

Engineering Release Notice (ERN)	Location	Change Description	A = Added D = Deleted	W = Was	Document Release Status RELEASED	
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The copying, distribution and utilization of this document as well as the communication of its contents to others without expressed authorization is prohibited. Offenders will be held liable for payment of damages. All rights reserved in the event of the grant of a patent, utility model or ornamental design registration.			Document Title WIRING DIAGRAM HDE13 US10 PREVOST			
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WIRING DIAGRAM



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A	ENGINE												
B	HDE13 US10 PREVOST												
C	WIRING DIAGRAM												
D	The diagram illustrates the electrical and hydraulic systems of the Volvo HDE13 US10 Prevost engine. Key components include: Fuel System: Located at the bottom left, featuring injectors EB21, EB22, EB42, EB45, and EB62, along with a safety valve Y103. Sensors and Actuators: Various sensors (EB) and actuators (EA) are distributed throughout the engine compartment, monitoring parameters like oil level, temperature, pressure, and fan speed. Pumps and Valves: Multiple pumps (B) and valves (Y) are shown, managing fluid flow for cooling, lubrication, and air intake. Wiring Connections: Wires are labeled with color codes and gauges (e.g., 0.75BL/W, 1.0BN/W) to specify the required cable type and length.												
E	<table border="1"> <tr> <td rowspan="2"> VOLVO Volvo Powertrain </td> <td>Document title WIRING DIAGRAM</td> <td rowspan="2"> Document No 21357389 </td> <td rowspan="2"> Issue 07 </td> <td rowspan="2"> Volume 01 </td> <td rowspan="2"> Page 3(6) </td> </tr> <tr> <td>Document type INSTALLATION REQUIREMENT</td> </tr> </table>						VOLVO Volvo Powertrain	Document title WIRING DIAGRAM	Document No 21357389	Issue 07	Volume 01	Page 3(6)	Document type INSTALLATION REQUIREMENT
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ENGINE

HDE13 US10 PREVOST

WIRING DIAGRAM

A

B

C

D

E

The diagram illustrates the electrical system for the Volvo HDE13 US10 Prevost engine. It includes the following components and connections:

- Sensors (EB):** EB2 (CAN III_L), EB6 (CAN III_H), EB21 (CIC-1), EB22 (CIC-7), EB42 (AIR Purge), EB48 (EGR Temp After Cooler), EB43 (Compressor Temp), EA11 (VSEXT1 Ground), EA47 (Boost Temp), EA22 (Boost Pressure), EA21 (EGR Diff. Press.), EA50 (AT Fuel Press.), EA7 (VSEXT1 Supply), EA35 (Fan Speed +), EA39 (Fan Speed -), EA26 (Clutch Overtemp), EA49 (Cooling Fan Drive Turbo Speed +), EA42 (Turbo Speed -).
- Actuators (EA):** EA1 (VGT SRA), EA2 (VGT SRA), EA3 (VGT SRA), EA4 (VGT SRA), EA5 (VGT SRA), EA6 (VGT SRA), EA7 (VGT SRA), EA8 (VGT SRA), EA9 (VGT SRA), EA10 (VGT SRA), EA11 (VGT SRA), EA12 (VGT SRA), EA13 (VGT SRA), EA14 (VGT SRA), EA15 (VGT SRA), EA16 (VGT SRA), EA17 (VGT SRA), EA18 (VGT SRA), EA19 (VGT SRA), EA20 (VGT SRA), EA21 (VGT SRA), EA22 (VGT SRA), EA23 (VGT SRA), EA24 (VGT SRA), EA25 (VGT SRA), EA26 (VGT SRA), EA27 (VGT SRA), EA28 (VGT SRA), EA29 (VGT SRA), EA30 (VGT SRA), EA31 (VGT SRA), EA32 (VGT SRA), EA33 (VGT SRA), EA34 (VGT SRA), EA35 (VGT SRA), EA36 (VGT SRA), EA37 (VGT SRA), EA38 (VGT SRA), EA39 (VGT SRA), EA40 (VGT SRA), EA41 (VGT SRA), EA42 (VGT SRA), EA43 (VGT SRA), EA44 (VGT SRA), EA45 (VGT SRA), EA46 (VGT SRA), EA47 (VGT SRA), EA48 (VGT SRA), EA49 (VGT SRA), EA50 (VGT SRA), EA51 (VGT SRA), EA52 (VGT SRA), EA53 (VGT SRA), EA54 (VGT SRA), EA55 (VGT SRA), EA56 (VGT SRA), EA57 (VGT SRA), EA58 (VGT SRA), EA59 (VGT SRA), EA60 (VGT SRA), EA61 (VGT SRA), EA62 (VGT SRA), EA63 (VGT SRA), EA64 (VGT SRA), EA65 (VGT SRA), EA66 (VGT SRA), EA67 (VGT SRA), EA68 (VGT SRA), EA69 (VGT SRA), EA70 (VGT SRA), EA71 (VGT SRA), EA72 (VGT SRA), EA73 (VGT SRA), EA74 (VGT SRA), EA75 (VGT SRA), EA76 (VGT SRA), EA77 (VGT SRA), EA78 (VGT SRA), EA79 (VGT SRA), EA80 (VGT SRA), EA81 (VGT SRA), EA82 (VGT SRA), EA83 (VGT SRA), EA84 (VGT SRA), EA85 (VGT SRA), EA86 (VGT SRA), EA87 (VGT SRA), EA88 (VGT SRA), EA89 (VGT SRA), EA90 (VGT SRA), EA91 (VGT SRA), EA92 (VGT SRA), EA93 (VGT SRA), EA94 (VGT SRA), EA95 (VGT SRA), EA96 (VGT SRA), EA97 (VGT SRA), EA98 (VGT SRA), EA99 (VGT SRA), EA100 (VGT SRA).
- Pumps (B):** B119 (Oil Level Low), B37 (Oil Temp), B166 (Oil Level Hi), B187 (VSEXT1 Ground), B118 (VSEXT2 Supply), B54 (VSEXT2 Oil Press.), B51 (Crank Case Press.), B207 (Fuel Press.), B21 (Coolant Temp), B87 (Coolant Temp).
- Valves (Y):** Y4 (VGT SRA), Y103 (Safety Valve, fuel system, 7th injector HS).
- Solenoids (X):** XE13 (Oil Level Low), XE43 (Oil Temp), XE44 (Oil Level Hi), XE12 (VSEXT1 Supply), XE6 (VSEXT2 Oil Press.), XE3 (Crank Case Press.), XE5 (Fuel Press.), XE41 (Coolant Temp), XE42 (Coolant Temp).

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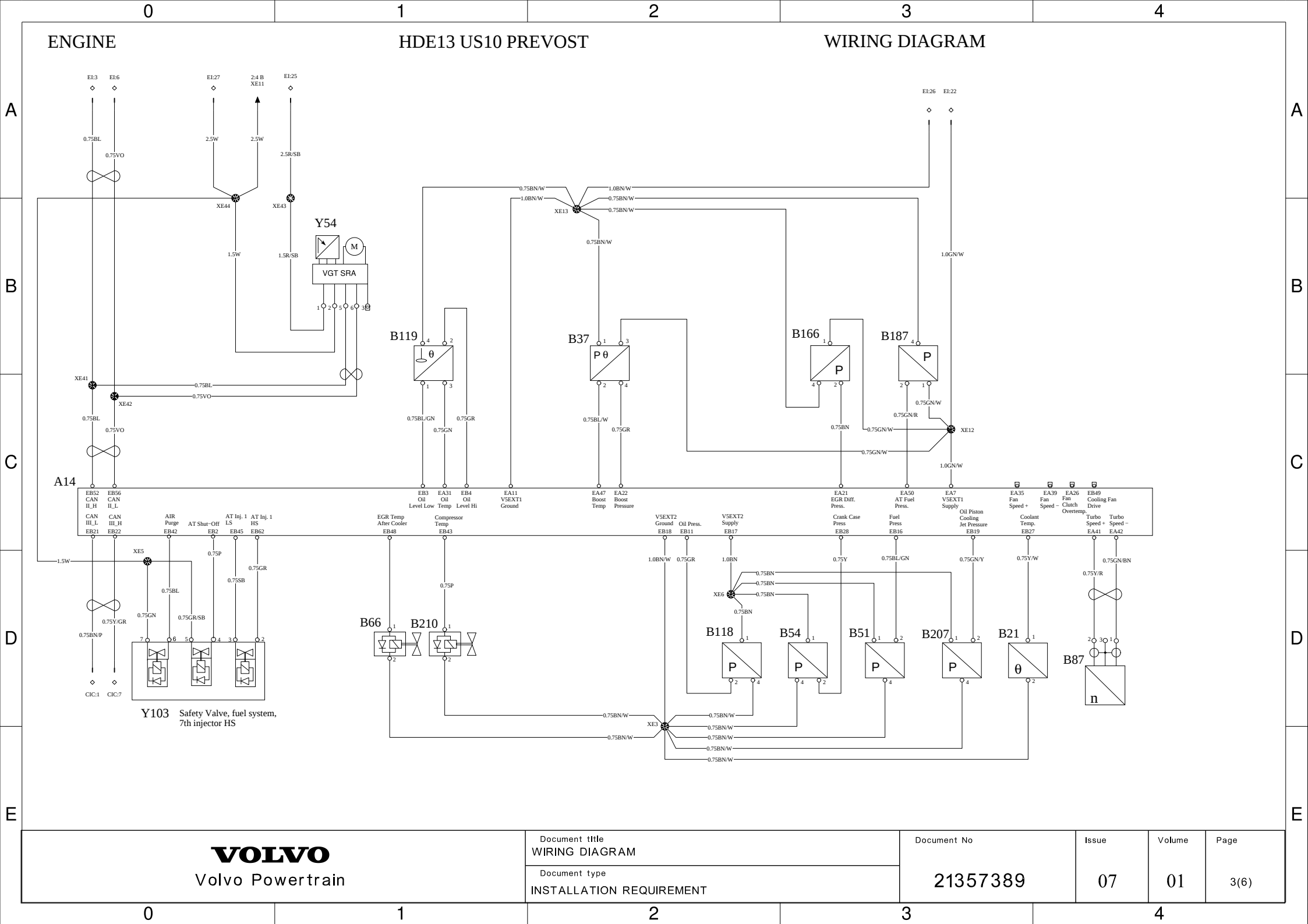
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A	ENGINE HDE13 US10 PREVOST WIRING DIAGRAM											
B	The diagram illustrates the electrical control system for the engine. It features a relay K65 with terminals 86 and 85. A solenoid M04 is connected to terminal 30 of the relay. A motor A124 is connected to terminal 87 of the relay and terminal +50 of the solenoid. The motor is also connected to terminal B- of the solenoid. The solenoid is connected to terminal B+1 and B+2. The motor is connected to terminal B-.											
C												
D												
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Symbol	Description
A14	Control unit, EMS (Engine Management System)
A45	WIF Valve & WIF Indicator (Incl. R06, B52, Y38)
A124	Comp. group engine. (Incl. M04, K65) Stater Motor
B04	Sensor, engine speed, crankshaft
B05	Sensor, engine speed, camshaft
B21	Sensor, coolant temperature, engine
B37	Sensor, boost pressure and boost temperature
B51	Sensor, fuel pressure
B54	Sensor, crankcase pressure
B66	Sensor, EGR temperature aftercooler
B87	Sensor, turbo speed
B118	Sensor, oil pressure
B119	Sensor, oil level and oil temp
B166	Sensor, EGR Differential pressure
B187	Sensor, after treatment fuel pressure
B210	Sensor, compressor discharge temp
B207	Sensor, oil cooling jet pressure
G02	Alternator
M04	Starter motor (Incl. in A124)
M19	Motor, EGR, control valve (Incl. in Y34)
K65	Starter motor relay (Incl. in A124)
R06	Heater, fuel pre filter (Incl. in A45)
Y33	Solenoid valves UI (Unit Injector)
Y34	Actuator, EGR system (Incl. M19)
Y39	Solenoid valve, VCB (Volvo Compression Brake)
Y54	Control unit, Volvo geometric turbo, Can based
Y103	Safety Valve, fuel system
Y110	Solenoid valve, oil thermostat
Y111	Solenoid valve, oil piston cooling jet

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Vehicle Interface EI

Pin	Function
EI:1	CAN I (H)
EI:2	J1708 (A)
EI:3	CAN II (H)
EI:4	CAN I (L)
EI:5	J1708 (B)
EI:6	CAN II (L)
EI:8	IVS
EI:13	Power supply for A14
EI:15	Power supply for A14
EI:18	Switch ground, coolant level
EI:21	Power supply for Y37, Y38 & Y39
EI:22	Power supply for external sensors (+5V)
EI:25	Power supply VGT
EI:26	GND for external sensors
EI:27	GND
EI:28	Signal, coolant level
EI:31	GND
EI:35	Starter control
EI:37	Power supply for R10
EI:39	GND

CIC#1, CANIII Interface Connector

CIC1:	CANIII (L)
CIC7:	CANIII (H)

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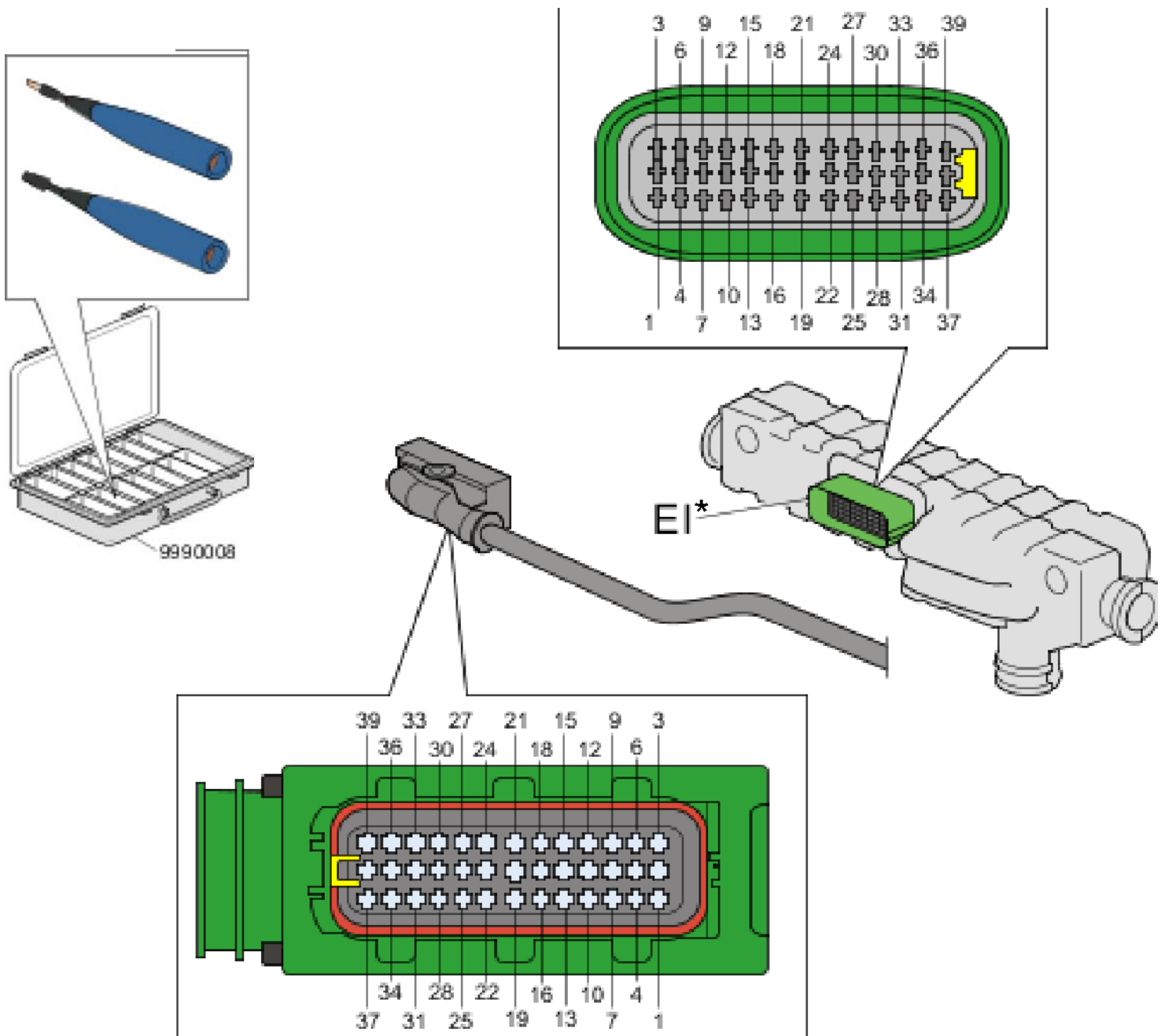
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EI, Engine Interface, Pin view



*Note: The EI connector is commonly referred to as the A82 engine interface connector

US07, A14, EECU, EA+EB, Pin view

