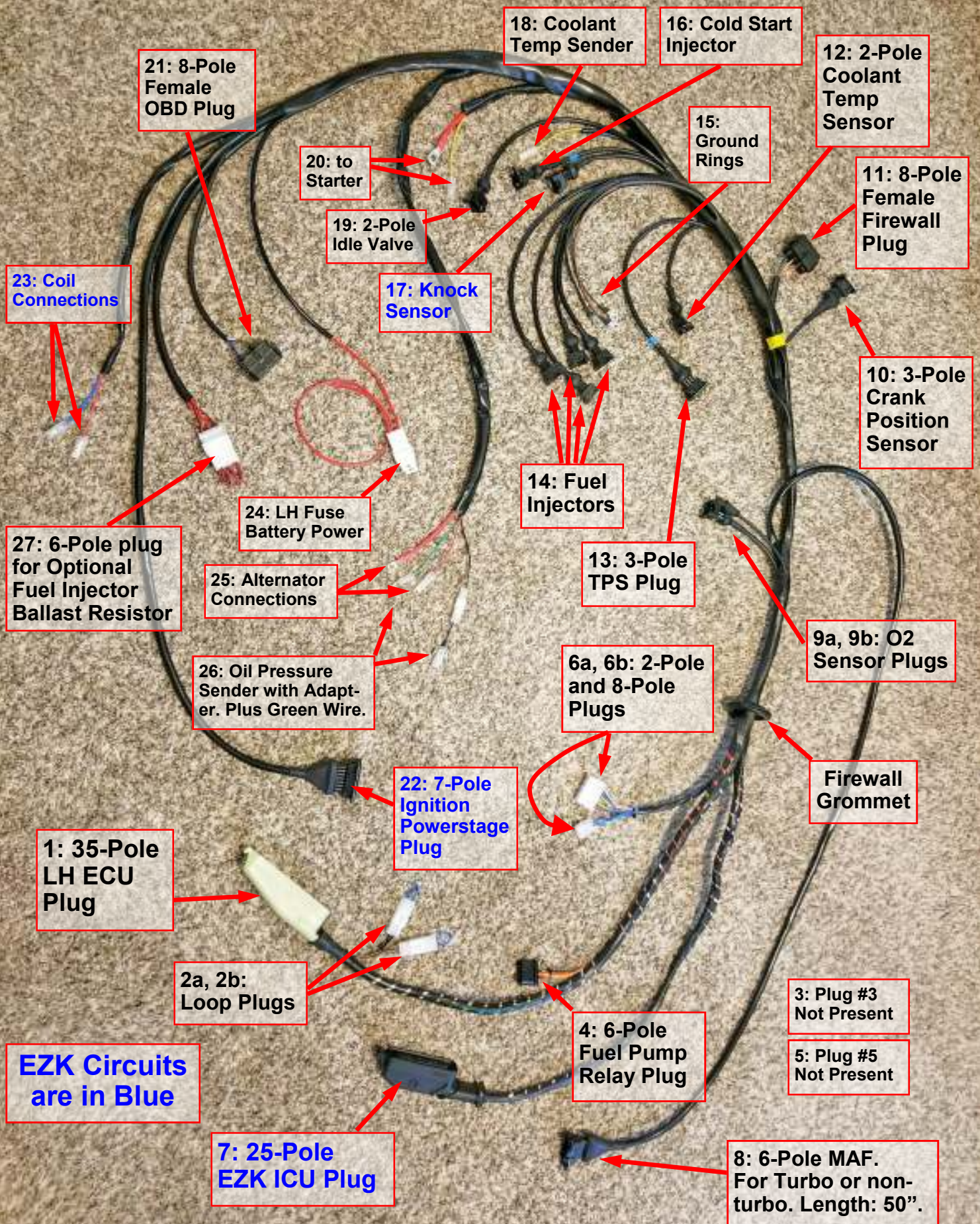


LH 2.4 EZK CONV: Volvo 240 Turbo or Non-Turbo to LH 2.4, EZK 116, Hi or Lo Injectors



Volvo Conversion Harness for 240 Turbo or Non-Turbo.
Conversion to LH 2.4, EZK 116,
with optional use of High or Low Impedance Fuel Injectors.
Circuits related to the EZK system are in BLUE text.

Understanding Diagram Wire Locations in These Pages

You will see information such as shown below for each connector in this harness. In the event that you need to know where any wire goes, this will explain how to read it these diagrams.

8



The number at left is a CONNECTOR NUMBER.
You will see numbers like this for each connector listed.

The below example shows a plug with two wires.

The #1 **Black** wire shows **13**, which means the OTHER end on this wire goes to Connector 13 (which is a Ground Ring).

The #2 **Blue** wire shows **1/2**, which means the OTHER end of this wire goes to Connector 1, Position 2. Connector #1 is the ECU, so this circuit goes to ECU Pin 2.

8



Wire Colors:

1. Black	13	to ground ring.
2. Blue	1/2	to ECU pin 2.

RESISTOR PACK PLUG

This harness is equipped with the below CONNECTOR and BY-PASS ADAPTER shown in these diagrams as Connector 27 (6-pole plug).

With no changes this harness will support High Impedance Injectors.

If you decide to use Low Impedance Injectors, you must unplug the by-pass adapter and instead plug in any standard **Volvo 740 Turbo fuel injector Ballast Resistor Pack**. Using low impedance injectors with an LH 2.4 ECU **without this resistor pack can damage your ECU.**



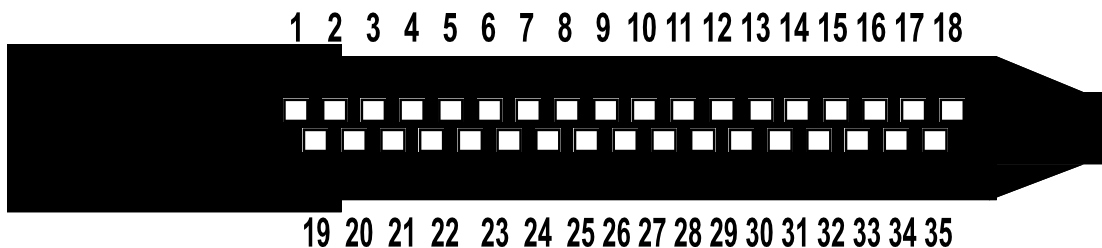
BY-PASS ADAPTER (INCLUDED)



**RESISTOR PACK
(Not Included)**

1

35-Pole White Fuel Injection ECU Connector — Under Dash



VIEW FROM FRONT FACE— USE POLE NUMBER MARKINGS ON PLUG

WIRE COLOR	DESTINATION	DESTINATION DESCRIPTION	ECU FUNCTION
1. Brown:	to 7/17	ICU pin 17.	Engine speed signal input from ICU.
2. Yell/White:	to 7/7, 13/1	ICU pin 7, TPS pin 1.	Input signal from TPS when throttle is closed (idle).
3. Blk/White:	to 13/3	TPS pin 3.	Input signal from TPS for full throttle. Not used on B230FT (SEE NOTE BELOW).
4. Red (2 wires):	to 4/3, 7/5, 20	Fuel Relay pin 3, ICU pin 5, LH 25A fuse.	12v power constant (terminal 30).
5. Blk/Brown:	to 2a2	2-pole loop 2a2.	
6. Black:		Shield for 1/24 Green.	Ground for shield (Oxygen Sensor).
7. Grn/Yell:	to 8/2	MAF pin 2.	Ground for MAF.
8. Red/Wht:	to 8/3	MAF pin 3.	Input signal from MAF.
9. White:	to 8/4	MAF pin 4.	Control signal to MAF for burn off.
10. Blk/Red (2 wires):	to 4/1, 4/6	Fuel Relay pin 1, pin 6.	12v power supply from relay pin 1.
11. Empty			
12. Blk/Green:	to 21/2	8-pole OBD pin 2.	Diagnostic signal lead.
13. Blue/Red:	to 12/2	Temp Sens pin 2.	Input signal from Coolant Temp Sensor (ECT).
14. Green:	to 6A2	White 8-pole plug.	Input signal from AC (compressor on).
15. Red/Gray:	to 6A1	White 8-pole plug.	Input signal from AC (AC starting).
16. Empty			
17. Black:	to 15c	Ground Ring c.	Ground.
18. Green/Wht:	to 14/2	Fuel Inj pin 2.	Control signal for fuel injectors.
19. Blk/Brn:	to 2b1	2-pole loop 2b1.	Ground
20. Blue/Green:	to 4/2	Fuel Relay pin 2.	Control signal to fuel pump relay function.
21. Blk/Yell:	to 4/4	Fuel Relay pin 4.	Control signal to main fuel relay function.
22. Pink/Wht:	to 6B6	White 8-pole plug.	Signal to Check Engine Light (CEL).
23. Empty			
24. Green (shielded):	to 9a	Oxygen Sensor.	Input from Oxygen Sensor.
25. Brn/Yell:	to 7/8	ICU pin 8.	MAF load signal output to ICU.
26. Violet:	to 6B5	White 8-pole plug.	Shift up output signal (manual).
27. Empty			
28. Brown/Wht:	to 7/4	ICU pin 4.	Input signal from ICU (Knock Sensor).
29. Black:	to 2a1	2-pole loop 2a1.	Ground.
30. Pink:	to 6B7	White 8-pole plug.	Input signal from Park-Neutral Position (PNP) Switch (auto trans) for use with idle control.
31. Empty			
32. Black/Wht:	to 16/2	Cold Start Inj pin 2.	Control signal output to Cold Start Valve.
33. Green/Red:	to 19/2	Idle Valve pin 2.	Control signal output to Idle Valve.
34. Black/Blue:	to 6B4	White 8-pole plug.	Input VSS signal from speedometer.
35. Blue:	to 6B1, 7/6	White 2-pole plug, ICU pin 6.	12v power switched (terminal 15).

PIN 3 NOTE: If you're using a Turbo ECU see **Diagram 13 Throttle Position Sensor** for needed modification.

2a

2-Pole Female 6.3 mm plug with Male Loop Connector.

Near ECU Under Right Side Dash



WIRE COLORS

1. Black: to 1/29 (ECU pin 29).
2. Blk/Brn (2 wires): to 1/5, 2b2 (ECU pin 5, 2-pole loop 2b2).

2b

2-Pole Female 6.3 mm plug with Male Loop Connector.

Near ECU Under Right Side Dash



WIRE COLORS

1. Blk/Brn: to 1/19 (ECU pin 19).
2. Blk/Brn(2 wires): to 2a2, 15b (2-pole loop 2a2, Ground Ring b).

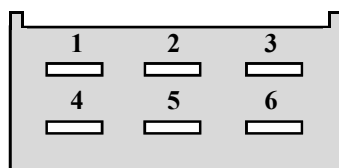
3

Connector Not Present

4

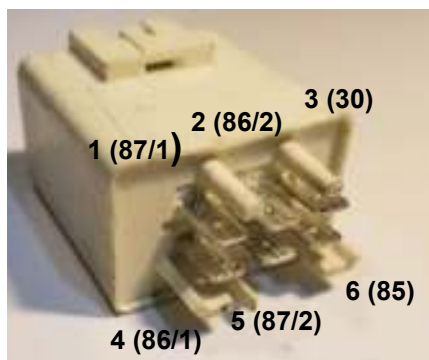
6-Pole Female 6.3 mm Fuel Relay Connector.

Under Passenger Dash



VIEW FROM REAR OF PLUG

<<< Connector for white FUEL PUMP RELAY PN 3523608.



RELAY PIN	WIRE COLOR	DESTINATION	DESTINATION DESCRIPTION
1. 87/1	Blk/Red(fat):	to 1/9, 4/5, 8/5	ECU 9, Relay pin 6, MAF pin 5.
2. 86/2	Blue/Grn:	to 1/20	ECU pin 20 control signal output.
3. 30	Red (fat):	to 1/4, 7/5, 23	ECU 4, ICU pin 5 , power input from LH Fuse.
4. 86/1	Blk/Yell:	to 1/21	ECU pin 21 control signal output.
5. 87/2	Red/Yell(2 wires):	to 6B2, 9b1	Output to 8-pole plug pin B2, O2 Plug b1.
6. 85	Blk/Red(fat):	to 1/9, 4/1, 14/1	ECU pin 9, Relay pin 1, Fuel Injectors pin 1.

**NOTE: Pin 3 is main voltage from battery via the LH fuse.
Pin 5 is output power to fuel pumps via white 8-pole plug, pin B2.**

5

Connector Not Present

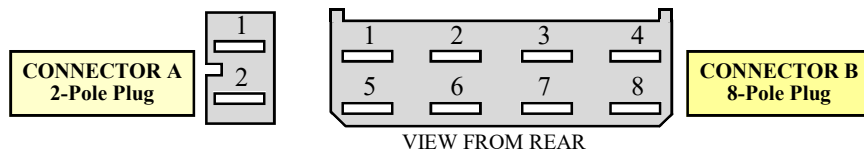
6

White 2-Pole Female Plug with 6.3 mm Terminals.

These are wires that need to be connected from this conversion harness to various locations under your dash.

Plug A

Connector A (2-pole) **on this page** is only relevant to air conditioning if you have it.
Connector B (8-pole) on next page is relevant to all other connections.



HARNESS CONNECTIONS PLUG A (Origin)

A1. Red/Gray: from 1/15 (ECU pin 15)

A2. Green: from 1/14 (ECU pin 14)

CAR CONNECTIONS (Destination)

This wire brings input to your ECU **from the AC relay** pin D+/61 or AC control switch (Red/Gray). It allows the ECU to compensate the idle speed when AC is activated.

This wire brings input to your ECU from the AC compressor. It tells the ECU that your AC compressor is engaged. It's used to keep the idle speed stable when compressor starts.

6

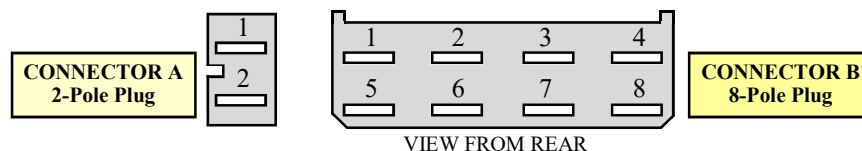
Plug B

White 8-Pole Female Plug with 6.3 mm Terminals.

These are wires that need to be connected from this conversion harness to various locations under your dash.

Connector A (2-pole) on previous page is only relevant to air conditioning if you have it.

Connector B (8-pole) **on this page** is relevant to all other connections.



HARNESS CONNECTIONS PLUG B (Origin)

B1. Blue: from 7/6, 1/35 (ICU pin 6, ECU pin 35)

B2. Red/Yell
(fat wire): from 4/5 (Fuel Relay pin 5)

B3. Blue (fat): from 23b (Coil +)

B4. Blk/Blue: from 1/34 (ECU pin 34)

B5. Violet: from 1/26 (ECU pin 26)

B6. Pink/Wht
(2 wires): from 1/22, 7/3 (ECU pin 22, ICU pin 3)

B7. Pink: from 1/30 (ECU pin 30)

B8 Red/White from 22/1 (Ign Powerstage pin 1)

CAR CONNECTIONS (Destination)

Connect this to **switched power** from ignition switch Terminal 15 (any 12v circuit with Ignition Switch in the "RUN" position). This source may usually be tapped from the input of fuse 11, 12 or 13 (or fuse 3, 4 or 5 for 1978 and older 240). This circuit may be combined with wire B3. Ensure this 12v connection also remains on when the key is turned to the "CRANK" position.

This is the output from the Fuel Pump Relay to supply power to the fuel pumps. This wire should be connected at the fuse panel to the INPUT side of the fuse for a fuel pump. You can choose from the following fuses: 1979 -84: Fuse 5. 1985 and later: Fuse 4. For pre-1979, you can choose any fuse that is not currently being used, such as fuse 10, or install an in-line fuse and then connect to pumps.

Connect this to **switched power** from ignition switch Terminal 15 (any 12v circuit with Ignition Switch in the "RUN" position). This source may usually be tapped from the input of fuse 11, 12 or 13 (or fuse 3, 4 or 5 for 1978 and older 240). This circuit may be combined with wire B1. Ensure the 12v connection also remains on when the key is turned to the "CRANK" position.

Connect to pulse signal from speedometer, pin 31/6 (in round plug). This signal is produced by an LH 2.4 compatible speedo that is connected to the speed sensor in the differential. **See NEXT DIAGRAM for pin 31/6.**

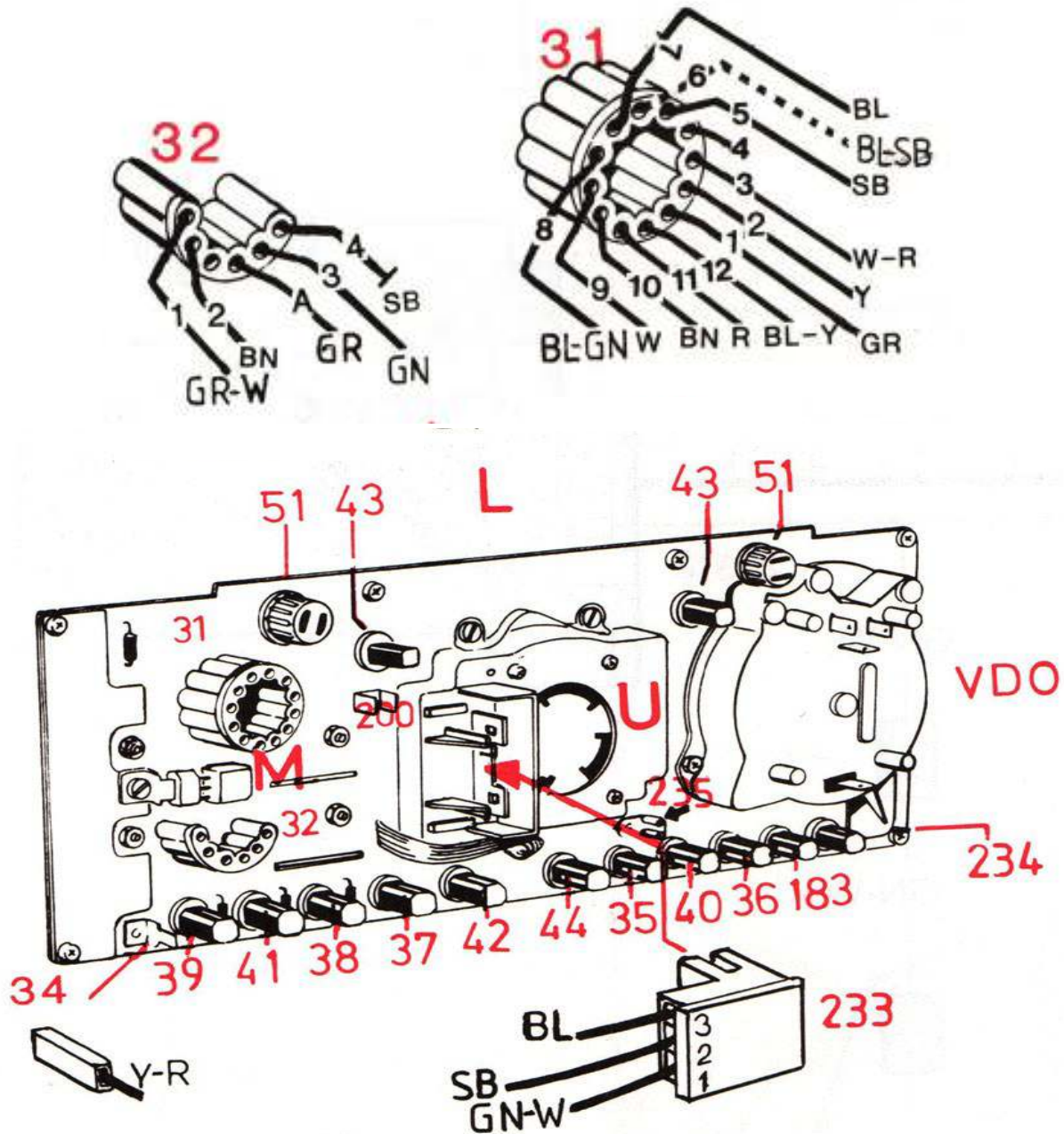
May be connected for Shift Light for manual transmission car. To pin 34 of LH 2.4 compatible instrument cluster. **See NEXT DIAGRAM for pin 34.**

Check engine light. Connect to pin 235 of LH 2.4 compatible instrument cluster. **See NEXT DIAGRAM for pin 235.**

Supplies the ECU with momentary power when starter is engaged. If used, connect this wire to starter solenoid circuit. The starter solenoid circuit is the same as the Blue/Yellow wire in the 8-pole firewall plug.

Output to tachometer lead if needed. If a tach signal is needed for your tach, you may connect this wire to your tach input spade shown in the next diagram. **See NEXT DIAGRAM for tach spade connection.**

Notes for pins B4, B5 and B6 from previous page. Locations of instrument cluster pins.



Note for pin B8 Red/White tach wire from previous page.

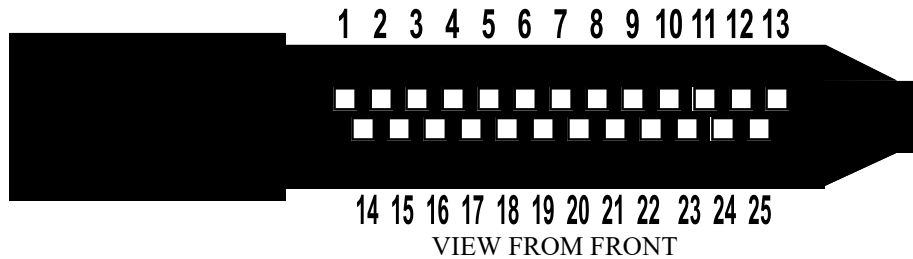


<<< Back of tachometer.

Red/White wire connects here. Don't goof and connect this wire anywhere else or damage may occur to your ignition ICU. If your tach has two spades at the bottom here, you may connect to either one.

7

25-Pole Ignition Control Unit (ICU) Connector



VIEW FROM FRONT FACE— USE POLE NUMBER MARKINGS ON PLUG

WIRE COLOR	DESTINATION	DESTINATION DESCRIPTION	ICU FUNCTION
1. White:	to 21/6	8-pole OBD pin 6.	Signal output to diagnostic socket.
2. Blue/Red:	to 12/1	Temp Sens pin 1.	Signal input from Coolant Temp. (CLT).
3. Pink/Wht:	to 1/22, 6B6	ECU pin 22, White 8-pole plug.	Signal to Check Engine Light (CEL).
4. Brown/Wht:	to 1/28	ECU pin 28.	Knock Sensor output to ECU.
5. Red:	to 1/4, 4/3, 20	ECU 4, Relay pin 3, LH fuse.	12v power constant (terminal 30)
6. Blue(2 wires):	to 1/35, 6B1	ECU pin 35, White 2-pole plug.	12v switched (terminal 15).
7. Yell/White (2 wires):	to 1/2, 13/1	ECU 2, TPS 1.	Input signal from TPS when throttle is closed (idle).
8. Brn/Yell:	to 1/25	ECU pin 25.	Load signal input from MAF via ECU.
9. Empty			
10. Blue (shielded):	to 10/1	Crank Pos Sens 1.	Input from Crank Position Sens (CPS).
11. Blk (shield for 10 & 23):	to 10/3	Crank Pos Sens 3.	Shield for CPS (both wires).
12. Blk (shield for 13):	to 17/2	Knock Sens pin 2.	Shield for Knock Sensor.
13. Green (shielded):	to 17/1	Knock Sens pin 1.	Input signal from Knock Sensor.
14. Empty (relevant to EGR Ground)			
15. Empty (relevant to EGR Control)			
16. Gray (shielded):	to 22/5	Ign Powerstage pin 5, (Shield is at Diag. 22/3)	Ignition pulse output to Powerstage.
17. Brown:	to 1/1	ECU pin 1.	Engine speed signal output to ECU.
18. Empty			
19. Empty			
20. Blk/Brown:	to 15b	Ground Ring b.	Ground for ICU.
21. Empty			
22. Empty (relevant to EGR Temp Sensor)			
23. Red (shielded):	to 10/2	Crank Pos Sens pin 2.	Input from Crank Position Sens (CPS).
24. Empty			
25. Empty			

8

6-Pole Female Mass Air Flow (MAF) Sensor EFI Connector. 50" lead from firewall junction for reach to Turbo or non-turbo position.



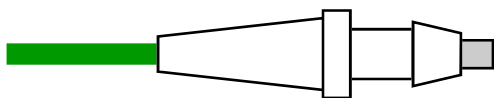
WIRE COLORS:

1. Blk/Brn:	to 15a	Ground Ring a
2. Green/Yell:	to 1/6	ECU pin 6.
3. Red/Wht:	to 1/7	ECU pin 7.
4. White:	to 1/8	ECU pin 8.
5. Blk/Red:	to 4/1	Fuel Relay pin 1 (12v).
6. empty		

**Number markings embossed on plug.
Peel back rubber boot to see.

9a

1-Pole Male Oxygen Sensor Connector.



Green (shielded): to 1/24 ECU pin 24.

9b



2-Pole Female EFI Connector. For Oxygen Sensor Heater Circuit

Wire Colors:

- | | | |
|----------------------|-------------|---|
| 1. Red/Yellow (fat): | to 6b2, 4/5 | Multi-pin plug, Fuel Relay pin 5 (12v). |
| 2. Black: | to 15a | Ground Ring a. |



10



3-Pole Female EFI Connector. Crank Position Sensor.

WIRE COLORS*

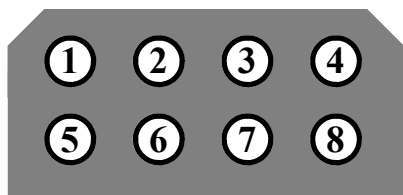
- | | | |
|-----------|----------------------------|-------------|
| 1. Blue: | to 7/10 (shielded wire) | ICU pin 10. |
| 2. Red: | to 7/23 (shielded wire) | ICU pin 23. |
| 3. Black: | to 7/11 (shield for above) | ICU pin 11. |

Blue/Yell and Red/Yell are shielded pair with Black connected to the shield.



11

8-Pole Female Connector. LEFT (driver side) Firewall



VIEW FROM REAR

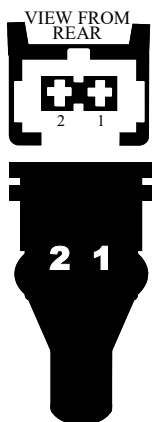
WIRE COLORS:

- | | | |
|-----------------|--------|------------------------------|
| 1. Black: | to 26a | Oil Press Sender. |
| 2. Yellow: | to 18 | Coolant Temp Sender. |
| 3. Red: | to 25b | Alternator D+. |
| 4. empty | | |
| 5. Blue/Yellow: | to 20b | Starter Solenoid. |
| 6. Green: | to 26b | Oil Press Sender - see note. |
| 7. empty | | |
| 8. empty | | |

NOTE: The GREEN wire in pin 6 is not normally found in a 240 LH 2.4 engine harness. It has been added to this harness for the convenience of a 240 Turbo owner or other 240 model that will use this green wire for a 2-pole oil pressure sender (type for use with separate oil pressure gauge). Some non-turbo 240s may have a different color wire in pin 6 going through the firewall. If you are adding new wiring an oil pressure gauge, it will be important to make sure this wire goes to the oil pressure gauge pin "G" (a 240 Turbo will already be wired for this gauge).

CAUTION: If you have a 240 non-turbo you may find an already existing GREEN wire in your 8-pole firewall plug. That GREEN wire may be the wire Volvo used for an optional engine compartment light. In this case, that wire goes to the fuse panel and is connected to power. **DO NOT** use this circuit for the oil pressure sender. You may disconnect it from power at the fuse panel or remove this bullet from the 8-pole plug and reconnect outside the plug housing if you plan to use the light.

12



2-Pole Female EFI Connector. Coolant Temperature Sensor

Wire Colors:

- | | | |
|--------------|---------|-------------|
| 1. Blue/Red: | to 7/2 | ICU pin 2. |
| 2. Blue/Red: | to 1/13 | ECU pin 13. |

13

3-Pole Female EFI Connector. Throttle Position Sensor (TPS)



WIRE COLORS

- | | | |
|----------------|-------------|--|
| 1. Yell/White: | to 7/7, 1/2 | ICU pin 7, ECU pin 2 (idle signal). |
| 2. Black: | to 15c | Ground Ring c. |
| 3. Blk/White: | to 1/3 | ECU pin 3 (WOT). SEE NOTE BELOW |

PIN 3 NOTE: Pin 3 Blk/White wire above goes to ECU pin 3. It's a Wide Open Throttle (WOT) signal used for the B230F only. This circuit is NOT used in a TURBO ECU. So if you're using a TURBO ECU, it is advisable to cut or disconnect this Blk/White wire.

**Number markings on plug

NOTE: BLUE TAPE

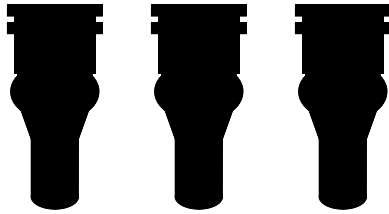
14

2-Pole Female EFI Connectors. Fuel Injectors (x4)



WIRE COLORS

- | | | |
|---------------|-------------------|--|
| 1. Blk/Red: | to 4/1, 4/6, 19/1 | Fuel Relay pins 1 & 6, Idle Valve pin 1 (12v). |
| 2. Grn/White: | to 1/18 | ECU pin 18 (control signal). |



All four injector connectors are wired the same. The leads are different lengths so they may be routed for best fit.

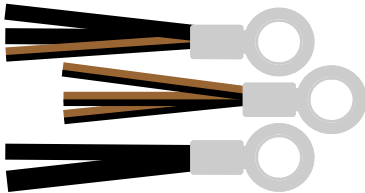
15

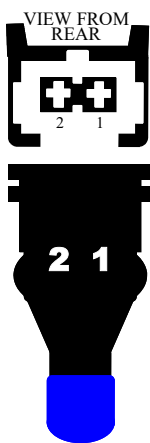
Two or Three Ground Rings. Bolted to Intake Manifold

a, b, c

WIRE COLORS

- | | | |
|-------------------------------|--------------------|--|
| 15a. Blk/Brn, Black(2 wires): | to 8/1, 9b2, 22/2 | MAF pin 1, O2 Sens 9b2, Ign Powerstage pin 2. |
| 15b. Blk/Brn (3 wires): | to 2b2, 7/20, 21/8 | 2-pole loop 2b2, ICU pin 20, 8-pole OBD pin 8. |
| 15c. Black (thin): | thin to 13/2 | TPS pin 2. |
| Black (fat): | fat to 1/17 | ECU pin 17. |



16

2-Pole Female EFI Connector. Cold Start Injector. BLUE TAPE

This Injector is Optional. It came on 700 Turbo versions. It was not present on 240 models, but it may be used if you're using a Turbo ECU.

1. Blk/Red: to 14/1 Fuel Inj pin 1 (12v).
2. Blk/White: to 1/32 ECU pin 32 (control signal).

NOTE: The above Blk/Red wire for the Cold Start Injector is joined to the four Blk/Red Fuel Injector wires and Blk/Red MAF wire inside harness.

17

2-Pole Female EFI Connector. Ignition Knock Sensor.

Knock sensor needs to be Bosch style.

1. Green: to 7/13 (shielded wire) ICU pin 13.
2. Black: to 7/12 (shield for above) ICU pin 12.

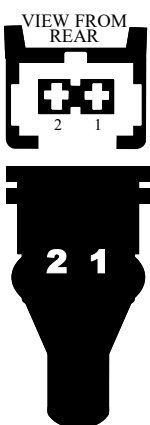
18

6.3 mm Female Terminal with Insulator.

Coolant Temperature Sender (dash temp. gauge) located on left side of head
240 style 1-wire Coolant Sender is required.



Yellow: to 11/2 8-pole Firewall Connector pin 2.

19

2-Pole Female EFI Connector. Idle Valve. LH 2.4 compatible type.

1. Blk/Red: to 4/6, 14/1 Fuel Relay pin 6, Fuel Injector pin 1 (12v).
2. Green/Red: to 1/33 ECU pin 33 (control signal).

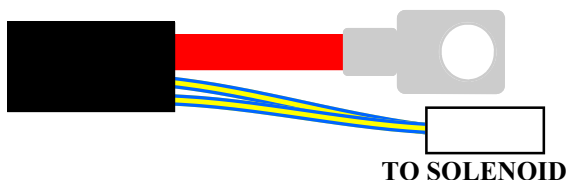
**Number markings on plug
are under rubber boot.

NOTE: Blk/Red wire for this Idle Valve is joined to four Blk/Red Fuel Injector wires inside harness.

20

a, b

STARTER MOTOR CONNECTIONS



Wire Colors:

- 20a. Red fat cable: to 25a Alternator B+.
20b. Blue/Yell: to 11/5 8-pole Firewall Connector pin 5.

RIGHT FENDER →

20a. LARGE CABLE STUD

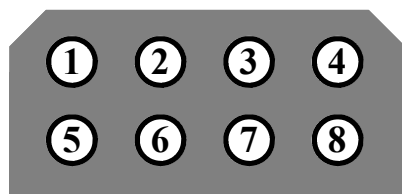
NOT USED

20b. SOLENOID

VIEW FRONT OF STARTER

21

8-Pole Female Connector. For On Board Diagnostic (OBD).



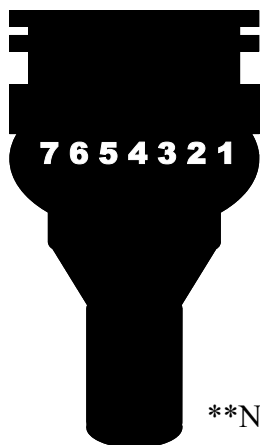
WIRE COLORS:

- | | | |
|---------------|---------|----------------|
| 1. Empty | | |
| 2. Blk/Green: | to 1/12 | ECU pin 12. |
| 3. Empty | | |
| 4. Blue: | to 7/6 | ICU pin 6. |
| 5. Empty | | |
| 6. White: | to 7/1 | ICU pin 1. |
| 7. Empty | | |
| 8. Blk/Brown: | to 15b | Ground Ring b. |

22

7-Pole Female EFI Connector. Ignition Power Stage.

Left front fender. The lead for this connector has been made long enough to place the Power Stage in the factory 240 location at the front left. It is generally thought that Volvo placed it there for best cooling.



- | | | |
|-------------------------|-------------|-------------------------------|
| 1. Red/White (2 wires): | to 6b8, 23a | Multi-pin plug, Ign Coil Neg. |
| 2. Black: | to 15a | Ground Ring a. |
| 3. Gray (Shield) | | Shield ground for 22/5 below. |
| 4. Blue (fat): | to 7/6 | Ign Coil #2 Positive. |
| 5. Gray (shielded): | to 7/16 | ICU pin 16. |
| 6. Empty | | |
| 7. Empty | | |

**Number markings embossed on plug are under rubber boot.

23

6.3 mm Female Terminals with Insulators. EZK Connections to Coil.

Red/White connects to Coil terminal 1 (Neg). Blue connects to Coil terminal 15 (Pos).

a, b



a. Red/White: to 22/1 Ign Power Stage pin 1.

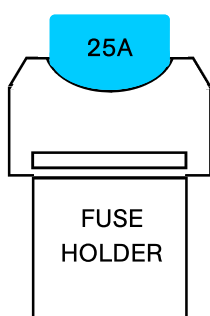


b. Blue: to 6B3, 22/4 Multi-pin plug, Power Stage pin 4.

24

Red Cable to White Fuse Holder and Cable to Battery Ring Terminal.

Left Fender Near Ignition Coil



Red: to 4/3 Fuel Relay Plug pin 3 (30).
Ring terminal to battery.

Cable From Harness

Cable to Battery Ring Terminal

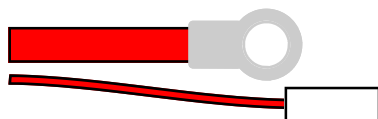
25

Alternator Connections.

Heavy Red cable (B+).

Red wire (D+) 6.3 mm terminal with insulator.

a, b



a. (B+) Red Cable: to 20a Starter.
b. (D+) Red: to 11/3 8-pole firewall connector pin 3.

26

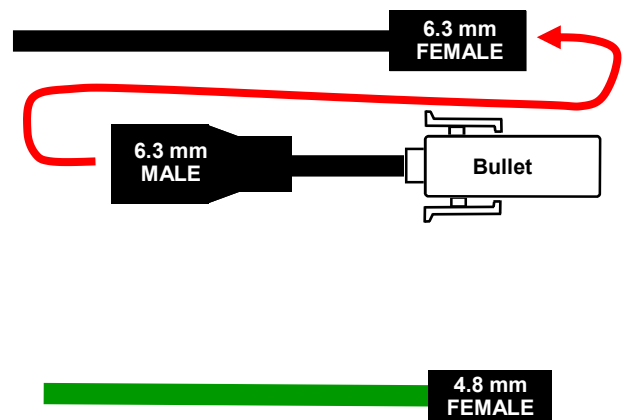
Oil Pressure Sender (OPS)

Also see NOTE about OPS wires in Diagram 11.

26a: (Black wire) 6.3 mm FEMALE terminal. Used by itself only with early style 1-pole oil pressure sender that has a flat spade. Also used for a 2-pole oil pressure sender (accessory OP gauge) in conjunction with the below green wire.

Short adapter: (Black wire) This is a 6.3 mm MALE terminal with a FEMALE bullet plug on other end. This adapter is plugged into the above black wire and used for a later style 1-pole oil pressure sender using a bullet connector.

26b: (Green wire) 4.8 mm FEMALE terminal. Used only with a 2-pole oil pressure sender for an accessory OP gauge.



WIRE COLORS:

26a. Black: to 11/1 8-pole firewall plug pin 1.

26b. Green: to 11/6 8-pole firewall plug pin 6.

27

6-Pole Connector RESISTOR PACK PLUG

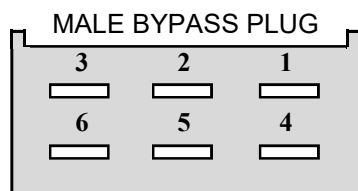
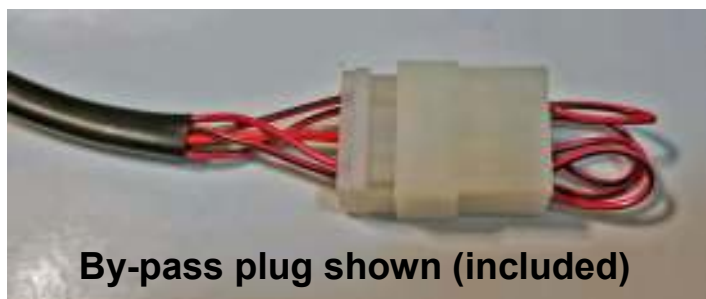
This harness is equipped with the below CONNECTOR and included BY-PASS ADAPTER.

With no changes this harness will support **High Impedance Injectors**.

If you decide to use **Low Impedance Injectors**, you must unplug the by-pass adapter and instead plug in any standard **Volvo 740 Turbo fuel injector Ballast Resistor Pack**.

CAUTION:

Using **low impedance injectors** without a resistor pack can damage your LH 2.4 ECU.



VIEW FROM REAR OF PLUG



6-Pole MALE Connector BYPASS Plug.

This bypass plug should be in place when **HIGH Impedance Injectors** are to be installed.

BYPASS PLUG WIRE CONNECTIONS:

- Pin 1: to pin 2, 4
- Pin 2: to pin 1, 3, 4, 6
- Pin 3: to pin 2, 6
- Pin 4: to pin 1, 2
- Pin 5: empty
- Pin 6: to pin 2, 3