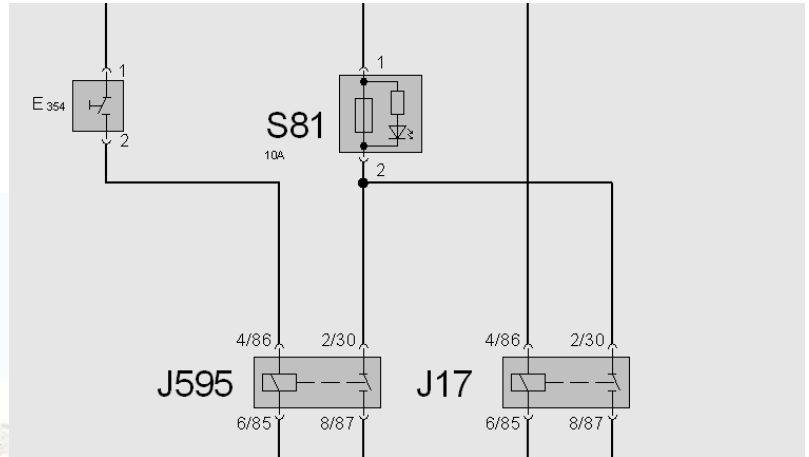
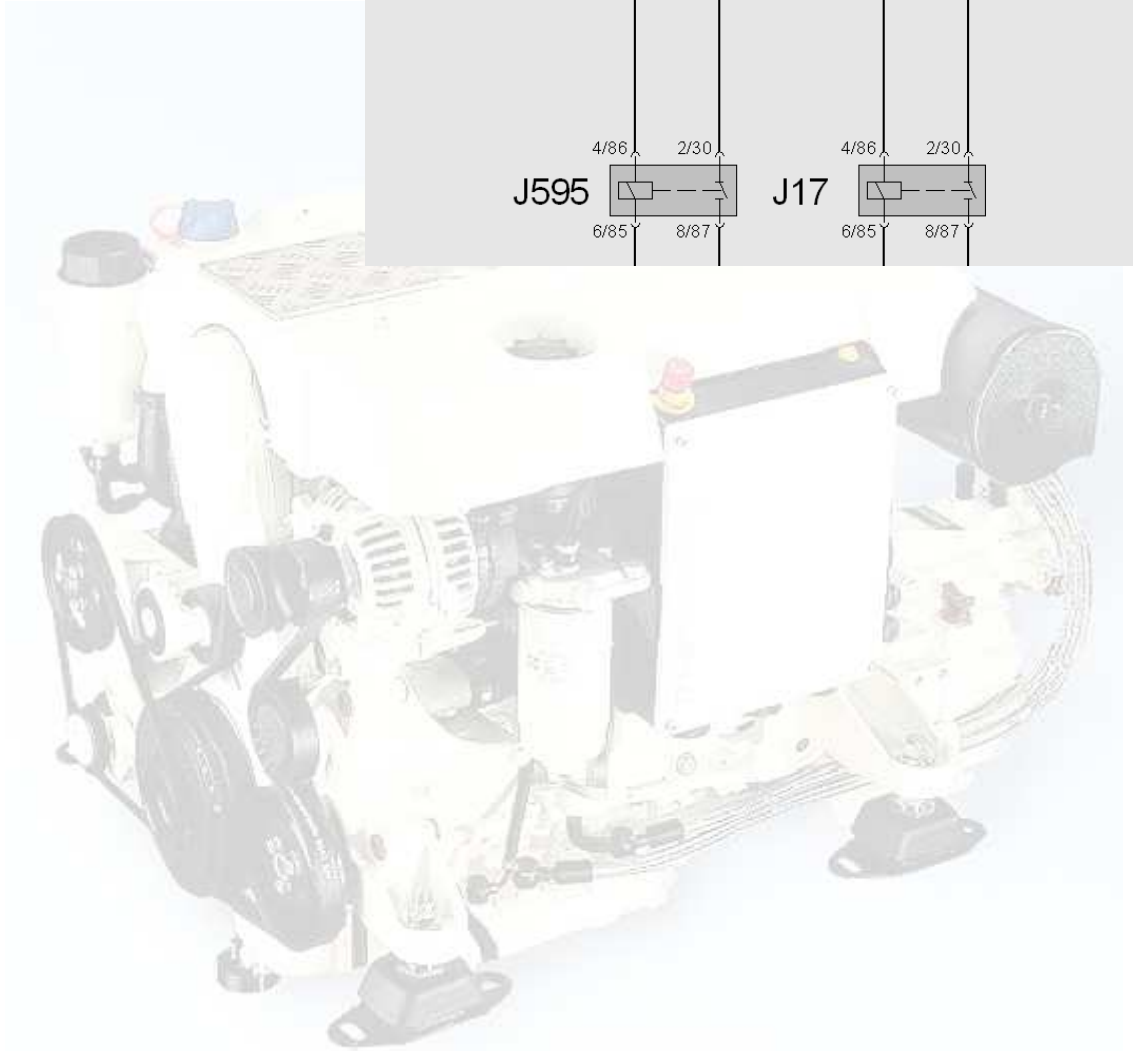


# Current Flow Diagram



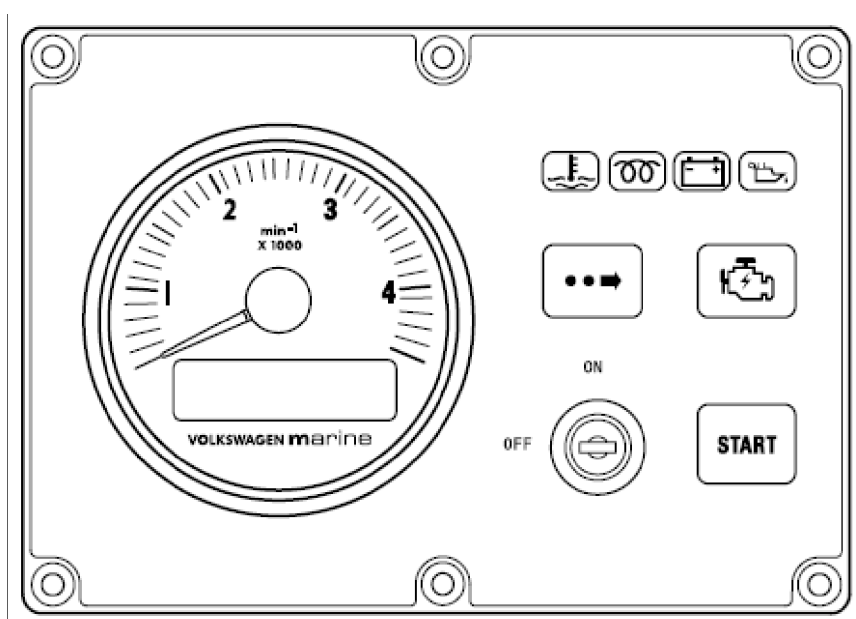
## Boat Engines from Volkswagen Marine



5 Cylinder from model year 2005  
Midipanel

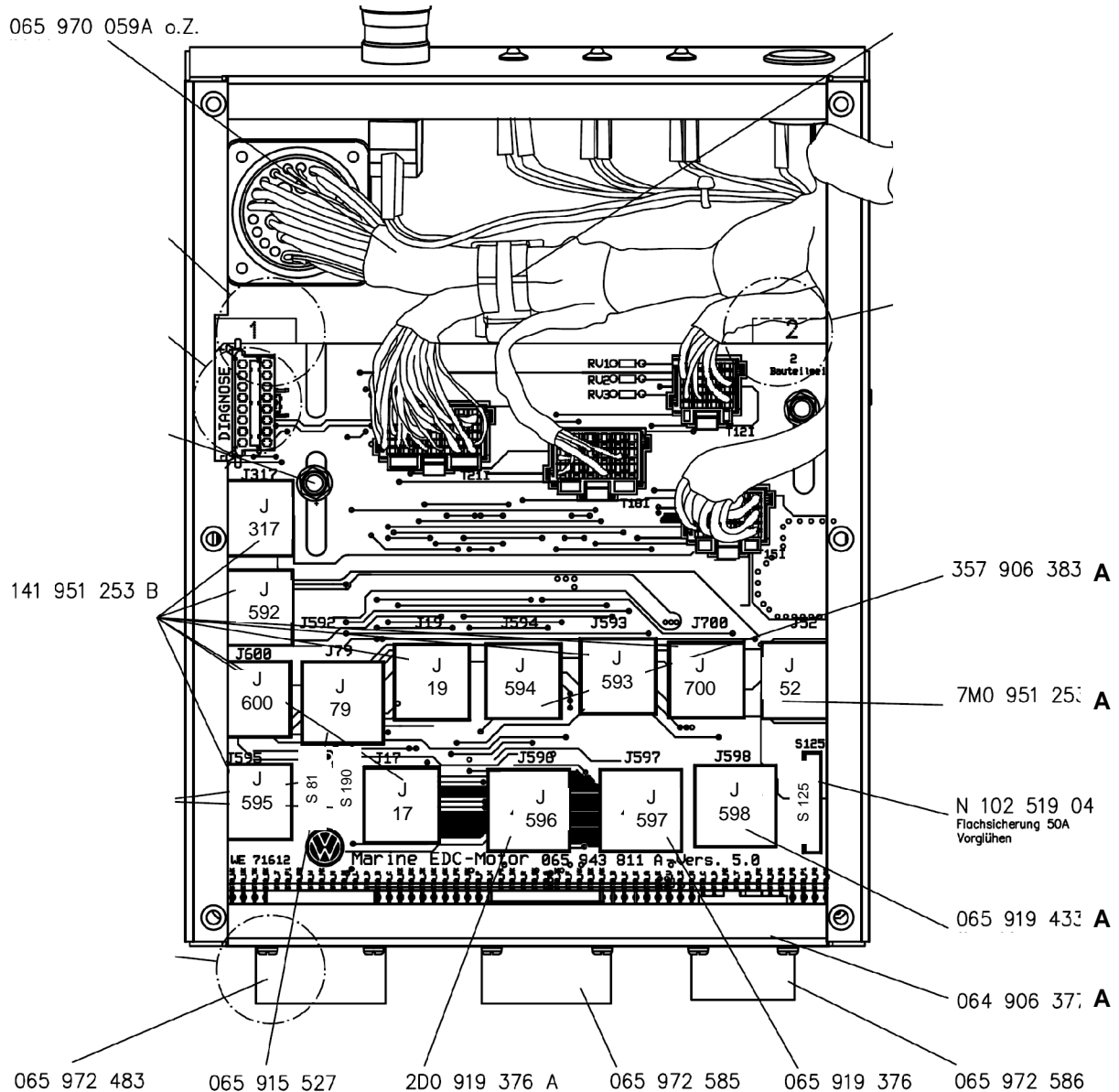
## Information of versions

for all 4-cyl. engines with central electric box no. 065 937 025 B (from model year 2005)  
and midi panel 065 805 104

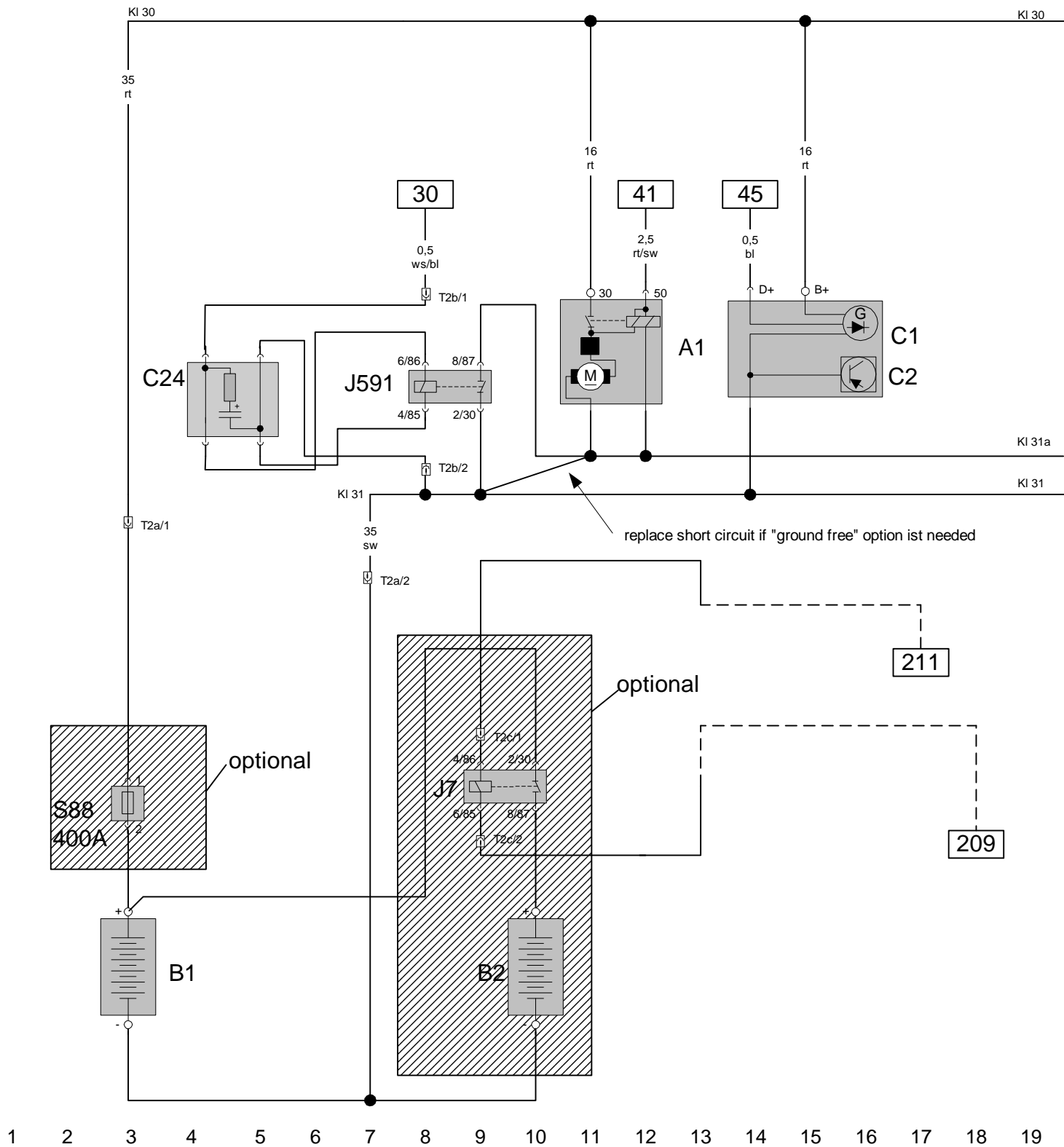


065 805 104

## Relays and Fuses



|       |                                       |       |                                  |
|-------|---------------------------------------|-------|----------------------------------|
| J 317 | main relay for MDC                    | J 79  | diode group                      |
| J 593 | relay "ground free" shutoff device    | J 52  | relay for glowing plugs          |
| J 592 | relay terminal 15                     | J 17  | relay for fuel pump              |
| J 597 | relay "water in fuel"                 | S 81  | fuse for oil extr. and fuel pump |
| J 600 | starting aid relay                    | J 19  | starting relay                   |
| J 700 | relay "ground free" for glowing plugs | J 594 | engine stop relay                |
| S 125 | fuse glowing plugs 50A                | S 190 | fuse terminal 30a 15A            |
| J 595 | relay oil extraction pump             | J 598 | acoustic alert relay             |
| J 596 | relay "coolant level"                 |       |                                  |

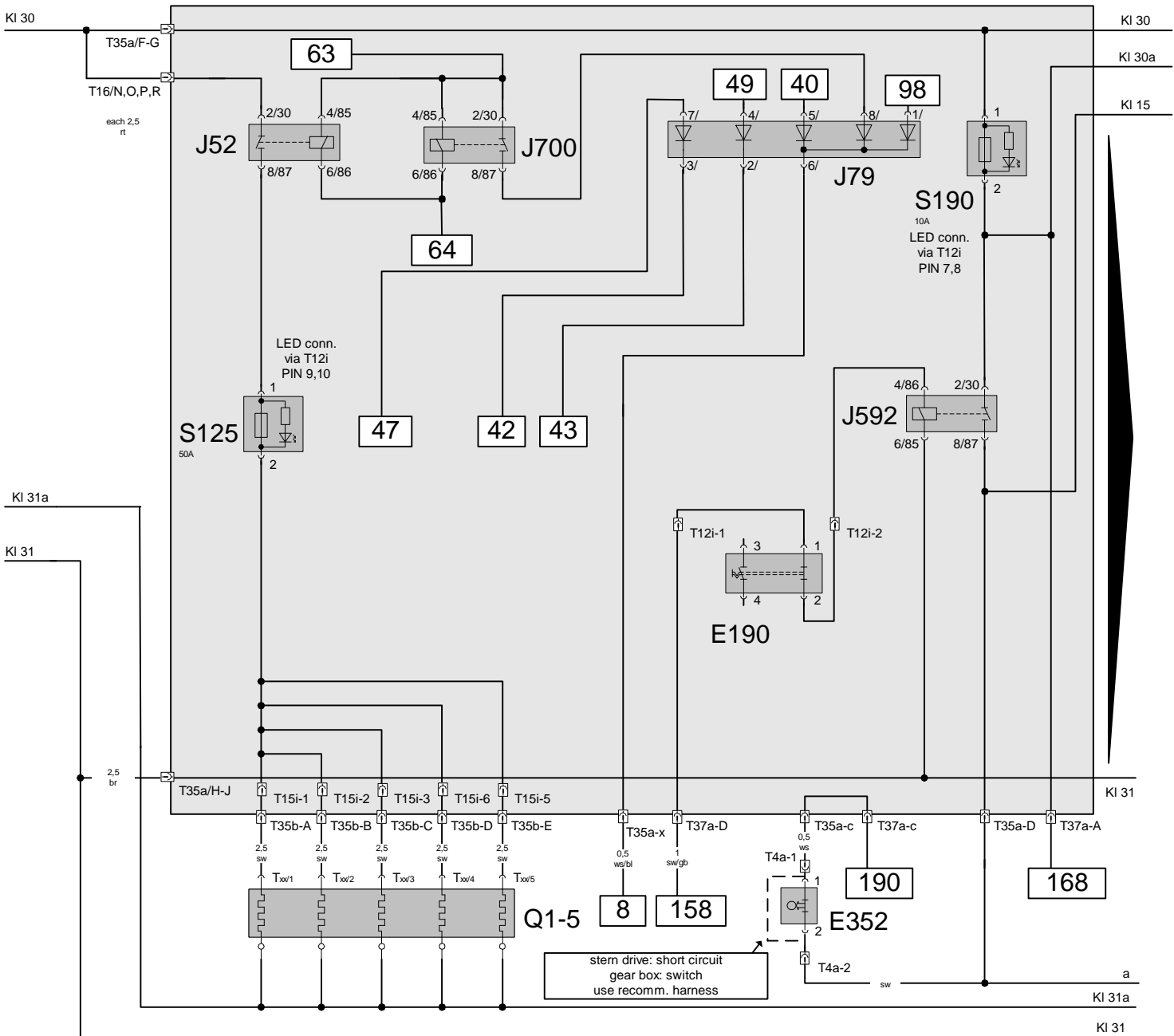


- B1 Starter-Battery
- B2 optional 2nd battery
- S88 optional fuse
- J7 optional battery separation relay
- J591 relay for option "ground free"
- A1 starter
- C1 alternator
- C2 voltage regulator in alternator
- C24 Cap pack for relay "ground free"

- T2a 2pin high current connector
- T2b 2pin connector on at J591
- T2c 2pin connector at relay J7

Colors:

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- gn = green li = violet

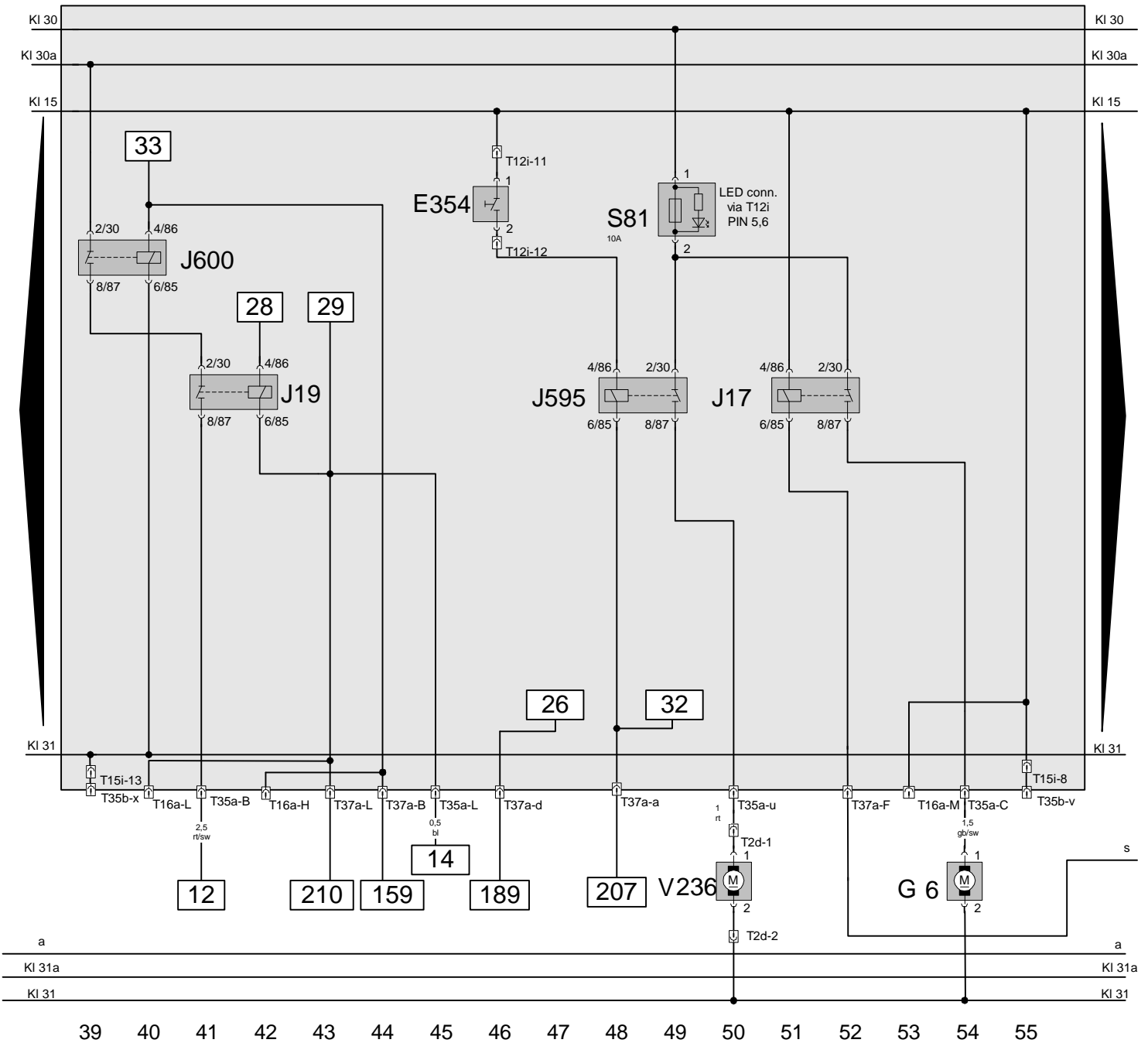


20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38  
 a terminal 15 in engine harness

- J52 relay for glowing plugs
- J700 relay "ground free" shutoff device
- S125 fuse for glowing plugs
- J79 diode group
- S190 fuse terminal 30a
- J592 fuse terminal 15
- E190 stop switch at central electric box
- E352 neutral switch (gear box)
- Q1 bis Q5 glowing plugs
- T35a 35pin connector at bottom of central electric box
- T35b 35pin connector at back side of central electric box
- T16a 16pin connector at bottom of central electric box
- T37a 37pin connector at bottom of central electric box
- T4a 4pin connector "gear box version" on the back of the engine
- Txx connector glowing plug
- T15i 15pin internal connector in central electric
- T12i 12pin internal connector in central electric

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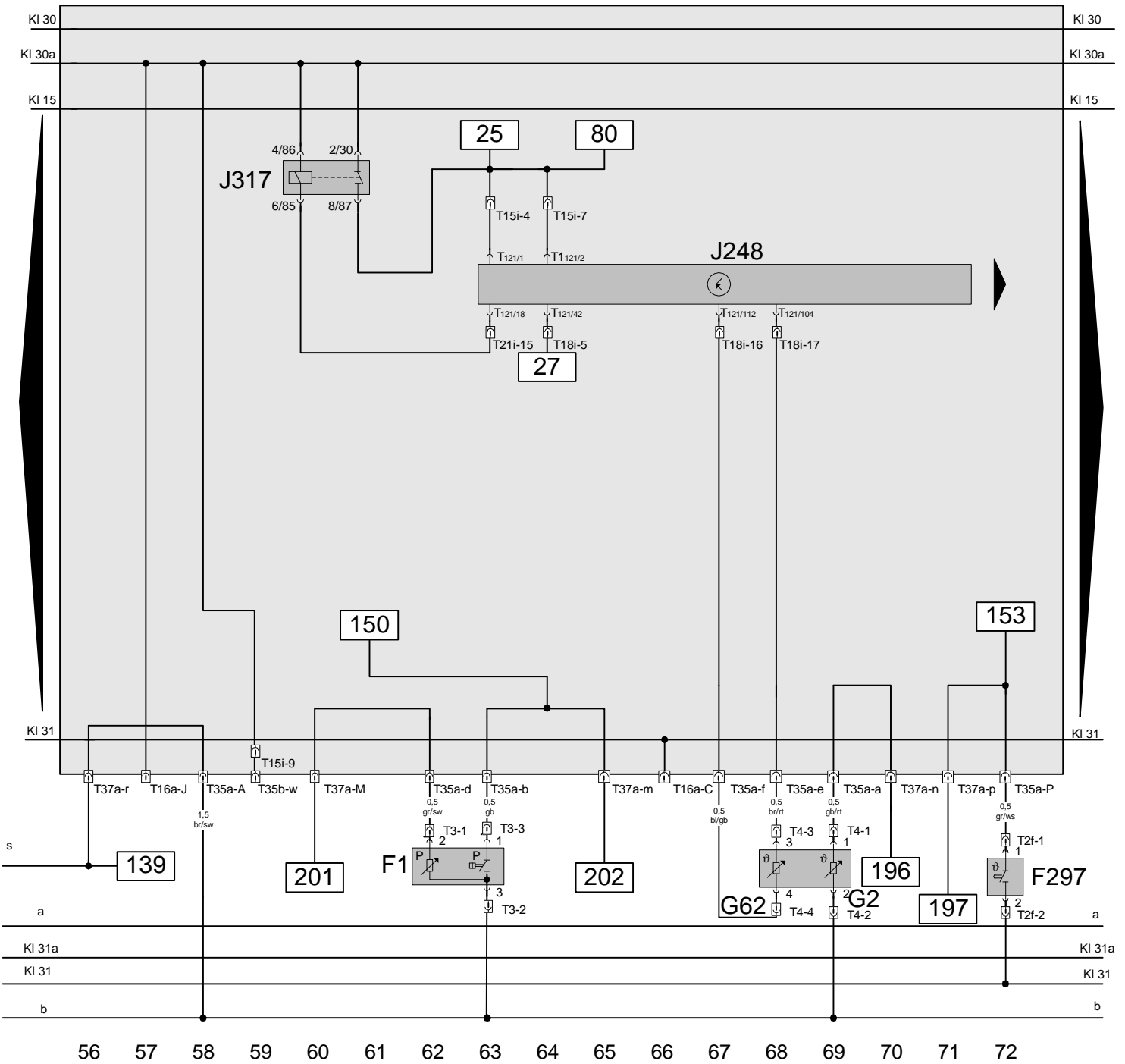


- T35a 35pin connector at bottom of central electric box
- T35b 35pin connector at back side of central electric box
- T16a 16pin connector at bottom of central electric box
- T37a 37pin connector at bottom of central electric box
- T2d 2pin connector at oil extraction pump
- J600 starting aid relay
- J19 starting relay
- E354 switch for oil extraction pump
- S81 fuse for oil extr./fuel pump
- J595 relay oil extraction pump
- J17 relay fuel pump
- V236 oil extraction pump
- G6 fuel pump
- T15i 15pin internal connector in central electric
- T12i 12pin internal connector in central electric
- T121 121pin two part connector pin 1-81 and pin 82-121

- a terminal 15 in engine harness
- s connection in harness

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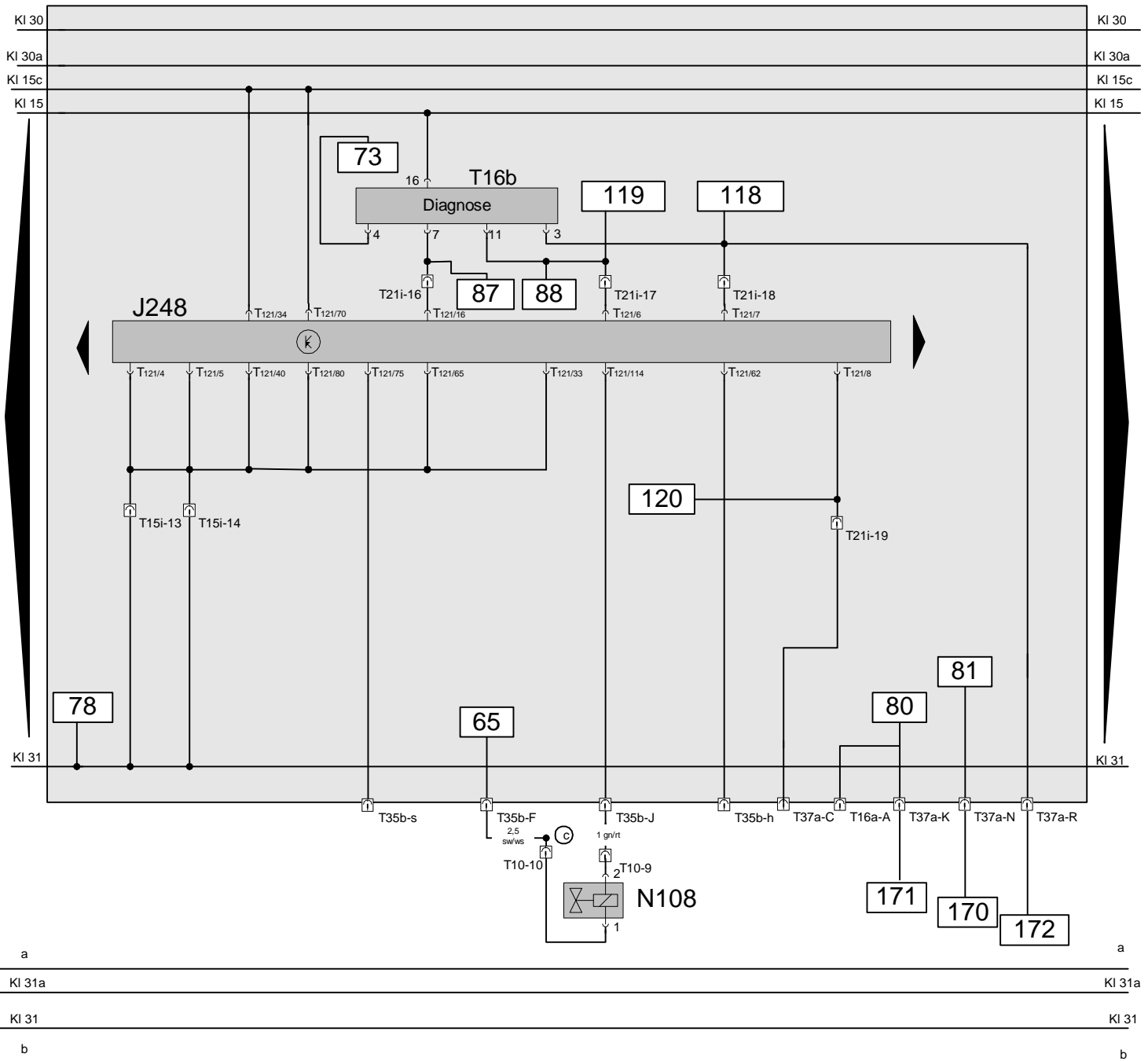


- T16a 16pin connector at bottom of central electric box
- T35a 35pin connector at bottom of central electric box
- T35b 35pin connector at the back side of central electric box
- T37a 37pin connector at bottom of central electric box
- T2f 2pin connector at temperature switch
- F1 oil pressure sensor / switch
- G62 coolant temp. sensor for MDC
- G2 coolant temp. sensor for instruments
- F297 coolant temp. switch (Instruments)
- J317 main relay MDC
- J248 MDC (ECU)
- T15i 15pin internal connector in central electric
- T12i 12pin internal connector in central electric
- T21i 21pin internal connector in central electric
- T18i 18pin internal connector in central electric
- T121 121pin two part connector pin 1-81 and pin 82-121
- T4 4pin connector at temp. sensor
- T3 3pin connector at oil pressure sensor

- a terminal 15 in engine harness
- b sensor ground in engine harness
- s connection in harness

Colors:

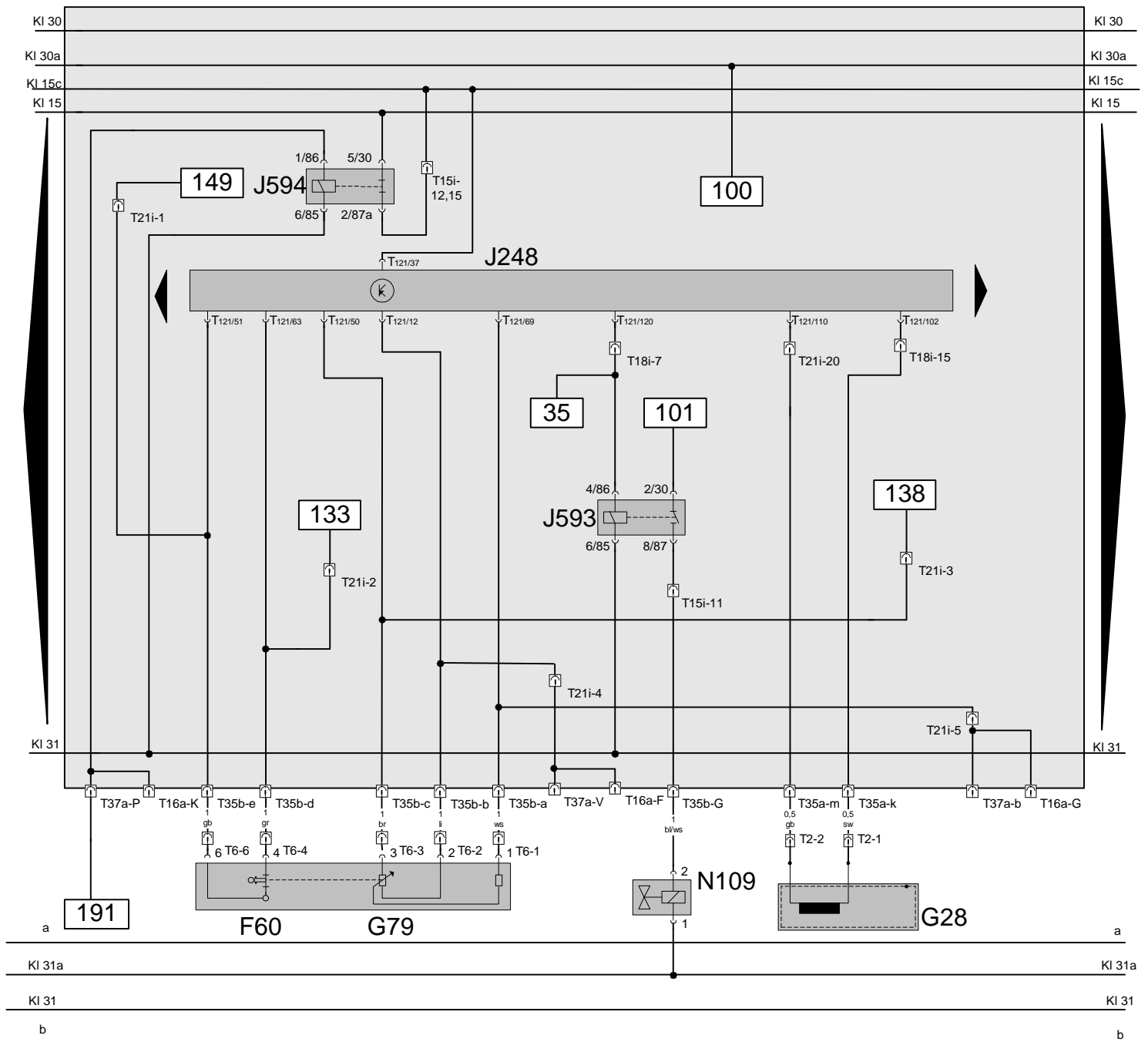
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|      | 73   | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85                              | 86                    | 87 | 88 | 89 |
|------|--|----|----|----|----|----|----|----|----|----|----|----|---------------------------------|-----------------------|----|----|----|
| T16a | 16pin connector at bottom of central electric box        |    |    |    |    |    |    |    |    |    |    | a  | terminal 15 in engine harness   |                       |    |    |    |
| T35a | 35pin connector at bottom of central electric box        |    |    |    |    |    |    |    |    |    |    | b  | sensor ground in engine harness |                       |    |    |    |
| T35b | 35pin connector at the back side of central electric box |    |    |    |    |    |    |    |    |    |    | c  |                                 | connection in harness |    |    |    |
| T37a | 37pin connector at bottom of central electric box        |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| T16b | 16pin connector "diagnosis" in central electric box      |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| T10  | 10pin connector at distribution pump                     |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| J248 | MDC (ECU)  |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| N108 | timing adjuster  |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| T15i | 15pin internal connector in central electric             |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| T12i | 12pin internal connector in central electric             |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| T21i | 21pin internal connector in central electric             |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| T18i | 18pin internal connector in central electric             |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |
| T121 | 121pin two part connector pin 1-81 and pin 82-121        |    |    |    |    |    |    |    |    |    |    |    |                                 |                       |    |    |    |

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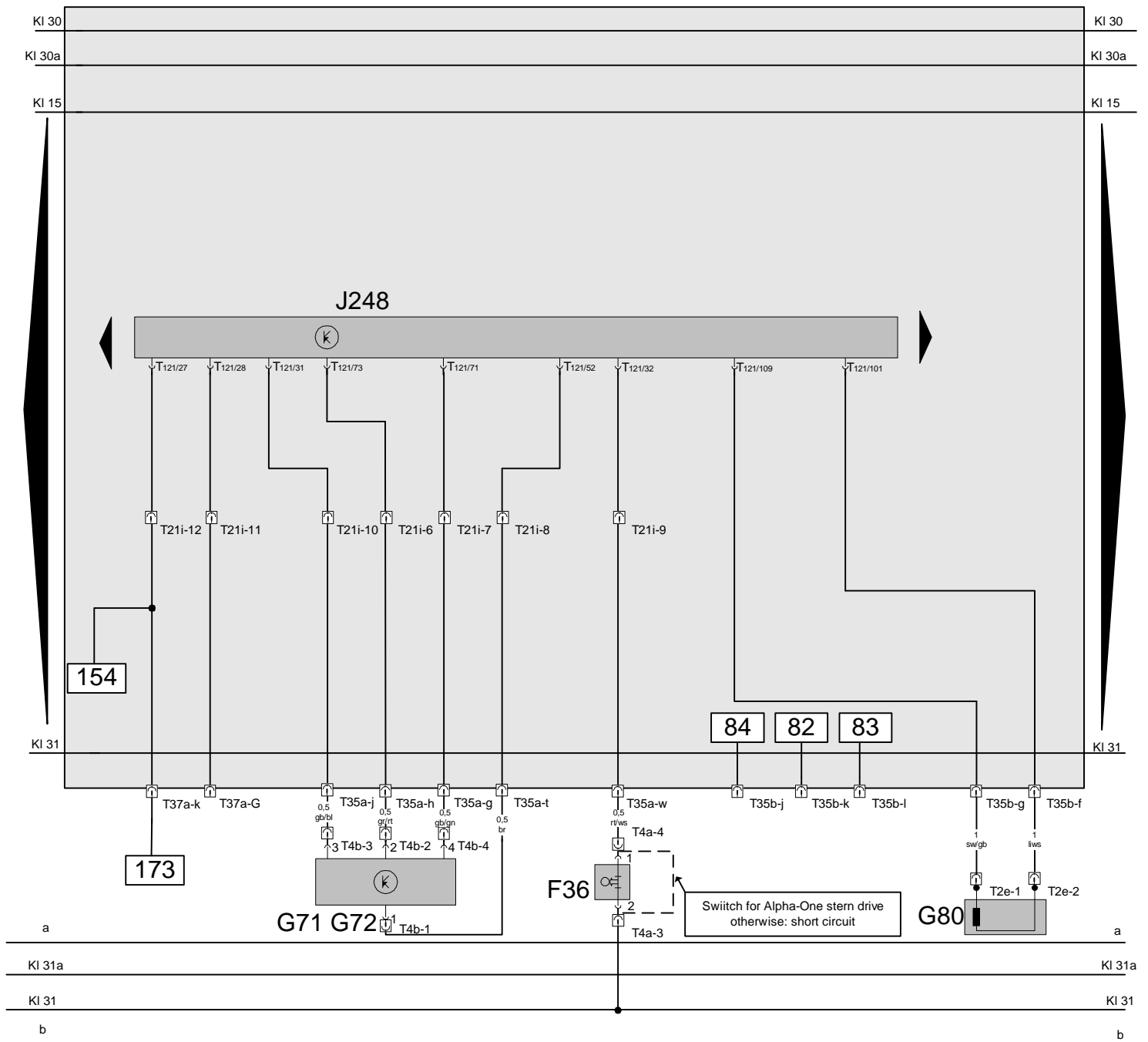
90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106

- T16a 16pin connector at bottom of central electric box
- T35a 35pin connector at bottom of central electric box
- T35b 35pin connector at the back side of central electric box
- T37a 37pin connector at bottom of central electric box
- J593 relay "ground free" shutoff device
- J594 stop relay
- F60 idle switch in pedal-force sensor
- G79 sensor in pedal-force sensor
- N109 shutoff device
- G28 rpm sensor
- T15i 15pin internal connector in central electric
- T12i 12pin internal connector in central electric
- T21i 21pin internal connector in central electric
- T18i 18pin internal connector in central electric
- T121 121pin two part connector pin 1-81 and pin 82-121
- T6 6pin connector at pedal-force sensor
- T2 2pin connector at rpm sensor

- a terminal 15 in engine harness
- b sensor ground in engine harness

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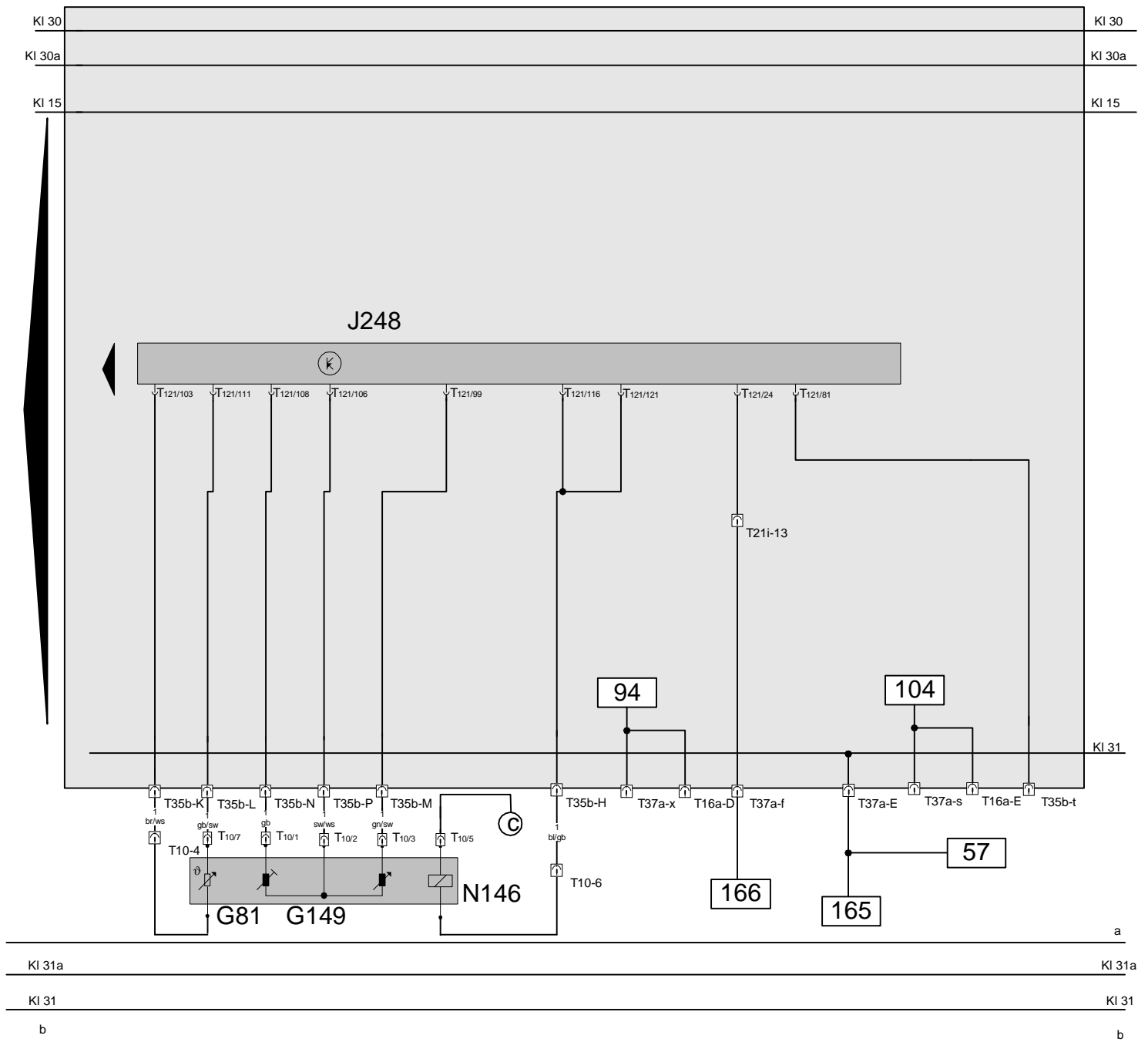
107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123

- T16a 16pin connector at bottom of central electric box
- T35a 35pin connector at bottom of central electric box
- T35b 35pin connector at the back side of central electric box
- T37a 37pin connector at bottom of central electric box
- J248 MDC (ECU)
- F36 alpha-one switch
- G71 G72 sensor air temp. and pressure
- G80 needle-stroke sensor
- T15i 15pin internal connector in central electric
- T12i 12pin internal connector in central electric
- T21i 21pin internal connector in central electric
- T18i 18pin internal connector in central electric
- T121 121pin two part connector pin 1-81 and pin 82-121
- T4a 4pin connector of "gear box" at the back of the engine
- T4b 4pin connector at air temp. and pressure sensor
- T2e 2pin connector at needle-stroke sensor

- a terminal 15 in engine harness
- b sensor ground in engine harness

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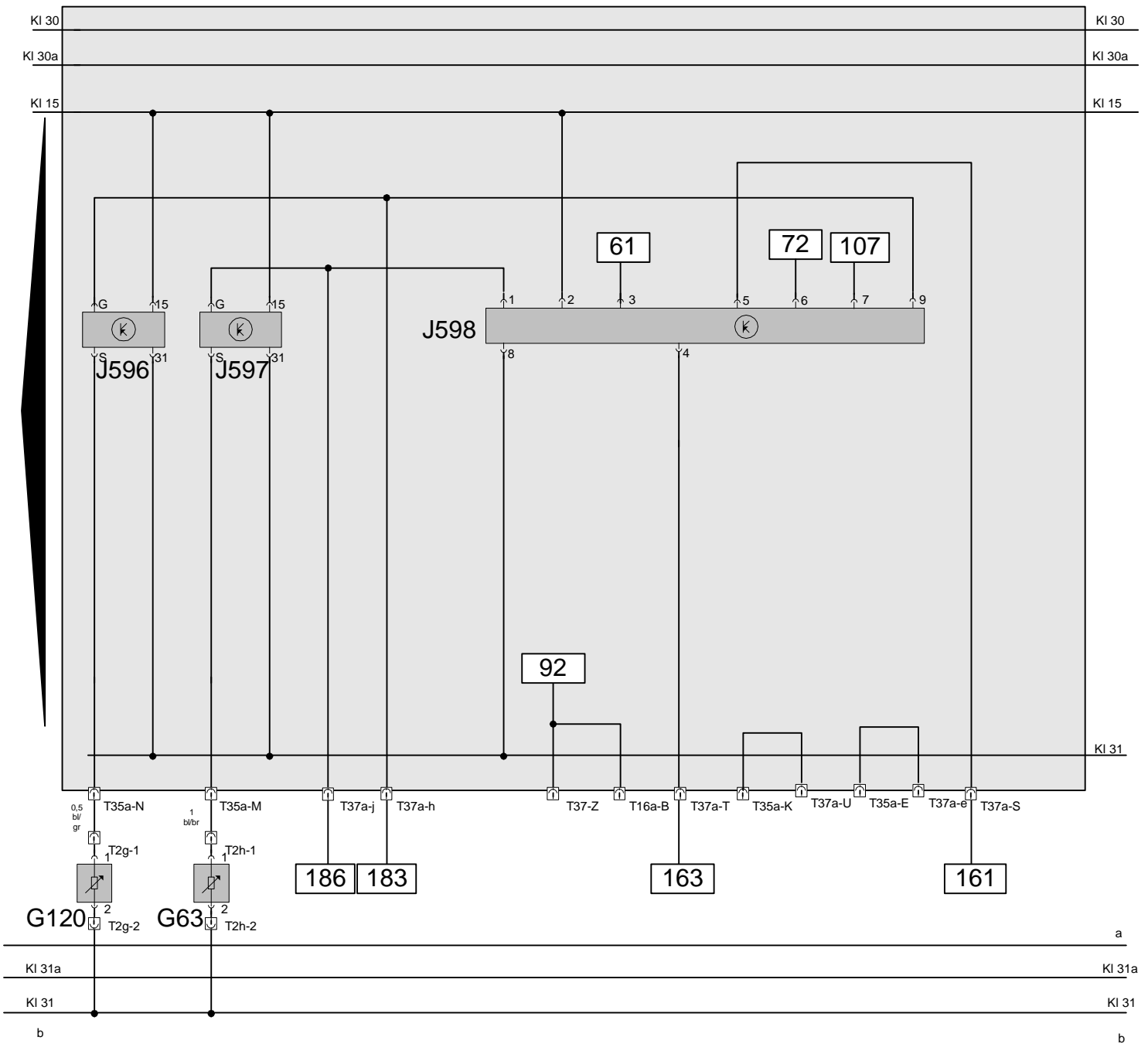
124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140

- T16a 16pin connector at bottom of central electric box
- T35a 35pin connector at bottom of central electric box
- T35b 35pin connector at the back side of central electric box
- T37a 37pin connector at bottom of central electric box
- J248 MDC (ECU)
- G81 fuel temp. sensor in distribution pump
- G149 modulation piston movement sensor in distribution pump
- N146 metering adjuster sensor in distribution pump
- T15i 15pin internal connector in central electric
- T12i 12pin internal connector in central electric
- T21i 21pin internal connector in central electric
- T18i 18pin internal connector in central electric
- T121 121pin two part connector pin 1-81 and pin 82-121
- T10 10pin sensor at distribution pump

- a terminal 15 in engine harness
- b sensor ground
- c connection in harness

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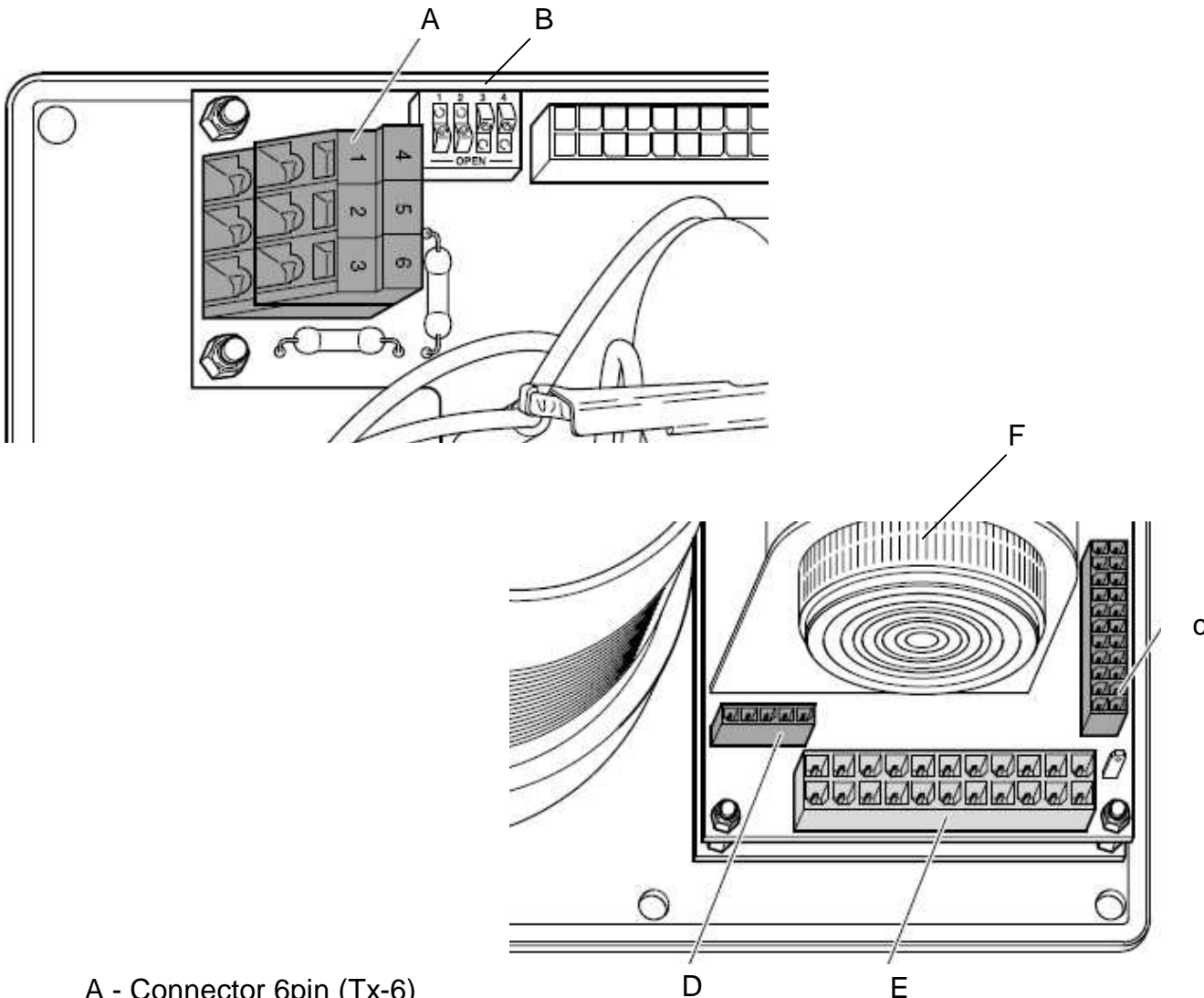


|      |  |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
|------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------------------------|-----|-----|-----|-----|
| 141  | 142  | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153                             | 154 | 155 | 156 | 157 |
| T16a | 16pin connector at bottom of central electric box        |     |     |     |     |     |     |     |     |     | a   | Terminal 15 in engine harness   |     |     |     |     |
| T35a | 35pin connector at bottom of central electric box        |     |     |     |     |     |     |     |     |     | b   | sensor ground in engine harness |     |     |     |     |
| T35b | 35pin connector at the back side of central electric box |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| T37a | 37pin connector at bottom of central electric box        |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| T2g  | 2pin connector of coolant level sensor                   |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| T2h  | 2pin connector of "water in fuel" sensor                 |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| G120 | coolant level sensor                                     |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| G63  | "water in fuel" sensor                                   |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| J596 | relay "coolant level"                                    |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| J597 | relay "water in fuel"                                    |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| J598 | acoustic alert relay                                     |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |
| T121 | 121pin two part connector pin 1-81 and pin 82-121        |     |     |     |     |     |     |     |     |     |     |                                 |     |     |     |     |

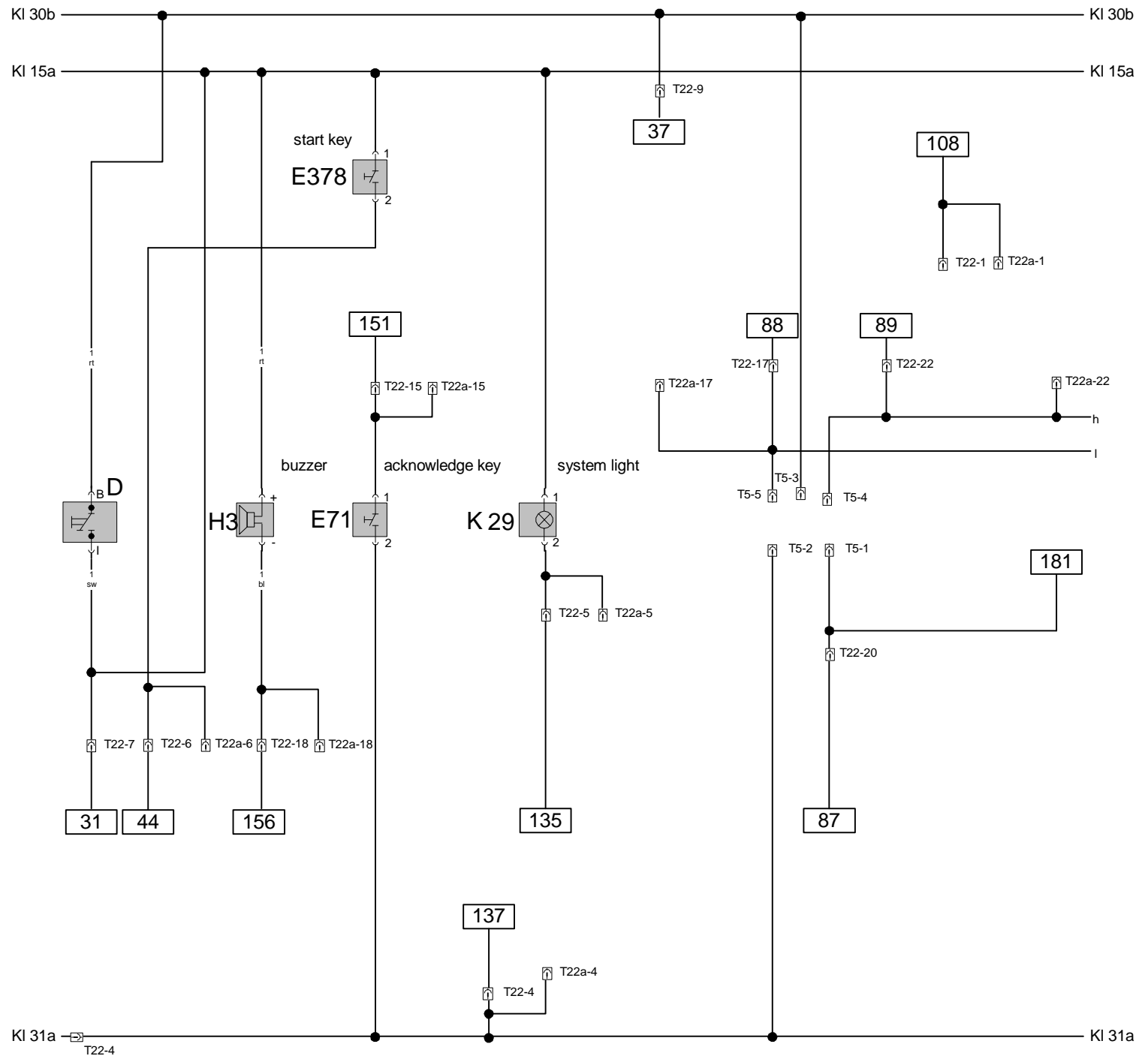
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## Instruments



- A - Connector 6pin (Tx-6)
  - 1 - Neutral
  - 2 - Neutral to central electric
  - 3 - Neutral to flybridge
  - 4 - batt. separation relay (D+)
  - 5 - NMEA - B
  - 6 - NMEA - A
- B - Dip-Switch (E91)
  - 1 - instrum. light dark / bright
  - 2 - instrum. light on / off
  - 3 - changeover switch (off for 4-5 Zyl / on for 6 Zyl)
  - 4 - Diagnosis at flybridge
- C - 22pin connector to flybridge
- D - 5pin connector for diagnosis
- E - 22pin connector to central electric
- F - buzzer



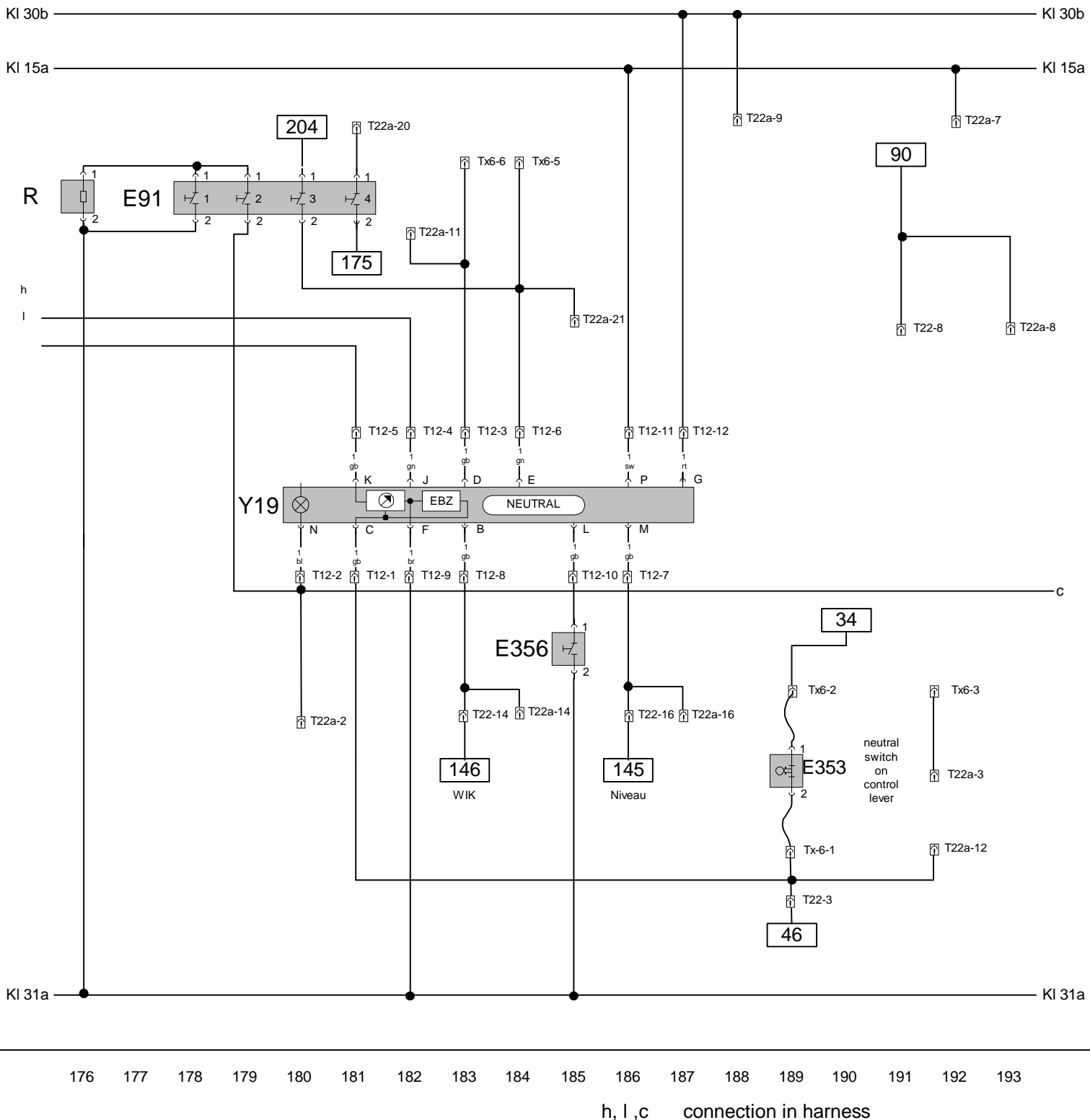
158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175

- D ignition key
- H3 buzzer
- E71 key alert acknowledge
- K29 system light
- T6x 6pin connector
- T37 37pin connector at central electric
- T22 22pin connector at panel
- T22a 22pin connector to flybridge
- E378 start key

- T5 5pin connector at panel
- h, l connection in harness

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- E356 mdf key
- Y19 tacho, multi function display
- T12 12pin connector at tacho
- Tx6 6pin connector
- E353 neutral switch at control lever
- T22 22pin connector at panel
- T22a 22pin connector to flybridge
- E91 dip switch

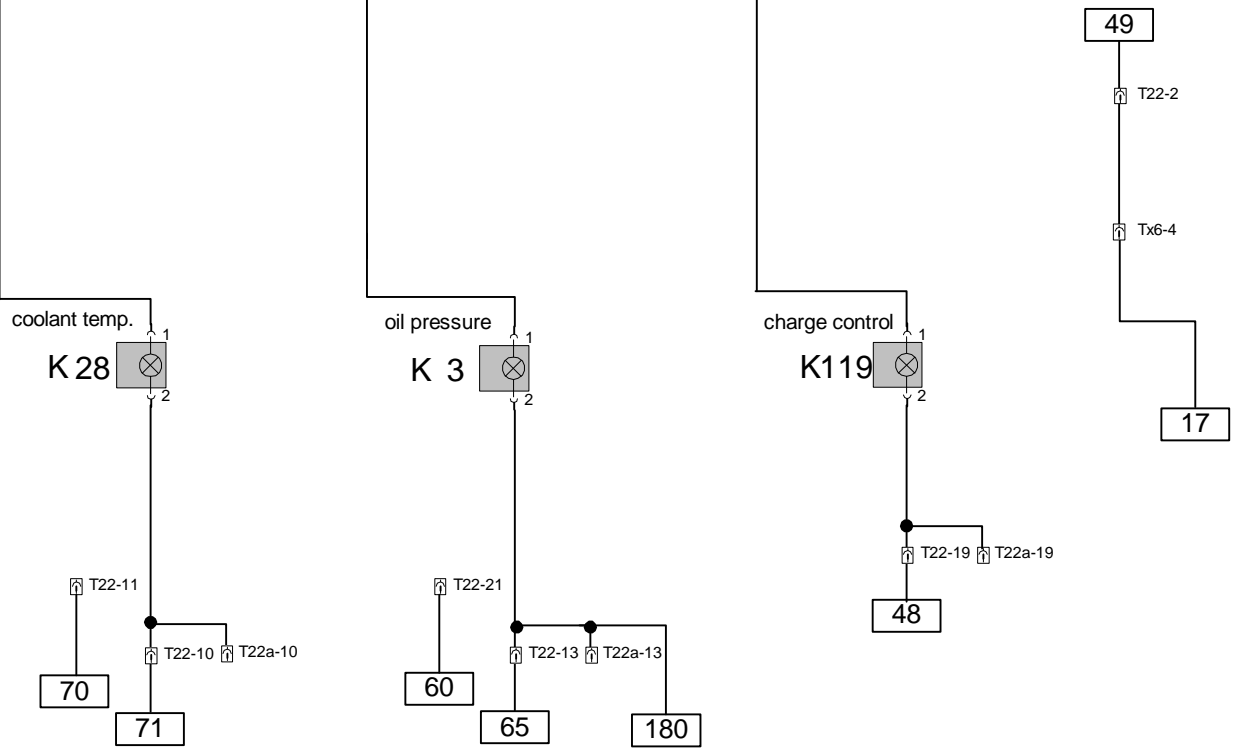
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KI 30b ————— KI 30b

KI 15a ————— KI 15a

c



KI 31a ————— KI 31a

194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211

T22 22pin connector at panel  
T22a 22pin connector to flybridge

K28 coolant warn light  
K3 oil pressure warn light  
K119 charge control light

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