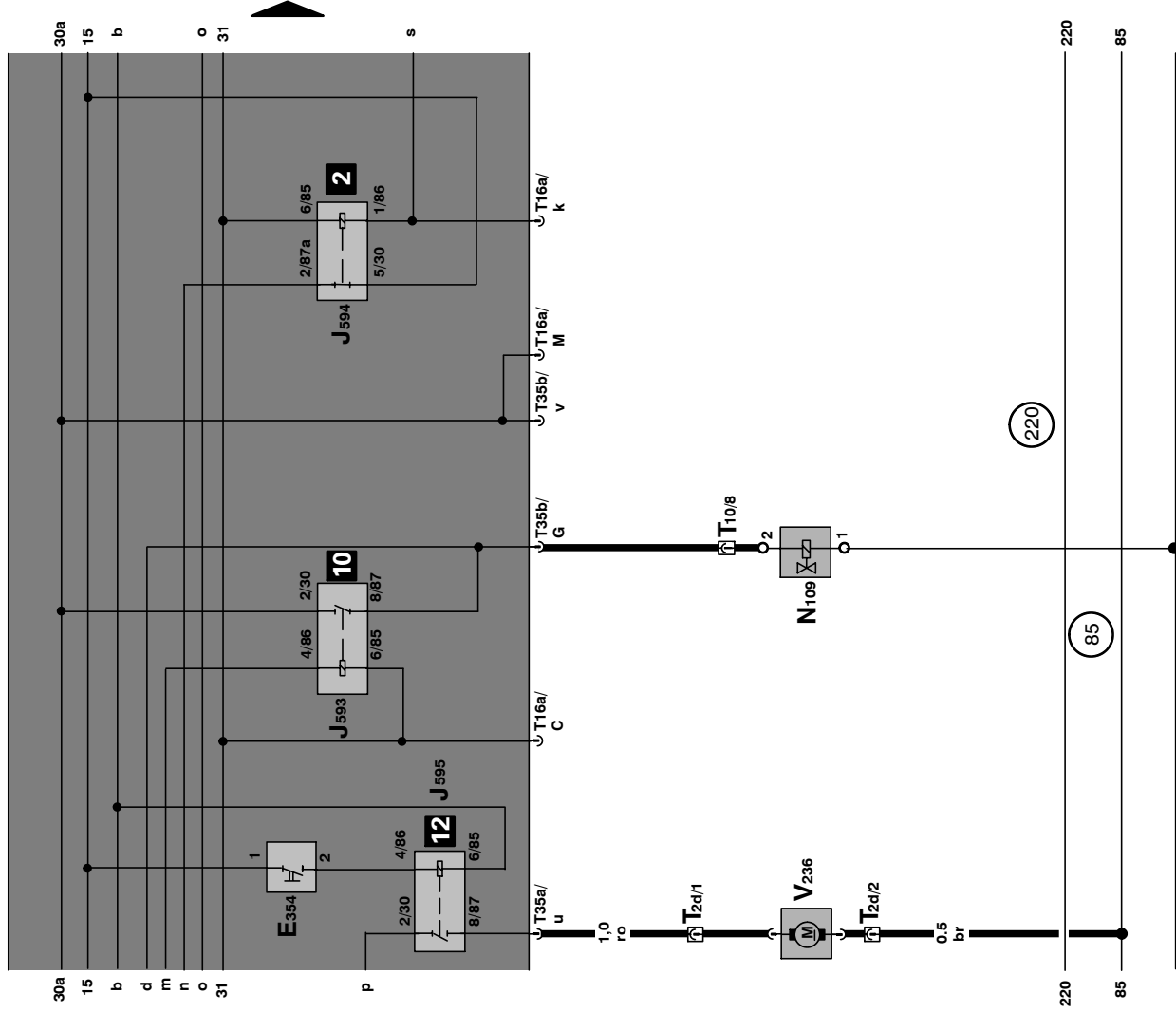
- G6 - Fuel pump
- J17 - Fuel pump relay
- J248 - Diesel direct injection system control unit
- S81 - Fuel pump fuse
- T16b - Connector, 16-pin, on fuse box/relay plate, bottom
- T22 - Connector, 22-pin, adapter cable to panel
- T35a - Connector, 35-pin, fuse box/relay plate to engine wiring harness
- T35b - Connector, 35-pin, on fuse box/relay plate, rear wall
- T37a - Connector, 37-pin, on fuse box/relay plate
- T37b - Connector, 37-pin, connecting cable to instrumentation
- T37c - Connector, 37-pin, adapter cable to panel
- T121 - Connector, 121-pin, on diesel direct injection system control unit

- 85 - Earth connection -1-, in engine compartment wiring harness
- 220 - Earth connection (sender earth), in engine wiring harness
- Fuse box/relay plate on engine



ws = white
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 gr = grey
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Oil extraction pump, engine stop relay, oil extraction pump relay, fuel cut-off valve, oil extraction pump button, fuel shut-off activation relay



- E354 - Oil extraction pump button, marine engine
- J593 - Fuel shut-off activation relay, marine engine
- J594 - Engine stop relay, marine engine
- J595 - Oil extraction pump relay, marine engine
- N109 - Fuel shut-off valve
- T2b - Connector, 2-pin, on oil extraction pump
- T10 - Connector, 10-pin, on injection pump
- T16a - Connector, 16-pin on engine, self-diagnosis connection
- T35a - Connector, 35-pin, fuse box/relay plate to engine wiring harness
- T35b - Connector, 35-pin, on fuse box/relay plate, rear wall
- V236 - Oil extraction pump

85 - Earth connection -1-, in engine compartment wiring harness

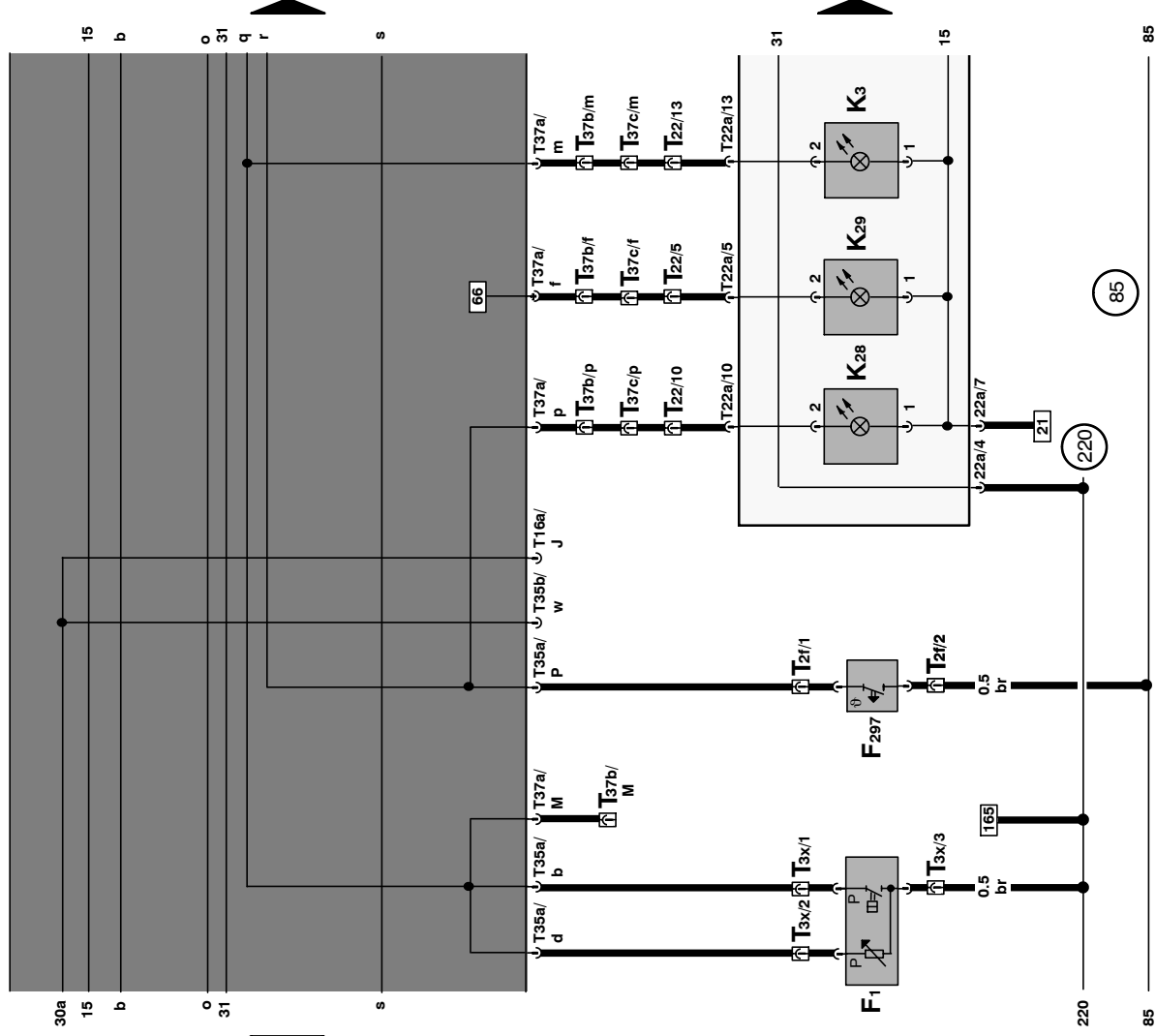
220 - Earth connection (sender earth), in engine wiring harness

- Fuse box/relay plate on engine



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Oil pressure switch, water temperature switch, oil pressure warning lamp, coolant temperature warning lamp/coolant shortage display, preheating time warning lamp

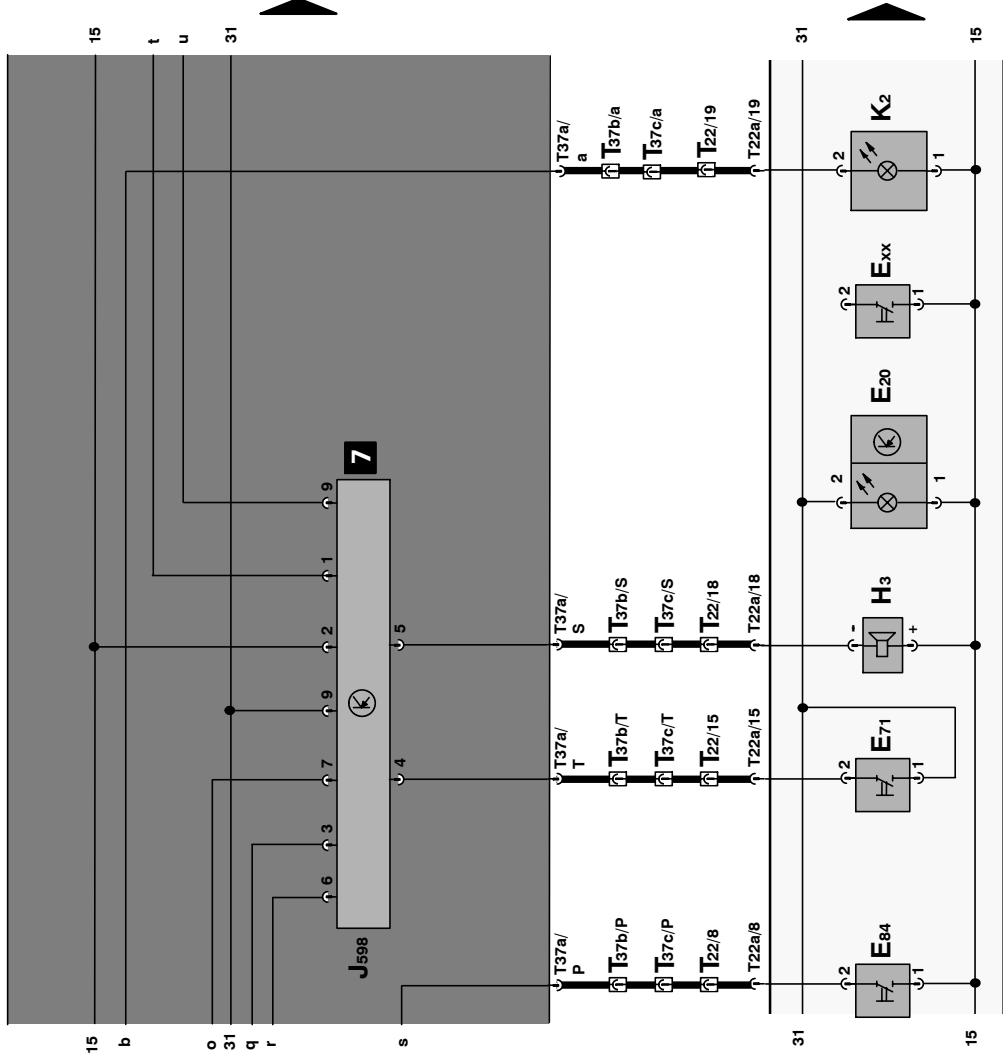


WS = white
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 BL = blue
 GR = grey
 LI = purple
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- F1 - Oil pressure switch/sender
- F297 - Water temperature switch, marine engine
- K3 - Oil pressure warning lamp
- K28 - Coolant temperature/coolant shortage warning lamp
- K29 - Glow period warning lamp
- T2f - Connector, 2-pin, on water temperature switch
- T3x - Connector, 3-pin, on oil pressure switch/sender
- T16a - Connector, 16-pin on engine, self-diagnosis connection
- T22 - Connector, 22-pin, adapter cable to panel
- T22a - Connector, 22-pin, on panel
- T35a - Connector, 35-pin, fuse box/relay plate to engine wiring harness
- T35b - Connector, 35-pin, on fuse box/relay plate, rear wall
- T37a - Connector, 37-pin, on fuse box/relay plate
- T37b - Connector, 37-pin, connecting cable to instrumentation
- T37c - Connector, 37-pin, adapter cable to panel
- 85 - Earth connection -1-, in engine compartment wiring harness
- 220 - Earth connection (sender earth), in engine wiring harness
- Main panel/instrumentation
- Fuse box/relay plate on engine



Switching and instruments - lighting control, acoustic alarm relay, confirmation button, buzzer/gong, Stop/start system stop button, alternator warning lamp



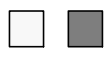
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- E20 - Switches and instruments - lighting control
- E71 - Confirmation button
- E84 - Stop/start system stop button
- Exx - Button for future applications
- H3 - Buzzer/gong
- J598 - Acoustic alarm relay, marine engine
- K2 - Alternator warning lamp
- T22 - Connector, 22-pin, adapter cable to panel
- T22a - Connector, 22-pin, on panel
- T37a - Connector, 37-pin, on fuse box/relay plate
- T37b - Connector, 37-pin, connecting cable to instrumentation
- T37c - Connector, 37-pin, adapter cable to panel

85 - Earth connection -1-, in engine compartment wiring harness

- Main panel/instrumentation

- Fuse box/relay plate on engine



85

Dimmer button, marine engine, consumption display button, marine engine, multi-function display with rev. counter, marine engine

- E355 - Dimmer button, marine engine
- E356 - Consumption display button, marine engine
- T14 - Connector, 14-pin, on panel
- T22 - Connector, 22-pin, adapter cable to panel
- T22a - Connector, 22-pin, on panel
- T37a - Connector, 37-pin, on fuse box/relay plate
- T37b - Connector, 37-pin, connecting cable to instrumentation
- T37c - Connector, 37-pin, adapter cable to panel
- Y19 - Multi-function display unit with rev. counter, marine engine

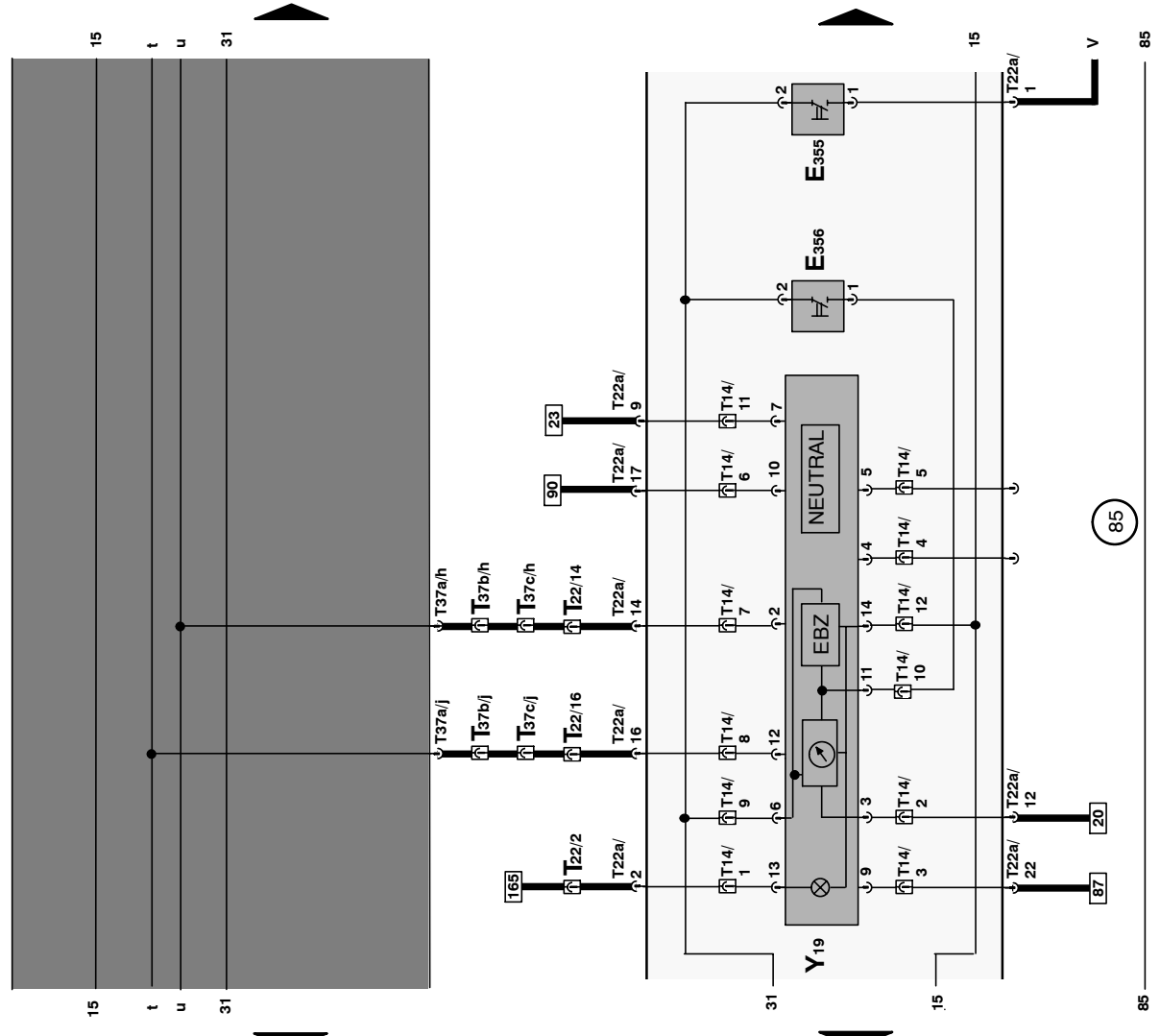
85 - Earth connection -1-, in engine compartment wiring harness

- Main panel/instrumentation

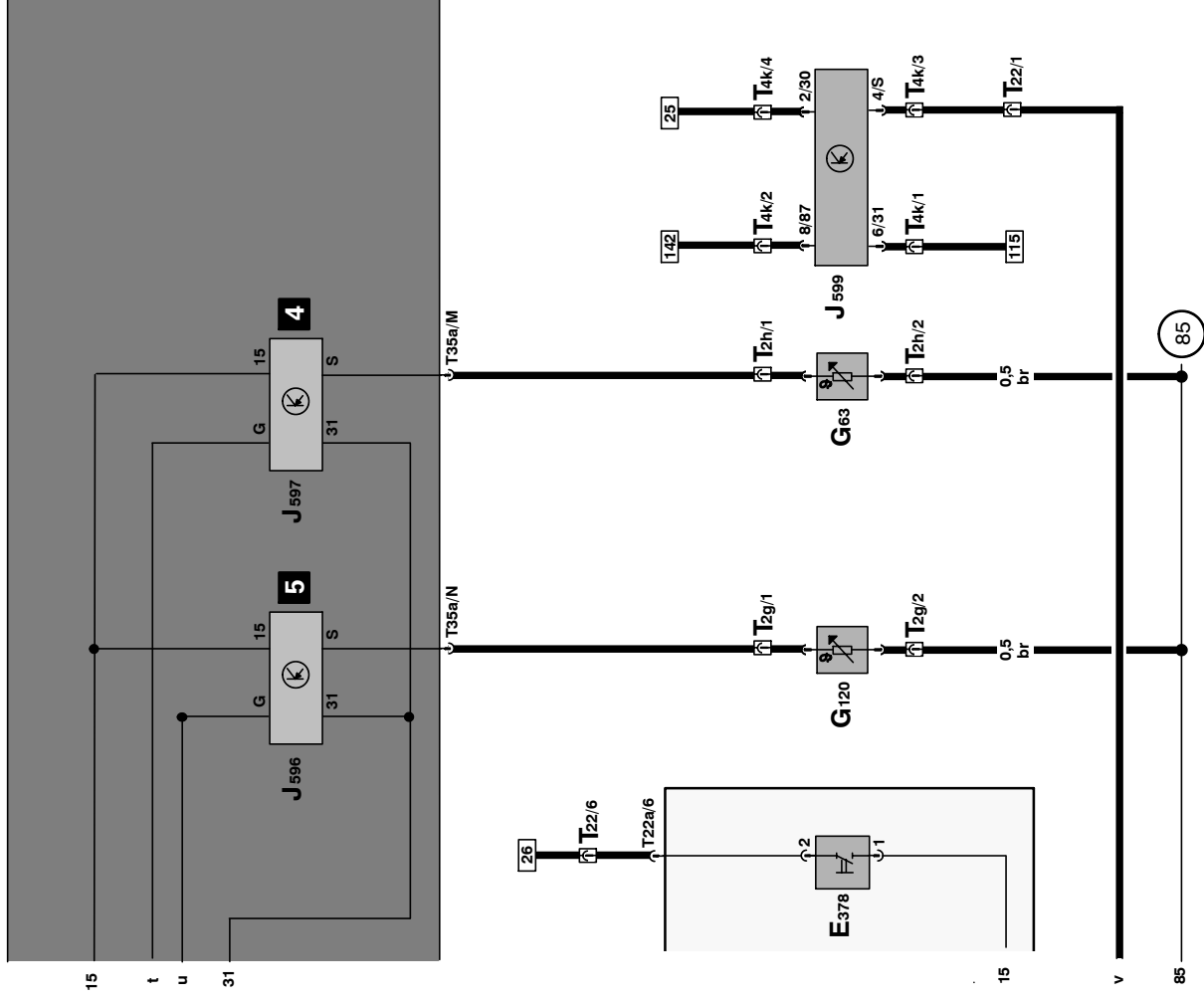
- Fuse box/relay plate on engine



- ws = white
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- ro = red
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- gn = green
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Water separator relay, marine engine, coolant level relay, marine engine, starter button, water separator sender, water level sender, marine engine



WS = white
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- E378 - Starter button
- G63 - Water separator sender
- G120 - Water level sender
- J596 - Coolant level relay, marine engine
- J597 - Water separator relay, marine engine
- J599 - Dimmer, marine engine
- T2g - Connector, 2-pin, on water level sender
- T2h - Connector, 2-pin, on water separator sender
- T4k - Connector, 4-pin, relay base in wiring harness
- T22 - Connector, 22-pin, adapter cable to panel
- T22a - Connector, 22-pin, on panel
- T35a - Connector, 35-pin, fuse box/relay plate to engine wiring harness

- (85) - Earth connection -1-, in engine compartment wiring harness
- Main panel/instrumentation
- Fuse box/relay plate on engine

