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Volvo 244 Dl (2444B1009641)

Facts:

- B21A engine
- 2127 ccm - - - - SOUND
- **118** Berkshire (light) green (Ljusgrön)
- 74kW/100HP at 5000 rpm
- 170 Nm / 2500 rpm Torque
- M-40 4-speed manual gearbox

- 489.9cm Length / 177 cm Width / 144cm Height
- 195/60-VR15 Semperit Direction
- 15" Alloy Wheel Volvo Virgo (stnd. at TURBO models)
- Grundig cass'n'CD stereo, aux. amplifier, 9 speaker system
- Max. speed approx. 170 km/h ('74 factory top speed is 160 km/h = 99.42 MPH)
- Fuel consumption (L/100km) from 9.4 (MIN) to 13,7 (MAX), 10,2 (NORM).
- Car has 70K km (4.12.1996), 74 K km (9.1997), first painting

Improvements: (base was '74 244 DL)

* Leather steering wheel cover (iPD)
* Virgo alloys (240 Turbo)
* Makeup mirror (Volvo 240)
* Right side rearview mirror (original Volvo; chrome)
* tachometer (Volvo)
* woodline interior
* rear fasten seat belt light (Volvo 240)
* "step out lamp" on drivers side (red from Volvo 850)
* Front air dam (Volvo 240 type spoiler)
* Front gas shocks (Volvo Turbo&GLT version)
* Rear shocks with aux. springs (Volvo)
* Stainless steel full flow exhaust (custom made)
* twin end pipes (polished stainless steel)
* improved choke actuator on ZS 175 CD2 SE
* condensor on coil terminal 15 (Beru)
* "lights on" reminder (Bosch)
* two shims to lift up rear end (Have a famous rear end sag?)
* Front fog lamps
* With original Fog lamp switch (Volvo)
* GLE grill ('75-76 244/245 GLE)
* Fuel filter before mech. pump (BOSCH)
* alu reflective coating on rear lamps and DRL's for improved efficiency
* Rear headrests (Volvo)
* rear fog lamp (Ok, soon. I've already found the orig. switch) Should I take the Mercedes way and just put another light under bumper or try to install twin filament bulb in both rear lamps?
* leather shift boot (orig. for Volvo 240)
* engine compartment light (Hella - Volvo)
* H -grind cam (Volvo - S.A.M.)

Next Step:

* luggage comp. light (same as eng. comp.)
* power steering

Work to do in future:
(if you have or know something useful about items marked with X, please email to jure.urbancic@mf.uni-lj.si

* M47 5-speed gearbox X
* or M46 4-speed + OD gearbox X
* Turbo sway bars (Front 23 mm / Rear 23 mm) X
* rear seat belts
* EGR system
* headlamp wiper washer X
* change those 195/60 to about 215/55 -15 rear and 205/55 - 15 front
* 55A or 70 A (or more) alternator
* rear gas shocks

Maybe?

* twin carb setup (like those old R-sport setups for B18)
* strut brace
* R-Sport springs
* Limited slip diff.
* GT - steering wheel
+ many things

Go to Volvo Page Pictures in Gallery Engine data

Maintained by the Owner modified feb.1997

Volvo's B21A Detail Info Sheet (for modelyear 1974/75)*

*minor modifications were made to B21A. Peak power in '74 and '75 was 97 HP. Modelyear '76 got a new camshaft and peak moved to 100 HP. It is funny that my B21A has 100 HP (prooved by import papers and homologation) funny, right? It looks as some small amount of '75 model B21A made at the end of '74 for some markets had the new camshaft installed.

Four-cyl., fluid cooled, petrol engine
Cylinder block of special cast iron
Cyl. liners drilled directly in the block
Cyl. head of aluminium with separate inlet and exhaust ports
Single, overhead camshaft
Lubrication via a gear pump driven from crankshaft
Oil filter of the full-flow type
Fuel system with carburattor
Cooling system sealed, overpressure type

- Output DIN: 71kW / 97hp('74) or 74kW / 100(101)hp ('75) at 83 r/s / 5000 rpm
- Max. Torque DIN: 170Nm at 42 r/s; 17.3kpm=125 lbft at 2500 rpm
- No.cyl: 4
- Bore: 92mm / 3.022"
- Stroke: 80mm / 3.15"
- Displacement: 2.13 dm3 (litres)
- Compress.ratio: 8.5 : 1
- Valve system: SOHC / OverHead valves

Cooling system:

- Type: positive pressure (closed system)
- Thermostat, fully open: 92¨C / 198¨F
- Fan belt designation: HC-38-925

Fuel System:

- Carburettor: Zenith - Stromberg 175 CD 2 SE

Ignition system:

- Firing order: 1-3-4-2
- Ignition setting: 10¨BTCC at 12-13 r/s or 700-800 rpm
- Spark Plugs: Bosch W 175 T 30 or corresponding
- Spark plug Gap: 0.7 - 0.8mm / 0.028 - 0.032"
- Distributor:direction of rotation: Clockwise
- Ignition point gap: 0.4mm

Electrical system:

- Voltage: 12V
- Battery: Bosch 66 Ah
- Alternator: 490W max. output
- Starter motor: 0.81 kW / 1.1 hp

Capacity:

- Engine oil: 3.85L incl.filter; 3.35L excl.filter
- Coolant: 9.5L
- Power steering: 0.5L manual steering / 1.1L POWER Steering

Made by J.U. 1995, rev. jan.1996

Back to Volvo's engines??
Back to Volvo 244dL Description??
Back to VolvoPage??

- *This site will be revised and filled up during some time, be patient !!*
- *Some figures may not be that accurate accurate enough, due to different data from different sources.*
- *All versions are not adequately represented, help!*
- *Note SAE and DIN difference!*
- *Click HERE for E-mailing Your INFO!*

193 *visitors since 09.05.1997*

- *Check out this marvellous page made by Phil Buckley to determine which engine is in Your Volvo.* *and this one* *Niels Bengaard´s Cam Collection*!

Engine classification:
B21A --
B- gasoline engine > D- diesel
21- 2.1 litre engine > 23- 2.3 litre
B5254 --
B- gasoline
5- 5 cyl. engine
25- 2.5 litre
4- 4 valve per cyl.
Beside the Engine data is No. of model, equipped with the engine. A- single carburetor engines
B- twin const. depress carburetors (B20B)
D- high compr. twin carb engine (older gasoline engines)
D- Directly Injected Turbo Diesel engines
E- fuel injection, high compression ratio, no catalyst
F- low compr. FI engine
FB- diff cam/CR installed
FD- diff cam/CR
FX- diff cam /CR
FK- low pressure turbo (B230)
FP- Fi engine (Renaults)
K- non-constant depression carb
LPT- light pressure turbo
RS- R-sport engine
T-turbo
U- Renaults Fi engine
FT- low power/CR turbo (unleaded fuel)
ET- high power turbo (Euro version)
FS- designation for cat version changed from F to S, FS also available, meaning same thing
T2, T3, S2, S3- variants from same engine
FN- revised modular 5 and 6 cyl. engines fitted to S80, also designated as S3 (6-cyl. as of autumn '98, 5-cyl. from winter '99 onward)
GDI- Mitsubishi's Gasoline Direct Injection 1.8 litre, 125 HP engine in S/V 40 available from '99.

- **BB110E - 66 DL ('78)**

Single carb
33kW / 45 HP at 5200 RPM
70X72 mm / 4-cyl.
74 Nm at 3200 RPM torque
1,108 litre

- **B130 (66 GL '78)**

42kW / 57 HP at 5200 RPM
94 Nm at 2800 RPM torque
73X77mm / 4-cyl.

1,289 litre
CR: 8,5:1

- **B4B - PV 444 (1944 -)**

40 hp / 44 hp
4-cyl.
1,414 litre

- **B14A - 343, 345**

47kW/63hp - 53kW70hp at 5500 RPM
108 Nm at 3500 RPM torque
76X77mm / 4-cyl.
1,397 litre
CR: 9,5:1

"These Renault-engines were not from the old factory in Paris-Billancourt (R4). They came from Cléon, were called "Cléon Fondé" and originally used in the R8, R8 Major, R10, R10 Major and the Gordini 1100/1300 types. The first R8 was built in June 1962. They had Solex or Zenith-Stromberg carburettors, overhead valves, crankshaft with five(!) bearings, light alloy cylinder-head, water cooling and "wet cylinder boxes"(i. e. exchangeable). Beside in the Volvos these engines were used in R12, R5, R14, (R18?), R19 and even in the early Twingos(!)." *(Twingos with 1,2 litre, 55hp engines until '95. Later ones have 1,1 litre 60 hp engines with OHC),
Werner Mueler
*** my 0.02$**

- **B16 (versions A, B) - Amazon/120, PV 444 (56-8.59), PV544 B16A (56-8.59) PV 544 Sport (9.59-8.61)**

60hp / 76hp / 85 hp
4-cyl.
1,583 litre

- **B4164S - S/V40 entry model from late '97**

Siemens Fenix 5.1 FI
77 kW / 105 hp at 5500 RPM
143 Nm at 4200 RPM
4-cyl. / 16V
1,6 litre

- **B18 -(versions A, B, D) PV 544 Sport (9.61-66), Amazon , 1800, 144**

A- single carb (SU or ZS 175CD), B, D - twin SU-HS6 or ZS 175CD
75hp / 90 hp / 95 hp / 85 hp / 100 hp at 5600 RPM / 115 hp / 108 hp
A: 144 Nm at 2300 RPM torque; B: (140S) 147 Nm at 3500 RPM
84,1X80mm / 4-cyl.
1,778 litre
CR: A: 8,7:1 B: 10,0:1

Renault's engines, modified by Volvo:

- **B16 (?) -440, 460**

83hp at 5500 RPM
4-cyl.
1.596 litre

- **B18 (versions F, U, FP) - 440, 460, 480**

Carb / Single point FI / multi point FI (Siemens) / also LH-Jetronic (Bosch)
79 hp / 82 hp / 87 hp / 90 hp / 102 hp / 120 hp (turbo)

90 hp version (torque version)
66 kW / 90 HP at 6000 RPM
140 Nm at 2500 RPM torque
82,7 X 83,5 mm /4.cyl.
1,794 litre

102 hp version:
75 kW / 102 HP at 5600 RPM
142 Nm at 3900 RPM torque
CR: 10:1
81,0X83 mm / 4-cyl.
120 hp Turbo version:

88 kW / 120 HP at 5400 RPM
175 Nm at 3300 RPM torque
CR: 9,0:1
81,0X83 mm / 4-cyl.
1,721 litre
This engine has its own story here (click).

- **D4192T - 440 TURBO DIESEL, 460TD, S40/V40 both TD / Also: Renault Clio, Megane Diesel**

66kW / 90hp at 4250 RPM
176 Nm at 2250 RPM torque
80 X 93mm /4-cyl./ Turbo
1,870 litre

- **D4192T2 - S/V 40 D (99-) / Also: Renault Megane, Laguna**

Diesel Direct Injection
70kW (95 HP) / 4000 RPM
190 Nm / 2000-3000 RPM Max torque
80 X 93mm /4-cyl./Turbo
1,870 litre

- **"B18" expanded to 2.0 litre (?) - 440, 460, 480**

Multipoint FI (Siemens)
110 hp at 5500RPM
4-cyl.
1,998 litre

- **B17 - 240 (11.78-07.88)**

mainly for Scandinavian markets
66kW/88HP
4-cyl.
1.8 litre

- **B4184S -S40, V40**

Siemens Fenix 5.1
85kW / 115hp at 5500 RPM
165Nm at 4100Nm torque
83 X 80mm /4-cyl. 16V
1.731 litre

- **B4184M -S40, V40 from '99**

Direct Gasoline Injection (Mitsubishi)
125 HP

- **B19A -340, 360, 240**

Constant pressure carb - ZS
85 hp, 66kW / 88HP, 71kW / 97HP
4-cyl.
1.986 litre

- **B19 R-Sport - 343 R-Sport (modelyear '81) only 100 pieces made!!**

Twin Solex carbs

GT camshaft (Actually K - grind)
87kW / 118 HP at 6000 RPM
160 Nm at 3000 RPM torque
4-cyl.
1.986 litre

- **B19E -360 GLT (same as B200)**

LU-Jetronic (Bosch)
112hp - 115 hp
4-cyl.
1.986 litre

- **B19ET - 240 Turbo, Italian market (1982-1985), 360 Racing version from 1985**

K-Jetronic (Bosch)
150 hp at 5500 RPM
4-cyl. / turbo
1.784 litre
7,5:1 comp. ratio

- **B4194T - S/V40 T-4 (06.1997 -)**

Siemens Fenix 2000
149 kW / 200 hp at 5250 RPM
300 Nm torque at 2400 RPM
4-cyl. / 16V / high press. TURBO
1.870 litre

- **B20A - 144 (67-74), 240 (base model named 244 L)**

Single carb ZS 175CD2SE or SU HIF6
60 kW / 82hp at 4700 rpm
157Nm at 2300 rpm
88.9 X 80mm / 4-cyl.
1.99 litre
8.7:1 compress.ratio

- **B20B - 144, 1800**

Twin const press carbs, ZS 175CD or SU
73 kW / 100 HP (120 SAE HP) at 5500 RPM
164 Nm at 3500 RPM
88.9 X 80 mm /4-cyl.
1.99 litre
9,5:1

- **B20F - 144, 240 US model, 1800E, ES (US)**

D-jet FI (Bosch)
B20E prepared for unleaded gas
112 hp at 6000 RPM
88,9X80mm / 4-cyl.
1.99 litre

- **B20E -144 GL (71-73), 1800E, ES (70-74)**

D-jet FI (Bosch)
91 kW / 122 HP also124hp or 120 HP (144 GL '71)
see B20A
higher compression ratio
fuel injection D-jetronic

- **B200K - 240, 740**

Single Carb (Solex)
103hp
similar to B23
1,986 litre

- **B200F - 240, 940**

LH-Jet (Bosch)
82kW / 111 hp or 109 hp
4-cyl.
CR: 10:1
1,986 litre

- **B200E - 240, 740, 940; (also known as B19E; 360)**

LH-Jetronic (Bosch) or K-Jet (early engines)
82kW / 112hp at 5700 RPM also 116 HP
4-cyl.
CR: 10:1
1,986 litre

- **B200ET / FT - 740T, 760T, 780T (Italian and other markets)**

Motronic ET / LH - jetronic FT (both Bosch)
ET: 160hp at 5500 RPM
FT: 155 hp at 5600 RPM

4-cyl.
1,986 litre
8.5:1 both ET and FT

- **D20 - 240 D5**

Diesel
68 hp
similar to D24 -1cyl. less
5-cyl.

- **B4204S -S40, V40 / Also: Renault Laguna 2.0 16V, Safrane 2.0 16V**

Siemens Fenix 5.1 FI
100kW / 137hp at 6100 RPM (also 103kW / 140 HP at 6100 RPM)
183Nm at 4500 rpm torque
83 X 90mm /4-cyl. 16V
1948 ccm

- **B4204T -S40LPT, V40LPT (98-)**

Siemens Fenix 2000
120kW / 160hp
83 X 90mm /4-cyl. 16V, light pressure TURBO
1948 ccm

- **B5202S - 850 2.0 10V , S/V 70**

Bosch Motronic 4.3 & 4.4
93 kW / 126 HP at 6250 RPM
170 Nm at 4800 torque
5.cyl 10V
1,984 litre

- **B5204F - 850 2.0 20V, S/V 70**

LH-Jetronic (Bosch)
104kW / 140 hp
5-cyl. 20V
1.984 litre

- **B5204T2 - S/V 70 2.0 20V LPT, S 80 2,0 T (from '99)**

Motronic (Bosch)

132 kW / 180 hp at 5700 RPM
220 Nm at 2100 RPM torque

S 80 :
120 kW / 166 hp at 5100 RPM
230 Nm at 1800 - 5000 RPM

CR: 9,7:1
81 X 77 mm / 5-cyl. 20V, LPT
1,984 litre

- **B5204T3 - S/V 70 2.0 20V Turbo, S 80 2,0 T5 (from '99)**

Motronic (Bosch)
166 kW / 225 HP at 5700 RPM
310 Nm at 2700 - 5100 RPM torque
CR: 8,4:1
81 X 77mm /5-cyl. 20V / Turbo
1,984 litre

- **B204E - 740, 940 (Italy)**

FI (Bosch)
4-cyl. / 16V
1,986 litre

- **B204FT - 740 TURBO , 760 TURBO, 940T, 960T (Italian Market)**

190 hp at 5300 RPM
4-cyl. / 16V / turbo
1,986 litre
8.2:1

- **B200(F)(E)T - 740 Turbo, 760 Turbo, 940 T (Italian market)**

155hp at 5600 RPM (FT)
160hp at 5500 RPM (ET)
4-cyl.
1,986 litre

- **B204GT - 7 series and 9 series in Italy**

Motronic (Bosch)
200 HP
4-cyl.
1,986 litre

- **B21A (-244)in detail, click please!**

const. pressure carb version of B21, ZS carb
71 kW / 97 HP (08.74 - modelyear '76)
74 kW / 100 HP (08.75-79) also marketed as 122 HP (SAE)
79 kW / 107 HP (80-84),
170 Nm torque at 2500 RPM
Some strange models (like my 244 had 100HP engines and were '75 models made in last days of '74)
two diff. comp. ratios, one 8,5:1 other 9,5:1; 8,5: up until '79; 9,5:1 until end of B21A production.
First engines had 97 HP, later (presumably '76 but on some markets already with modelyear '75, like my 244) B21A got a new camshaft with peak power of 100 HP and same CR. With modelyear '80 higher CR was introduced; 9,5:1 with same camshaft and power of 107 HP.
Few weeks ago I heard that '74s had higher compression and 100 HP, '75 lower and 97 HP and later new camshaft and again 100 HP and so on. Well.... !?! Anyone from Volvo AB around???
2.1 litre
2,127 ccm
4.cyl

- **B21E -240 GL, GLI; except US, where only B21F**

K-Jetronic (Bosch)
90kW/123hp at 5500 rpm
170Nm at 3500 rpm
CR: 9.3:1
rest the same as B21A

- **B21F (with B21F MPG version M-grind cam) - 240 US (from '76 on)**

K-jetronic (Bosch)
71kW/98HP (click for details)
lower compression, engine ready for unleaded gas, catalyst from '76 in California (first car worlwidewith cat and lambda!!!)
2,127 litre
4- cyl.

- **B21ET - 240 Turbo**

K - jetronic (Bosch)
114kW/155 hp at 5500 RPM (no intercooler) around 169 HP with intercooler

240 Nm at 3750 RPM torque (no IC!)
7.5:1
4-cyl.
2.127 litre
Different ignition timing /no cat or lambda

- **B21FT -240 Turbo US. model**

K - jetronic (Bosch)
95kW / 127hp at 5400 RPM or 98 kW / 133 hp (SAE)
around 115kW / 155 hp with intercooler
4-cyl.
2.127 litre
unleaded version of B21ET

- **B23A - 240, 740**

similar to B230A
const press. carb
78kW/104HP
2.32 litre
96X80 /4.cyl.

- **B23F - 240, 740**

LH-Jetronic (Bosch)
83kW / 113hp (click for details)
96 X 80 / 4-cyl.
2,316 litre

- **B23E -740 (early model, later all had B230E), 244GLE, 242GT (from 1979 in Europe and Australia)**

K- jetronic (Bosch)
96kW/131hp at 5400 rpm (740 '84)
or 100kW/136HP (K-cam)
or 103kW / 140HP (242GT, 244GLE - H cam)
95kW / 129 hp at 5200 rpm (740 '84 Swiss model)
190Nm at 3600 rpm
96 X 80mm / 4-cyl.
2,32 litre
CR 10:1

- **B23ET - 760T**

LH -Jetronic (Bosch)
126kW/173hp at 5700 RPM
96 X 80 mm /4.cyl
2,32 litre
CR 9:1

- **B230A - 240(08.84-07.88), 740(same years)**

Carburetted version of B23(0)
constant pressure carb
78kW/104HP on 740 also 82kW/110HP
2,316 litre
96X80 / 4.-cyl.

- **B230K - 240, 740**

Carburetted version of B230
non constant pressure carb
82kW/110HP or 84 kW / 112 HP
in 740 also 80kW/107HP to 86kW/115HP
2,316 litre
96X80 / 4.cyl.

- **B230E - 240, 740 (-'88)**

FI - Bosch
96 kW / 129 HP
190 Nm torque 3000 RPM (?)
2,316 litre
96X80 / 4-cyl.

- **B230F - 240, 940 , 740**

FI (LH-jet by Bosch) or Bendix
84kW / 114 HP
CR: 9,8:1
96X80 / 4- cyl.
2,316 litre

- **B230FD - 240, 740, 940**

LH- Jetronic (Bosch)
85kW/116HP at 5400 RPM
185 Nm at 2750 RPM
CR 10.0:1
96X80 / 4- cyl.

2,316 litre

- **B230FX - 240, 740, 940**

LH- Jetronic (Bosch)
100 kW / 136 HP at 5400 RPM
CR 9.3:1
96X80 / 4- cyl.
2,316 litre

- **B230FB - 740, 940**

LH-jet (Bosch)
96 kW / 130 HP
CR 9,3:1
96X80 / 4- cyl.
2,316 litre

- **B230FK - 940 S (last years of 900 series were only available as estate and with B230FK or B230FT)**

Motronic (Bosch) - Low Pressure Turbo
99 kW / 135 hp at 4900 RPM
230 Nm at 2300 RPM
96 X 80 mm /4.cyl. / low pressure turbo
2,316 litre

- **B23FT - 760T**

LH - Jetronic (Bosch)
119 kW / 160hp at 5500 RPM
same as B23ET except:
CR 8,7:1

- **B230ET - 740T, 760T, 780T**

Motronic (Bosch)
136 kW / 182hp at 5800 RPM
similar as B23ET
96 X 80 mm / 4 cyl. / turbo
2,32 litre

- **B230FT - 740T, 760T, 780T, 940T (Last engine designated as B230FT4)**

LH- Jetronic (Bosch)

156 hp to 121 kW / 165hp at 4800 RPM
188hp (780T)
264 Nm at 3450 RPM
same as B230ET except:
CR 8.7:1

- **B230GT - 940SE**

LH - Jetronic (Bosch)
125 kW / 170 hp at 4800 RPM
LPT - engine (low pressure)
similar to B230E/FT
CR 8.7:1

NOTE! Turbo engines of 23/230 family had different peak power numbers on different markets:
156 hp / 165 hp / 162 hp / 170 hp / 173 hp / 177 hp / 182 hp / 200 hp

- **B234F - 940 16V (90-), 740 16V(88-)**

Bosch FI
115 kW / 155 hp
4-cyl./16-valve
2.32 litre

- **B5234T - 850 T5 (94-), 850 T5R, 850 R, C70, S/V 70T(B5234T3), S/V70R**

Motronic (Bosch)
166 kW / 225 hp or 179 kW / 240 hp or 186 kW / 250 hp

For S/V 70 T5 (B5234T3):
Actually with same ECU as T5-R
176 kW / 240 HP at 5100 RPM
330 Nm at 2700 - 5100 RPM torque
5-cyl. / 20V / turbo
2.319 litre

- **D24 - 240 D6 (79- 91) , 740 Diesel**

Diesel
60 kW / 82 hp
6-cyl. inline
2,383 litre

- **D24T - 740 Turbo Diesel, 760 TD, 940 TD**

Diesel
80 kW / 109 hp at 4800 RPM
205 Nm at 4200 RPM
76,5X86,2 mm / 6-cyl. inline
2,383 litre
23:1

- **D24TIC - 740, 760, 940, 960 all TD**

Diesel; intercooled D24T
90 kW / 122 hp
76,5X86,2 mm / 6-cyl. inline
2,383 litre
23:1

- **B5252(F)S - 850 GLE 2.5 10V, S/V 70, S 80 2,5 10V ('99-) / Also: Renault Safrane (modified engine)**

Multipoint FI (Siemens) and Bosch (presumably LH-jet or Motronic on S/V 70)
Fenix 5.2 - S 80
104kW/ 140 hp at 5700 RPM
220 Nm at 3000 RPM
S/V 70:
106 kW / 144 HP at 5400 RPM
206 Nm at 3600 RPM of torque
CR: 10.3 :1
83 X 90 mm /5-cyl.
2.44 litre

- **B5254FS (F also) - 850 GLT 2.5 20V, S/V 70, S 80 ('99-)**

LH-Jetronic
125kW/170hp at 6200 rpm
220Nm at 3300 rpm
83 X 90mm / 5-cyl. 20V
2,435 litre
CR 10.4:1

In S/V 70 (as B5254S):
125kW / 170 HP at 6100 RPM
220 Nm at 4700 RPM
rest the same
S 80:
125 kW / 170 hp at 5700 RPM
230 Nm at 4500 RPM

- **B5254T Light Press. Turbo version of above - US 850 GLT (96-) 2.5 20V LT, C70, 850AWD, S/V 70, V70AWD, V70XC**

142kW/193HP at 5100 RPM
270 Nm at 1800 - 5000 RPM of torque
83 X 90mm / 5-cyl. 20V, LPT
2.435 litre

- **D5252T Audi/VW TDI for 850, S/V 70TDI, S 80 ('99-)**

Electronic Diesel Management (Bosch)
103kW/140hp at 4000 RPM
290 Nm at 1900 - 3100 RPM of torque
CR: 20,5:1
81 X 95,5mm /5-cyl./ Turbo
2,460 litre

- **B6254FS - 960 2.5 24V, S90 2.5 24V (95 - early 97)**

Motronic (Bosch)
125kW / 170 hp at 6000 RPM
6-cyl. / 24V / Inline 6

- **B27A - 264 /265**

Carburetor
93 kW / 125 HP
2,664 litre
6-cyl. / V-form 6

- **B27E - 260**

K-jetronic (Bosch)
'75 -'78 and'79 -80 German market B27E:

EARLY:
103kW / 140 HP at 6000 RPM
204 Nm at 3000RPM torque
CR 8,7:1
LATE:
109kW / 148HP at 5700 RPM
218 Nm at 3000 RPM torque
CR 9.5:1

6-cyl. V-form
2,664 litre

- **B27F - 264 / 265 US market**

K - Jetronic (Bosch)
127 SAE - HP (around 86 kW / 115 HP DIN) at 5500 RPM
200 Nm at 2750 RPM
Cat and lambda equipped
6 - cyl / V - form 6

- **B28 (improved version B280 760-> 88-) - 260 / 760 / 780**

LH- jetronic (Bosch)
B28F: 100kW / 136 hp (Canadian B28F in Volvo 260)
B28E: 155hp (European B28E/260 GLE)
148hp/156hp/170hp (760/780)
6-cyl. / V - form 6
2,849 litre

- **B28A - 260 GL**

carb version
95kW / 129 HP
6-cyl. / V form 6
2,849 litre

- **B6284T6 - S 80 2.8 T6 (from autumn '98)**

Motronic (Bosch)
200 kW / 272 HP at 5400 RPM
380 Nm at 2000 - 5000 RPM torque (engine has variable exhaust camshaft timing)
81 X 90 mm / 6-cyl. 24V / Twin Turbo
2,783 litre

- **B30A -164 (68-73)**

twin ZS 175CD carbs
96 kW / 130hp at 5000 RPM
210 Nm at 2500 RPM torque
88,9X80 mm / 6-cyl. / inline 6
2,978 litre
9,2:1

- **B30F - 164 US**

D-jet (Bosch)
86 kW / 115 hp
88,9X80 mm / 6-cyl. / inline 6

2,978 litre

- **B30E -164 (71-73)**

D-jet (Bosch)
119 kW / 160 hp (175 HP SAE)
88,9X80 mm / 6-cyl. / inline 6
2,978 litre

- **B6304S1 - S/V 90 ('97-)**

Motronic (Bosch)
134 kW / 180 hp at 5200RPM (different FI programme and cam with lower lift)
260 Nm at 4350 RPM
83X90mm / 6-cyl. 24V / inline 6
2.922 litre

- **B6304FS -960 ('90-), S/V 90 (B6304S2), S 80 2.9 (B6304FN - from autumn '98, modified version)**

Motronic (Bosch)
150 kW / 204hp at 6000 rpm
267 Nm at 4300 rpm / S 80: 280 Nm at 4200 - 6000 RPM (engine has variable intake camshaft timing)
83 X 90mm / 6-cyl / 24V / inline 6
2.922 litre
10,7:1

- **EB/EC/ED - EC : PV651-652, TR671-674, PV653-654, TR676-679, PV658-659, PV36(Carioca)**

ED : PV51-52, PV53-56
EB : PV801-802, PV821-822, PV831-832 and PV60
(1935 - 1958)
80 hp / 84 hp / 86 hp / 90 hp
6-cyl.; inline
3,670 litre

Made in. autumn 1995 / revision May 1996 / Sept '96 / Nov 1996 / Jan 1997 / Feb 1997/ Apr 1997 / May 1997 / June 1997 / Aug '97 / Sept '97 / Dec '97/ July '98 / Sept '98 / Feb '99 / Apr '99/ May '99 / Nov '99

Thanks to:

- *Chris Guy, USA*

- *Werner Mueler , D*
- *Lars-Olof Markstad , S*
- *Fredrik Hesse , S*
- *Unnamed from Oklahoma City University, USA; ******@frodo.okcu.edu*
- *SwedishBricks*
- *Tony Giverin, CAN*
- *Helge Nordahl Hagen, N*
- *enn@post7.tele.dk, DK*
- *John H. Laughlin, USA*
- *Arno Griffioen, NL*

Go to Volvo Page *Go to Volvo Theme Essays*

The well known B17 and its derivatives...

First I have to admit that I do not have a faintest clue when Renault developed this 1.7 litre engine. I'm 100% it was in Renault 19. The engine had two Solexes and approximately 95 hp. It had funny sound (metal like as all Renaults) and difficulties with hot start (according to some magazines testing it). Otherwise low fuel consumption, easy maintenance and longevity. One of important minuses was the torque distribution through Rpm's. When Volvo (actually the ex DAF factory in Netherlands as a part of Volvo) put the new 400 series on the market they took this engine. But it was modified and evaluated a whole class higher as its Renault ancestor. The B17 was born. With Siemens multipoint FI (why not Bosch LH-jetronic??) and later cat, and so on... Simultaneously Volvo changed the bore of B17, think it was still 1.7 although it had a bit less than 1.8 L (from 1.721 to 1.794). The compression ratio was lowered from 10.0 (102 hp) to 9.7 (90 HP) Why? Well, because they were trying solve the torque problem. This "overbored" engine had 90 hp instead of 102 hp and a carburettor. Later this was changed to monopoint FI (Siemens or Bosch?).
Adding turbo charger seems like next step. And they did it. The B17T (or B17FT) had 120 hp and 175 Nm torque at 3300 RPM. (the 102 HP had 142 Nm at 3.900 RPM and the 90 HP 140 Nm at lower 2500 RPM).
Note, that turbo was always 1.721 litre and had a compression ratio of 8.1.

Model year 93/94 came with new 2.0 litre from the same platform. The engine had 110 hp and 165 Nm torque. Models were named GLE / GLT 2.0.

Interesting that Renault also developed this engines further. They overbored it to 1.8 litre. It had (or still has? Megane has 1.6 l with 90 HP and no 1.8 l engine) 95 hp and 145 Nm torque at 2750 RPM; actually same max. power but better torque as the first one. Then they changed the FI; scrubbing maybe max. for civil 1.8 (remember that driveability decreases with increasing hp) 113 hp and 164 Nm torque at 4250 RPM.
This engine (with 95 hp) is still used in Renault Laguna 1.8 . Laguna 2.0 has the same engine that was mentioned before ; 2.0 l; but with 115 hp and 172 Nm torque at 3500 RPM.
And another one, I didn't know about until recently; It's the 1,6l engine made out of good old 1.7l. Again why? Some countries have very strange tax classes (as this country had before 1992). This engine was producing 83 hp at 5500 RPM.
I believe this is at least 80% of the B17 story.

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written by J.U. Special Thanks to Fredrik Hesse (S), June 1996

K-grind and H-grind camshaft

Two hot cams were manufactured by Volvo in late 70s and early 80s. H grind ('79 -) was the first in row for "new" line of OHC engines, started in autumn '74; B21. First candidate for H was certainly the famous GT (242 GT). B23 (first introduced in GT) E (high compression and FI) developed nice number of 140 hp. **H cam has 272 degrees duration and 12 mm lift**, for good filling at high engine speeds.
It wasn't so good down there, up to about 2000 RPM; 2,300 ccm engine cured at least half of that. Remember that most 240s of the era were equipped with 2,1 litre engines. But later the engineers decided that peak power is not all they want and reduced it to 136 hp (certain markets got only 136hp version, other only 140hp, some mixture of both... 242GT, on the other hand K cam was standard for all post '81 B23E engines) with a **K grind cam. This one has duration reduced to 252 degrees and lift to 11.95 mm**; but was still quite hot comparing to other cams available in B21/23 family. Lower engine speed operation is improved but still offers a lot of power up there and not that much of torque down under. K cam was also called GT cam in 300 series; 343 GLS RS
I may say that both hot cakes fit any B21/23/230 engine and may cause problems when emission tests begin. Both encourage the engine to emit high HC levels when idle. Certainly H even more so.

Made by Jure Urbancic, July 1996

Go to Volvo Page *Go to Volvo 244 DL*

Here's some more info:
1976 B21F (498304/5): 102hp @ 5200, 114ft.lbs @ 2500
1977-79 B21F (498578/9, 498580/1): 101-104 hp @ 5250, 114ft.lbs @ 2500
1980-81 B21F (498836/7,848/9,892/3,920/1): 107 hp @ 5500, 114ft.lbs @ 2500

All above have B grind cam

1981-82 B21F-MPG (498960/1): 99hp @ 5000, 114ft.lbs @ 3000 (L cam)
1982 B21F-LH (4989??/?): 105hp @ 5400, 121?ft.lbs @ 2750 (M cam)
1981-82 B23E (498900/1,922,978/9): 136hp @ 5500, 135/137ft.lbs @ 4500 (K cam)
1983 B23E (4989??/?): 115hp @ 5000, 133ft.lbs @ 3000 (A cam, Cdn model)
1983 B23F (499802/3): 107hp @ 5400, 127ft.lbs @ 3500 (M cam, Chrysler distributor)
1983-84 B23F (499846,890,944): 111hp @ 5400, 136ft.lbs @ 2750 (M cam, 9.5 compression, Bosch dist)
1984 B23F (499847,945): 114 hp @ 5400, 133ft.lbs @ 3500 (M cam, 10.3 comp, Bosch dist)
Engine numbers that end with even numbers are for manual transmission cars, and engine numbers that end with odd numbers are for automatic cars. B23E specs are provided for Cdn models.

-J
--
+++++John H. Laughlin, CS Student @ Bellevue Community College+++++++
+ Volvo-Net member #336 | mailto:iisiman@premier1.net +
+ VCOA member# 9842A |'81 242GLT B23E M46 437K km - 272K mi +
+ '93 Mac Centris 650 44/250 |'84 245GLT B23F M46 242K mi - 390K km +
+ Duvall, WA 98019-0778 |'85 245GL B230F M46 187K mi - 302K km +
++++++++++ http://www.premier1.net/~iisiman/volvo.html +++++++++++++

'74 244 | 850 GLT | 240 series | V list | Engines | Gallery | Automotive photos | Essays Volvo | Links

jure.urbancic@mf.uni-lj.si

Theme Essay - Volvo

BACK

Made by jure.urbancic@mf.uni-lj.si april 1996

Rear end sags; early 240s (mainly for 244/242s)

There seems to be a lot of aggravation amongst Volvo users, (lovers), drivers about rear end sag. 245 models have stronger springs but they also sag, although when not loaded they don't seem to be that much affected (only in optical way) because roofline is higher and doesn't create an optical lowering as by sedans.
I have to admit car does look awful when rear end drops down. Most times cure is a mixture of new shocks (stiffer ones do better because they offer greater resistance to spring compression), new bushings (trailing arms) and stronger springs on occasions. Shocks with auxiliary springs help too as shims will .
There are few versions of rear springs; normal sedan springs, normal wagon, reinforced sedan, reinf. wagon, ambulance springs. Last ones are the strongest, used in ambulance 240s seen all over Europe in late 70s. Usually normal wagon springs used on sedan offers adequate height on the other hand Volvos too high on rear end aren't nice either.
Maybe the cheapest solution is adding shims under lower seat of the rear springs. Left to Right unbalance can be cured this way too (check for worn bushing on one or other side first!). Car will be higher and no part of the suspension will suffer (riding quality stays more or less the same*). Some models, especially old ones (round lamps) are prone to "sag" rear end. That isn't real sag, because even when you restore it up to specs rear end will be (or seem to be) lower as front. I don't know whether weak rear springs or strong front ones cause this phenomenon. It seems like later models, especially after '81 do not suffer from it that much or maybe it isn't so evident any more since front end seems to be lower. Even in sales literature for '74 244 cars had that typical sag. I wonder if those had more than a couple of hundred kilometres before they took pictures and perfect bushings etc.

Can anyone confirm whether later (aft '80) front springs really are weaker or shorter?

* Riding quality may be worse when extra heavy duty springs as ambulance or other are installed. It may also worsen when too stiff shocks are installed.

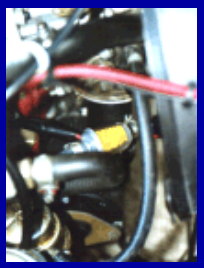
Made by Jure Urbancic, July 1996

Go to Volvo Page *Go to Volvo 244 DL*

VOLVO admiration book

Jason Tepoorten's Volvo 264

Under the carb



Exhaust of 244 DL

244 DL

Volvo 240 Turbo

Volvo S40, the latest one.

Volvo S40 interior.

Volvo S40 trunk.

Volvo S40 Rear end

Volvo 144 DL was fathers first Volvo, bought in 1969. Here we see it around 1972 on uncles farm.

The same 144 DL as before, just gettin' on .... Do we need a new suspension?

One of those Renault engines for 400 series. Hmm? Why not...

Our red Turbo in desert of Egypt, somewhere between Alexandria and Libian border.

B21A a part of it, red block, aluminium head,....

Full flow type second and third muffler, first with venturi,.. 2-7 HP more? And rough voice...

Front part of 244 DL, light green colour.

Our pre-Turbo Volvo 244GL.

Interior. Radio is still the old one, 16 years old but still working as new.

V 2.0

244 DL in the night

Volvo 244DL Sideways

Swedish Steel Club somewhere on Croatian coast.

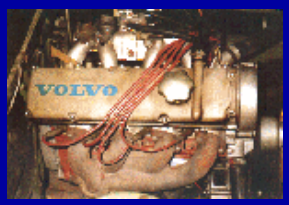
850 night design

A car to fall inlove in....

My 244 DL in Ljubljana's BTC

You want to know my code?

Daddy buy me one.....



B21A
Many different CR, at least two different cams and power from 97 HP to 107 HP. But always with single carb SU or ZS.

Famous PRV-6, adventure of Peugeot, Renault and Volvo. The first two + Citroen still use this engine with 3.0 L (170 HP) and 24V (200HP) + Renault's special verson BITURBO (260 HP)... (as of summer '97 new V6 was made by PSA and Renault; 3.0 litre, 24V and 193 HP; this engine is not related to PRV -6 in any way!)

To VolvoPAGE

Made and maintaned by jure.urbancic@mf.uni-lj.si last modified april 1996

850GLT 2.5 20V

nightdesign850

 *Technical specifications:*
2,5 20V , 170 HP/6200 RPM, 221 Nm/3300 RPM
AW Auto transmission, with sport, economy and winter programs
Columba wheels 6,5-15
Michelin Pilot HX 195/60-15 tyres
at the moment Pirelli P5000 DRAGO 205/55-15
CR-901 SoundSystem 2x 40W coax. loudspeakers
max speed approx. 220 km/h
0-100 km/h approx. 9,2 sec (factory 9,6 sec and manual 8,9 sec)
fuel consumption approx. 7.5 - 9.5 - 11.0 litres/100km

 My own record is 7,2 L/100km with air condition turned off and 7,5 at AC turned on!!!

If anyone gets better results with the same car E-mail me!!!!!!

 Some other Pics try at Gallery!!

CLICK HERE FOR GALLERY!!!

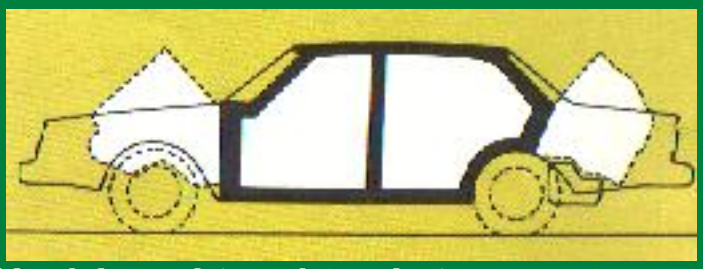
Back To VolvoPAGE ???
To my HP ???

Made by the Author in early mornings of 1996

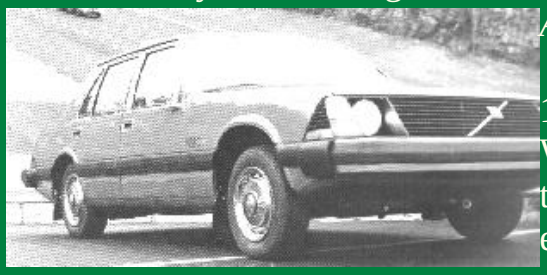
VOLVO 240 - Classic Ideal Car

interior night design

The first Volvo from 240 series was presented in august 1974. Most new technical solutions were taken from VESC prototype (1972; presented in 1973).
VESC is Volvo Experimental Safety Vehicle. Volvo tested their first ABS brakes and AIRBAG in this car!
What was so new in 240?
McPherson type front suspension, new steering, OHC engine type, alloy cyl. head, 3-point safety belts,...



Because of its high passive safety, Volvo 240 (4-doors) became "normwagen" in NHTSA (association for highway safety in USA). Well still in 1991, 240 (5-door) was proclaimed to be the safest car in US market.
240 was the first car equipped with Kat and lambda sond (Bosch&Volvo), it was 1975!!
Volvo 240 was Car of The year, Family Car of the Year, Safest Car of the Year,...
Almost every third 240 was a 5-door version, families with kids worldwide just loved it!
After 19 years of production ; from 1974 'till mai 1993; 2,8 million cars came out of Volvo factory in Goteborg.



A pic of VESC 1972 - 1973

1974, six versions of the brand new 240 were made. With the 260 the era of 200 series began. VESC was the inspiration for both. 240 got a brand new OHC engine; B21, 260 had also new engine, the B27. It was constructed in cooperation of VOLVO, Renault and Peugeot, started in 1971. With 200 series VOLVO came on top of safety awared companies. On 8th of February 1974 the new car factory was opened in Kalmar (South Sweden). Star form of the factory made use of selfmoving platforms available, delivering the car bodies to special workteams. The next year 265 came out. An exclusive estate with poweful 6 cylinder engine and high comfort. 1976; first catalyst with lambda sond was presented; made especially for California. The emission were reduced by 90%. 1977. It was Volvo's 50th birthday. Special model of 240 was made; a siver metallic with black and gold dekor lines. During the year the new 262C started to come from the Bertone Italy. Leather upholstery, AC, power mirrors, windows, roof and antenna with 140 hp V6 engine. 1978; 240 and 260 got new improvements for better handling and 6 cyl. diesel. 1979; New 240 GLT model wtih 140 hp. 1980; The first VOLVO's trubo engine, the B21ET and 155hp. (+ new concept car, VCC for development of 700 series.) 1981; 1,000,000 th Volvo from Goteborg to USA; silver 2X5. 1982; The year of 700 series.

1983; First 240 Turbo Wagons. 1984; Super power Turbo with 182 hp for 740 Turbo. 1985; Volvo 780 in coop. with Carozzeria Bertone Torino. 1986; Improvements, B280 and B230K. Wind tunel for more than 200 km/h 1987; Volvo Multilink rear axle, ABS 1988; $ valve engine out of B23, 155 hp with cat., new factory in Uddevalla. 1989; 400 series 1990; Volvo 940/960, B6304F and 204 hp., 1991; Volvo 850 glt, SIPS,... 1992; 850 GLE, Volvo EEC, ... 1993; Volvo 850 Estate, 850 Turbo, after 2,8 milion of 200 series cars the last, 240 Wagon came out in Mai 1993. The Long 240 era has ended!!

Back to VolvoPAGE?

Made by 240 enthusiast J.U. somewhere in 1995; mod. jan.1996

Volvo listing: (our family previously owned)

1. Volvo 144 DL (1969) 250K km
2. Volvo 144 DL (1970) 150K km
3. Volvo 244 DL (1974) 59K km
4. Volvo 244 GL (1980) 35K km
5. Volvo 244 TURBO (1981) 85K km
6. Volvo 244 TURBO (1982) 170K km
7. Volvo 740 GLE (1984) 300K km
8. Volvo 850 GLT (1992) 130K km

STATUS:

Destroyed: No. 1,2,6
Sold: No. 4,5,7
Still at our house: No. 3,8

BACK ???

AutomotivePhotoGallery includes photos of different cars....

Automotive Photo Page

- Ferrari 348
- Opel Omega
- Peugeot 605 SV24
- Renault Argos
- TWR Griffith
- Another TWR Griffith
- Nice maneuvering! VW
- Maserati spider
- Chrysler (Dodge) Viper
- Maserati Shamal
- Audi 80 2.0E
- VW Passat 1.8GL
- Saab 900 Cabrio (thru bus' window in Vienna)
- Dodge Daytona*
- Jaguar (Sorry, locked!)
- Coupe Fiat or Fiat Coupe
- Yugo 55 AX (198?)
- VW Golf 1.9D CL (III)
- VW Passat 1.8 CL
- Peugeot 806
- Opel Corsa 1.4 Sport
- Zastava 750, the famous FIÈO
- Lada Niva 1.6 (somewhere near El Agami Egypt)
- Renault 5 1.1 Campus (The famous Le Cinque)
- Peugeot 106 XT
- Ford Sierra 1.8 TD (destroyed)
- Alfa Romeo Giulietta
- Ford Sierra COSWORTH 4X4 Turbo
- Volvo 850 GLT
- Saab 9000 turbo
- EB 110 (Burago model)
- Opel Astra Caravan
- Zastava 128
- WinterJoys on lonely road

- AlfaRomeo GTV TB
- Porsche 911
- Ford Escort Cosworth
- Citroen AX 1.4 Diesel
- Subaru Justy 1.0 S '87
- TAM 130T11 '88
- Fiat Punto 55S
- Volvo 850 T-5R

Made by J.U. jan. 1996, photos by J.U. 1993, 1994, 1995,1996; last revision feb. 1996

My HP...
VolvoPage...
SubaruPage...
PHOTOGALLERY...

**Special thanks to Tomaz Susnik*

I cannot check all of those links all the time so few of them may not work any more.
They could be discarded, accounts moved, outdated. Please keep this in mind.
And yes I admit it, it is uwfully disorganised, sorry I do not have proper time to heal that.

Links WorldWide:

- Volvo & more...
- Volvo Occasions and pictures of the rallycars by Marco
- Classic Amazon
- Dutch Volvo 480 enthusiasts club
- Allexperts Volvo Auto Repair Q&A: Veteran mechanics answer all your questions about Volvo repairs!
- ALLUMS' EUROPEAN IMPORTS
- Volvo Racing Parts
- Kjetil Berg's Site
- Andreas' Site
- Wolf Steel
- VolvoLand
- Want Getrag instad of Your old M46?
- Volvo 242 GT pics
- Bill McArthur's 242 GT
- Egon's Kick Ass Carz
- T-Gul Volvo 242 Turbo +++
- BSR Sportsman; Chips, Power,...
- S.A.M.; Yes the famous Steffansson Automotive is online!!!
- Nice Volvo Site by Stefan Johansson
- 850-Styling
- Dutch Volvo Gallery
- John-Martin Normann (including V70 R, AWD,)
- 240 homepage
- Skandix, German parts suppplier
- Sweden's recyclers online, a lot of Volvos
- Volvo-Stammtisch Hamburg
- Volvo 480 HomePage
- Danish Volvo Club
- Swiss 1800 Club
- Norsk VOLVO klubb, Buskerud
- '59 Volvo 544
- Mikael's Volvo 140-Page

- Volvo 140 Page
- R & M's Volvo Amazon-Page
- Andreas Friedner's Volvo sidor
- Volvo Classics Interactive Magazine
- Mark's Volvo 140-Page
- Bob Scheer's Volvo FAQ
- Images of the Volvo from hell
- Volvo Car Channel
- Volvo car clubs
- Volvoeng.html
- Olov's Volvo P1800-Page
- Volvo AMAZON site
- Vesa Heiskanen
- The Volvo Garage
- The Unofficial Homepage for the Volvo Bertone 780
- Austin VolTech services Inc. Homepage
- Marcus Volvo Links Page
- Volvo BD parts
- Henri Behm (242 B19A Turbo)
- TurboBricks
- Gunnars hemsida: Amazon
- VOLVO 144P -68
- PV-history
- Volvo 164 / Renault 5 Alpine Turbo
- Volvo Information
- The Modest Guru's home page
- TME Tuning Specialists for Volvo 850Turbo
- ipd - Performace parts for all Volvos
- Swedish Classics (Vintage partssource)
- Fredrik Hesse
- Erik Peterssons Volvo Page
- Sjur Ivar's
- Mike's RacingVolvos
- Juha's Automotive
- Edelwards Volvo 740GLE
- Van Der Heyden's Volvopage
- Amazon Volvo
- Volvo Express Club
- Volvo Luzar Novo mesto Slovenia
- Todd French

- John L. Broughton's Volvo
- Phil Buckley's Volvo page
- Michael Ponte
- Jarrod "Generic" Stenberg
- Swedish Volvo 1800 club
- Scandcar parts supply
- Volvo DESTROYERS Volvo PAGE
- Volvo North America
- Volvo AB , Sweden
- John Olav Olsens AMAZON Page
- Don Dohertys Master Index For VOLVO Sites
- Cameron's Page
- Brad Johnson's Volvo's
- Karl's VolvoPage
- About Volvo Com.
- Igor's VolvoLand
- Volvo Owners Club UK
- Virtual Volvos
- Amazon Models
- Volvia
- Volvo Eneqvist Bil AB
- Svenska Volvo PV-klubben
- The PV-Garage
- Jayson's 850 Homepage
- Jason Ross's - Homepage
- Ken's Volvo Home Page
- Krestian Andre's Homepage
- Per`s Volvo-page
- Toni Arte's Homepage
- Swedishbricks Home Page
- The Saint's Volvo 1800 Page

You have a Volvo site? You think You belong to this list, feel free to put me a line or two with URL at jure.urbancic@mf.uni-lj.si

To VolvoPage?

Made by J.U. ; Jan - March 1995, ;
revision: Dec 1995, May 1996, June 1996, August 1996, Dec '96, Jan '97, March 1997. April 1997, May 1997, July 1997, August 1997, and so on and on and on to '99


KK P5-589


BERTI
130 T 11
KK R2-938

Subaru Justy Page doesn't exist any more. Red Justy found new home ... And those new Suzuki Swift based Justys DO NOT deserve to carry the same name. Worse quality, worse design, crazy price ... Sorry not any more, especially since Subaru doesn't offer any cars in so called VW Golf/Rabbit segment (400 - 420 cm length).

Bye Subaru it was more than nice!

jure.urbancic@mf.uni-lj.si

Photo Gallery

Art www design

*NOT! All photos scanned by A.Svarc (I risked and bought a scanning device!)

Index deep down, below the small photos!!! (use space in text oriented browsers)

My stuff

- Me and my friends in the wineyard!
- My (third??) birthday
- Rose, one of better photos!(with scanning error)
- The city of Piran (Slovenia)
- My mum and my father's first Volvo 144 DL
- My mum&father&144Dl (BW & scan error)
- Our family in Egipt with 240 Turbo
- Our house in Sevnica
- 850 GLT in snow (1992)
- 740 GLE
- 850 GLT
- Another 740 GLE
- 240 Turbo
- Don't know how to use your Volvo 144DL?
- Me, like an indian woman!
- My sis
- Ljubljana Adress
- My mum et moi

- Rydell and 850R from BTCC
- BW photo of JAKOB convertible!
- Yamaha Chopper 1100 (partially)
- Yamaha 1000 GTS (D'best motocycle)
- C'est moi et une grande voiture; 244GL
- Unser 850 nachtdesign
- Not 4X4!!!!!144 Dl
- Hmmm???? 144 Dl
- NightDesign of 244 Dl

Made by the owner; last mod. jan.1996

HP?VolvoPAGE?

Radio Installing for 244 DL

- First, there were roughly two different panels for 244 models. The old one with only one biiig hole for radio-like equipment and the newer one with two such devices!
The first hole is just a bit forward from your gearshifting device, it's the big one. Other is much higher, a bit higher than air blowing holes.
The last hole is pretty much standard, you should get any kind of new stereo inside!
But on contrary, the lower one is much too big for those fancy RDS, DSS, CD,... electronics. Well, it's still possible to do it, sometimes even easier as on some new car, because you can put your hands near the thing even at the back side. Installing stereos is manytimes difficult, because of space lacking,nowhere to put those big hands to connect the wires...
- I've put my Grundig stereo just inside the hole, a bit of plastic or rubber on left and right side and a nice wooden plate at the top! (I prefer polished wood, but it is not cheap!)
- Put CD changer in the gloves compartment, drill a hole on the back side of it and put your stereo - CD cable through it!!!
- 10 CD Changers are large, so measure the gloves comp. and your CD changer before, OK?
You prefer CD at the back of the car?? Be my guest, I have my amplifier there,so this possibility goes out!
- I have actually installed about nine (9) speakers in the car, so far! Nothing so glamourous as AIR-LINK os HURRICANE subwoofers, with tones of flowing air and DISCO-BOOM like effects. I have just simple ALCC coned 16 cm speakers (using vast luggage comp.) for basses + an oval one in front, nice small tweeters and two full-spectrum speakers in "front legs compartment".
- The system is pretty much turned to quality rather than quantity sound output. It feels better with some Tschakowski or Ravel than any techno-rave stuff, although it has to bare even that sometimes.

For visual info just click on photo in the begining! (It's ZoomOuted!)

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made by the owner, jan.1996

VOLVO PAGE

How to make your Volvo better looking and better feeling!!

The first important thing is, how old is your Volvo. If it's more or less new, then you shouldn't have any problems. Because all those cars are already attractive, unless you are a very, very demanding person!
I will concentrate on equipping an older Volvo, like my own 244Dl (1974). So this should be interesting to all those, having a Volvo 240 series (1974-1993).

Wheels are one of most important parts in outer look of your car. Alloy wheels are a demand! (not a cheap one, too) Volvo sells all sizes of alloy wheels for 240 series, from 14" to 16" (optional maybe even 17"). 14" wheels aren't realy a good purchase, because this is the wheel you already have. Then 15", well this seems to be OK, because the price of Wheel+tyre to look/performance seems excellent. (I use 15" Volvo Virgo wheels/ standard by 240 TURBO models). I don't actually have a lot of experiences with 16" and bigger wheels, but as we say, more money, more music!!

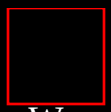
What kind of tyres should I put on??
All depends from you driving style. If you drive very hard (for rally drivers hard is not nearly hard enough!), then you should buy a high quality/high price tyre with high speed rate (also depends of your engine!). Possible rates: T 0- 190 kmph, H 0- 210 kmph, V 0-240 kmph, W 0-270 kmph, ZR 0-280< ! The price increases with the rate class. But, if you are a "smooth" driver, you can save some money, because all tyres of 15" dimesion are made for much more demanding driving as you've ever experienced. Superb combination on my Volvo would be 205/55-15 in front and at the back. The car seems more dangerous as it is, and a lot of people don't even realise it is 21-years old!

The next thing are shock absorbers&springs. Original absorbers are quite soft (Have you ever driven your Volvo on a realy bumpy road around 140 kmph, when the nose pulls up and you fly over the holes on the road (the road has to be straight, because corners may be rather difficult with such speed!). Sport freaks will instanly buy a kit with hard gas shock absorbers and lower springs. Be my guest, especially if you have superb an flat roads, otherwise no thanks! Driving over bumpy road with such suspension feels like drivin with wheels only. The same thing you'll get by buying too big wheels with tyres like XXX/45-17 or even XXX/40-18. It's your choice after all:
SPORT: 205/55-15 , 205/55-16, 215/50-16, 215/45-17, 225/40-17

COMFORT: 195/65-15

Made by J.U. 1995, revised 1996

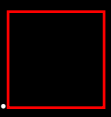
Volvo Page ?



This is a pic of me and my car. We are both about 1,5 years old!!!!

Experiences with Volvo's...

The first Volvo I drove was a 1982 740 GLE automatic. My father did 290,000 km with it, and it was still in a good shape and condition. Like all such Volvo's it had that soft suspension, compensating almost all bumps on the road, but much too soft on corners. (At least I thought so; at the time) 3-speed automatic gearbox with overdrive worked perfectly, without any maintenance repairs. In fact the car had only few smaller repairs in all 290,000 km (for instance; radiator change, ignition coil change, relay change) Then I got my own 244DL from 1974. It was in our garage all that time, so it had 45,000 km at the time. You can imagine a young man with a 15 years old, almost 5-meters long car; we have an expression in Slovenia; it goes somewhat like this; When he goes through the town his "ass" smiles as he sees the people turning back behind the car...
I previously said something 'bout 740 having' a soft suspension, it was nothing comparing to this one. Well it is comfortable, almost luxurious on open road, you can drive



relatively fast in curves, but with your brain on the gas pedal and not your foot.

BACK ???

Drivin' **a bit** faster

The most important rules:
- All mentioned things are best done on a closed circuit !!
- Safety of every person is far more important than any andrenaline (epinephrine) filled joy
- Think of others if you don't think of yourself when you drive in urban or any other populated areas.
- Don't do anything of mentioned if you love your Volvo. I did it a few times and now I thank God nothing has happened to me, any other person or my Volvo !!!
- When the road is icy or snowy all mentioned could happen with speed of maybe 40 - 50 km/h. Managing your car is important!!

Most cars have a tendency to understeer. That means you have to turn the steering wheel more with increasing speed. The same goes for most (?) Volvos (certain only for 240, 740, 850; cause I had experiences with those models!).
If I try to describe a typical understeering situation; I drive with a speed like 85 km/h. have approx. 80 degees left turn in front. First I put the foot lightly off the gas pedal, speed drops to 80 km/h, then I turn the steering wheel firmly to the left, I feel the nose going a bit out of the line, the steering wheel left to compensate. The car reduces speed by it's own because of higher friction between tyres and the road, I make it through the top of the curve with 70 km/h. In the second part of the corner I push the gas pedal down and accelerate out of the curve. Speed out of the curve 85 km/h.
All speeds are approximated, depends of the road conditions (ice, snow, rain), tyre cond., etc.
The curve was managed only with a bit of understeering, compensated with more turned steering wheel. Lets see what happens with more speed!
Same curve, initial speed is now 100 km/h, entering speed 95 km/h, nose wants to go out of the corner, I turn the wheel just a bit and let the car to take a bit wider line, so the nose skids all the time a little, my foot is on the pedal all the time, almost no speed is reduced as I try to make it through on 95 km/h (compenstaing speed loss with smooth acceleration). I make a wide exit out of the curve to allow maximum acceleration, not to allow rear wheels to skid and steer really smoth straighten because the weight of the car suddenly changing from right to left side can cause read end problems.(Soft suspension, poor shocks and inadequate stabilizer makes that even worse)
Now we slided through the corner. It is possible to slide through with all 4 wheels, on critical speeds for your car, although I wouldn't recomend that, It's far too dangerous. If you find yourself willingly or unwilingly in such a situation, do not panic try to be gentle and firm with the steering and the gas pedal. The feeling is thrilling, but try to get those feelings on a circuit !
What about braking in the curve? Yes and No. Yes if you drive with low speed in a sharp corner (40 - 50 km/h) and the grip is good. No, when you have higher speed, just get the foot off the gas pedal, the friction will do the rest unless you are far too fast. Then friction

wont help enough, the car will continue to slide with front wheels, rear will start to slide too, a moment later you'll be off the road or on a different half of the road. If you step on the brake, when the car slides the rear end will loose contact, and there it goes round and round and off we go!!
What about driving to that mentioned curve with lets say 140 km/h, no braking, entering the curve with 130- 140 km/h???
You turn the steering wheel to the left, the car goes a bit left, then slides directly forward off the road. Most drivers would turn the steering wheel fully to left (trying to compensate sliding! - NICE TRY!). Back will slide instantly to the right and you will fall off the road during turning around.
Don't try that at home would be the best advice!
If you think you have to manage your car sliding, etc. then try all those things on snowy or icy parking place and **don't** bring kids to watch with you! Lower speed but the same kind of physical laws as when you drive 100 or more km/h.
Many different things have been said about front and rear wheel drive. The differences exists, but driving low powered RWD is not much different as driving a FWD. Although with more power things change (or mid engine as Ferrari,...) Powerful engines can skid and turn the back of the car whenever you step on the gas pedal too much! This "fenomenon" is "usable" to assist you, but only if you manage the car well!
FWD car have essential problem with bringing power to road. Many electronical assistants were made, helping the driver. The nose gets out of the curve when the front wheels skid in a curve (usually inside wheel), foot off, braking is allowed, depends of rear suspension type, generally from car to car it is different!

SAFE DRIVING !!!!!

Ecology driving

Ecology is one of many hot themes in today's world and it's good.
So its a shame many drivers don't have a clue about ecologically oriented driving. It is a common misconception that EcoDriving looks like grandma behind the wheel. Au contraire one can be pretty fast and low-polluter in one person. BtW. Do you know which car has the lowest exhaust emissions? (apart from ZEV and LEV with electro drives) It's Porsche 911 Turbo.

Usually grandmas (the one I know) drive like first 700 meter in 1st gear then a couple of kilometres on second, 3rd and 4th are only for open road, 5th is taboo and 6th mortal sin. That is what causes pollution, believe it or not; old car, tired engine, two times overchocked so it looks like a well done diesel and about 4000 RPM with cold engine for a kilometre?
Well if grandma gets a brand new car, multipoint FI, catalyst, ... It may be a bit better but why not.....

Shift up as soon it is possible, use more upper gears (depends of engine torque distribution) and always try to drive with lowest revs. Drive off immediately do not leave the car running on the driveway to achieve optimal temperature. Do not leave it running to cool down the interior. AC works fast if it is in good shape but sometimes, especially on darker (or even, God forgive, black cars) the cooling time is prolonged, open the doors to allow air circulation before you start to drive or open the windows for a minute or two while you are driving (hope you like the wind) to allow the hot air to escape. And watch out cause this is a great way to catch a cold or headache.

Now it is time to say something about technical equipment for providing lowest possible emissions. First there is a modern FI, it reduces the fuel consumption, makes the engine more efficient and regulates the air flow to allow optimal operation of the catalyst. (via Lambda Sond). Catalyst was developed by Volvo and Bosch in mid 70's. It allows to convert certain chemical substances generated by the engine to non or less polluting substances. It needs quite high temperature to convert so first couple of minutes it is pretty inefficient.
Two of important things are the pulsair system and the EGR system. One allows exhaust gases to additionally oxidise by sucking auxiliary air to exhaust. Other uses a valve to convert a small amount of gases from exhaust manifold to intake manifold. It comes to its high potential in part throttle operations. Otherwise it causes bad idling and poor fuel economy. Quite important is the fuel evaporation control. It brings fuel vapours from tank to intake manifold. It has to be regulated to allow low emissions and maintain good driveability. So lets put some sentences together: - never race with a cold car - use low revs - use unleaded with cat engine - don't use kickdown or full throttle much (even on hot engine) - don't transport unnecessary loads - don't drive with roof rack unless you are using it regularly - too wide tyres cause additional fuel consumption - tune up you car

regularly - try to avoid black or grey / blue smoke from tail pipe(s) - drive with sensible speed (130 kph is far less polluting than 140 and more; according to German testers)

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What kind of Gas to your VOLVO

After the famous oilcrise in mid seventies, Volvo made certain modifications to their engines towards lowering the fuel consumption. One of these modications was the increase in compression ratio. Therefore the optimized engines could not run any longer on low octane fuel. Those models need 98 ROZ grade fuel.
Since there is only a limited availability of 98 Unleaded fuel some older Volvos can use the standard 95 octane EuroSuper fuel.

Volvos

Model	Year	EuroSuper
66	all	no
343, 345, 340	all	no
360, 360 GLS, 360 GLT, 360 GLE	all	no
360 GLT Cat	1986	yes
360 GL Cat	1986	yes
360 GLE Cat	1986	yes
244 L, 245 L (B20A)	1975/76	no
244 L, 244 DL, 245 L, 245 DL (B19A)	1977/84	yes
244 DL, 244 GL, 245 DL, 245 GL (B21A)	1975/79	yes
244 DL, 244GL, 245 DL, 245 GL (B21A)	1980/84	no
244 GL, 244GLE, 245 GL, 242 GT (B21E)	1975/83	yes
244GL, 244 GLE, 245 GL, 242 GT (B23A, B23E)	1981/84	no
244 Turbo, 240 Turbo (B21ET)	1981/85	no

242, 240 GL, 240 GLE (B23A, B23E)	1985/86	no
240 Gl Cat	1986	yes
264 DL, 264 GL, 265 DL, 265 GL, (B27A, B27E)	1975/78	yes
264 DL,264 GL,264 GLE,265 DL,265 GL(B27E,B28E)	1979/81	no
740 GLE (B23E)	1984	no
740 GL, 740 GLE (B23K, B23E)	1985/86	yes
740 GL Cat	1986	yes
740 Turbo Cat	1986	yes
740 GLE/ 760 Turbo	1982/86	no

VOLVO recommends checking valves on 20.000 km interval if you regularly drive with unleaded and your Volvo is pre 1984 without catalyst. (non BXXF engine)

Made by Jure Urbancic, July 1996

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Projects worth looking at

These are not my recent working project, since I do not have the time, the space and the extra 6 figure (USD, DEM, CHF,...) account, available. In future, who knows...

Project: 1 2 3

Project No. 1:

Normally aspirated high power 240

- any 240 body, preferably 242
- R-sport springs
- Volvo Sport gas shocks (orange)
- HD bushings
- R-sport front and rear sway bar
- SAM wheel spacers rear
- Turbo front air dam
- Rear spoiler with LED
- 7X16" alloy wheels
- 4.10 rear end ratio
- SAM HD engine and transmission mounts

- B23E with Volvo Rallye 16V head from SAM
- 3,5" exhaust pipe
- Twin 2,5" end pipe (left side orientation)
- stock transmission
- SAM Limit. Slip Diff.
- manual steering
- Volvo Roma leather steering wheel
- R-sport instrument cluster pre 81 / GLT inst. cluster post 81
- Recaro Sport seats
- Ventilated front disks
- Stainless steel brake lines

Project No. 2

Normally aspirated high torque 260

- 264 or 262 body
- stock springs
- Volvo Gas Shocks

- GT - sway bars
- stock air dam
- 7X16" wheels
- HD engine mounts
- B28E drilled to 3,0 litre
- 4- speed Auto transmission
- Volvo LSD
- 3" exhaust pipe
- two 2.5" endpipes, left and right side orient.
- speed dependent power steering
- Volvo Genua Heated Leather Steering Wheel
- Stock instrument cluster
- Leather seats
- Power windows
- A/C
- Tape deck + CD + 11 speakers (3 front panel, 4 doors, 2 rear panel, 2 feet panels)
- rear headrests
- Front fogs

project No. 3

Turbocharged 240

- 240 turbo body
- Eibach lowered springs
- R-sport sway bars
- Bilstein Pro Sport Gas Shocks
- HD bushings
- HD motor mounts
- B23ET drilled to 2,4 litre
- Hi flow Fuel Injectors
- Hi power watercooled Turbo
- Intercooler
- Add Oil Cooler
- Getrag or X-trac Tranny (?) hmm, rather M45(4-spd.) or M46 or M47 (price!!)
- Remus Exhaust
- 7X17" wheels
- SAM Limited Slip differential
- Optimized Air filter housing

[*BACK*]

Spark plugs are one of more important parts of your Volvo (unless it's a diesel). The B21A requires Bosch W7DC (or similar) plugs, with 0.7 - 0.8 mm gap. The plug is made to withstand the most harsh environment, big temperature differences and still be able to produce a good spark to ignite the mixture even after few 10.000 km. Thats why there is a specific type of plug required. Most people don know there is any difference between plugs as long as the look the same, but there is. One of important qualifiers is the heat range. The B21A needs a plug with heat range 7 so a plug with this heat range won't be overheated (hot gas corrosion) and will swiftly climb to normal operating temperature thus increasing the mileage and make more ecological burning process.

This heat range actually means how long is the insulator tip on plug and how well the plug absorbs the heat; thats why there are so called cold or hot plugs.

The plug gap is also of great significance. Too wide gap and the voltage won't be high anough to "jump" across, too close gap and the spark penetration won't be sufficient. One could fine tune the car with spark plug gap changes, some thing give you more power (we're talking about 2-3% or less here), better mileage, different tail pipe emmisions,...

The plugs face is many times very useful to diagnose mixture problems, oil leaks,... as the face changes. If the insulator is bright white you're too lean (many times lean missifires are detectable also), if it's filled with unburned crap the heat range is probably too cold (norm W7, using W8 or W9),... for details look at Bosch spark plug catalogue.

BOSCH W7DTC (triple electrode spark plug from Bosch)

This test wasn't made on a Volvo, it was made on a Japanese with high power ignition and deep spark penetration required (norm gap 1.1mm). The sparks were put in by 64.060 km, and replaced at 95.099 km. Normal manufacturers plug change interval is 25.000 km. It was slightly exceeded due to DTC durability testing.
First 40% of the test they performed well, not excellent because there was no mileage increase, emissions improvement,... Actually no better than any standard plug. With around 23.000 km on them the missfire started, acting like a lean missfire when the accelerator was fully depressed, this continued until the plugs were replaced (no mixture adjustment needed). The ignition system had the same power all along the test and also after it, so the missifer wasn't because of low voltage, being unable to produce sufficient spark. The culprit could be smaller spark penetration or the plug itself.
30.000 km seems a lot for a plug but this one looks quite OK, gaps are not too wide, all three are quite the same, the center electrode is nice triangular shaped, no excessive buildup (using leaded and unleaded gasoline), ceramic insulator is nice brownish colour (excellent heat range).
What to say at the end; if I compare the price, being 100% more than normal plug of same range and manufacturer, the life is maybe 50% more, almost no significant power increases, same mileage,... you're the judge.

Essay VolvoSite

What P/N for what part

	Volvo P/N
Gasoline filter for 850	9142658-5
Volvo Cooling fluid (green) for diesel&gas, made in Sweden	1381078-3
Timing belt 850 20V	271952
AC belt for 850 (poli V)	9146557
K-grind cam	130616-6
R-sport springs	1229337-9
Volvo gas shocks made in France (Turbo & GLT factory eq.)	3529819-9
Fuel filter BIG Bosch(240 Turbo)	12756864
Shocks front 240 (Boge)	1205810
DRL+Blinker Valeo ('92+93 850)	6805873-4
Safety belt for 240 front (early)	9131847
Oil filter Volvo ALL (except Diesel)	3517857-3
Oil drain seal 850	977751-7
Oil drain seal 240 copper	18818-5
Zenith Stromberg needle (B21A)	237663-0
Carb needle seat (not early Zen. Stromb)	237753-9
Temp sender on 850 auto tranny	3515267
Paint Spray col code 414/With clear varnish	1381171-6
Wheels Alu Virgo	1272356
Paint Spray col code 118	1396698
Paint Touch up col code 118	283637-7
Paint Touch up col code 414	1381172
Needle Zenith Stromberg Carb	237663
B20 Water Pump	418328
Telescope Antenna Pilar mount	1128483-3
RearView Mirror Left Chrome 240 early	1213992
Wheels Fergat 240 DL Early 5X14X25	1205797
Wheels Fergat 740 GLE 5,5X14X25	1272641
850 Spark plug set (not Turbo)	271727-0
Radiator hose under B17/19/21/200/280	270616-6
Carb Diaphragm ZS	23766-3
Rear spoiler 340/360 (5door)	3340229-8
Rear spoiler 340/360 (4-door)	3340219-9

GLT - front spoiler (360/340)	3310230-6
GT - Leather steering wheel (340/360)	3340034-2
Fog lamps (front 340/360)	3340004-5
Tach (RPM-meter) 340/360 '83-	3340001-1
Tach 340/360	3340226-4
Econ meter 340/360	284705-1
Econ meter 340/360	3340198-5
Oil pressure gauge 340/360	3310055-7
Oil temp gauge 340/360	3340008-6
Voltmeter 340/360	3340145-6
Clock 340/360	3340002-9
Aux. inst panel 340/360	3340010-2
BordComputer 1,4/1,7/2,0L carb.	3340009-4
BordComputer 2 -litre injection	3340113-4
Gas R-sport shocks 340/360	3340003-7
Electro heated rearview mirrors (L)kit 340/360	3340063-1
EL. heated rearv. mirr (R)kit 340/360	3340064-9
Power windows (kit) 340/360 3door	3340096-1
Pow. windows (kit) 340/360 4/5door	3340097-9
Power locks (kit) 340/360 4/5door	3340186-0
Headlamp wiper/washer 340/360 ('82-)	3340056-5
Rear window wiper/washer 340/360	3340234-8

Volvo 2-series in snow

NOTE! 1, 7 and 9 series may have different behaviour although they are similar and have RWD.

First plus for 200 is the ride height. It's not nice if the car ditches on 25 cm's of snow or is unable to move more than 1m forward due to ultra low front spoiler. Although I may say that front air dams are particularly sensitive to frozen, rock like snow piles so beware! RWD may be tricky in snow, especially if the person doesn't know how to react. It's possible to steer the car quite successfully with gas and steering wheel but extremely difficult on occasions. I found that the worst situation is when there is a hill ahead with a curve with inclination. The rear wheels spin, the car goes sideways, usually opposite side than the curve or towards lower point if the terrain is inclined. Certainly when the road is empty there's not much harm, that's rarely! Tough is when big 12 wheelers drive in opposite direction and your car is going more and more sideways. At this point when you press the gas pedal the wheel spins and car goes more sideways (maybe even accelerates a tiny little bit), au contraire when your release the pedal the car decelerates but remains in good course, although loosing speed and actually trying to stop. Now that is not good if you wish to come to the top of that hill, right? Because takeoff on snowy and icy hill is quite a masterpiece. 2nd gear 1100 RPM, slooooowllly depressing the clutch and you'll make it but certainly not without a wheels spinning one way or another. Its extremely tricky in wet snow, ambient temp around 0 C to -2 C, high performance, wide summer tires. (Tried that twice, don't want to do it again). When the snow is drier and temp are lower lets say -10 C or -15 C the thing seems to go easier, there's more traction available,...
Are You scared of next snow already?
Not worth as long as you don't drive around in that 195 or 205 or 215 VR or ZR summer perf tires. I suggest plain old 175R14 for an early 240 (all around) and something like 185/70-14 or 185R14 (245/265) for late 240. But hey rally drivers use 145R15 for their winter snow runs; wanna try?
With good narrow snows the 240 is very nice, it doesn't really go sideways unless floored down in low gear, it climbs on every hill or mountain and reacts well under braking. The engine doesn't need revving up to achieve speed so you're better off than some hot RWD like BMW.
I made a test few month ago when driving up on top of a hill near our country cottage; its about 45 degrees, wet grass and made it up without a spin in my 244 DL (1st gear/M40/4:1rear diff ratio). Few minutes later I tried with 850 -> no go unless the tranny was put on winter mode and depressing gas pedal very carefully. (NOTE both had 195/60-15 summer tires, one Michelin other Semperit)
The rigid rear axle is a big plus on snow and ice. Ever tried to drive MB of late 70's or early 80's vintage on snow? Not very pleasant due to rear axle making trouble. I may say that although my 244 wore wrong boots I had absolutely no problem when driving on flat surface. Accelerate reasonably well, braking also, with astonishing lateral traction in

corners. Not at all like a friends car with literally no traction on flat roads (rear end tried to be quicker than front -> FWD car) but excellent grip on hilly terrain.
I still believe the ultimate choice is studded tire, 175R14 or narrower, but they aren't allowed in this country for at least 15 years now. :(
Oh, Btw. testers from Swiss magazine Auto Revue said that stock 195/60-15 for 240 Turbo a totaly useless. On any amount of snow!! (They should know as they're in Switzerland). But extremely good on dry pavement. Ok I'll say it again it was a summer tire not wide winter one, alright?

Made by Jure Urbancic, July 1996

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Adding a tach in pre 9.80 instrument cluster (240/260/144('74)/164('73-'75)

Bottom choice by adding a tach (or RPM-meter) would be whether to take the original or some generic tach. My answer is certainly original, because it looks perfect as installed from factory. The 74-9.80 dashboards were different, with diff inst. panels-> here the tach is in the middle quite smaller than speedometer. (Such dashboards and inst. panels had 74 144 and 73-75 164 -> NOTE the 164 and 264/265/262 need to have 6-cyl. tach otherwise the gauge will not read right!

Fist thing is to obtain the tach; Volvo dealer will charge you at least US$100+ if the item is still available, try at salvage yards they cost much less there but many times they are a bit faded. I bought mine at Scandcar (Holland) www.scandcar.nl and it is extremely nice, not a bit faded (from 1978), like it was in a blue box all this time. Works fine...

When you have the tach you should install it as soon as possible. Take off two screws on top of the steering wheel cover and then the two on side of the same cover, just a bit higher of ign. switch and choke actuator. Then pull the plastic thingy out; first directly to yourself then up and it'll come out easy. Now you see two screws on bottom of instrument panel, take them of and gently pull the panel out. NOTE! You have to pull the speedo wire out otherwise the panel doesn't move at all. Be careful doing that if the wire is damaged the speedo bill flicker up and down around real speed!! Try to pull it out at the bottom and the proceed up. Many times it seems it would crack right away but it doesn't. :)

Next you'll see it doesn't go past the steering wheel, don't panic it goes past. But there isn't any real need to pull it all the way out (especially if you have an assistant). The original cover goes out by taking out two additional bolts (they aren't metric!!), then it pops right out. And the original tach goes right it with a bit of rotating because it isn't round all around. The two pins on both sides of the tach hole go right in the tach (male-female connection) they provide +/- power to tach. The other socket at the back of the tach is labelled 1 -> connect it to terminal 1 on ignition coil. Most cars are not prewired for this one so put a wire (not too big diameter 'cause the current is not that big) through the firewall and connect it.

Now its time to check the thing out. Start the car and voila the tach works. Put all things back together. WATCH for that speedo wire (I almost destroyed mine so now the speedo

flickers a bit :(!!
Don't do that job reading only those few words, consult with your dealer. Just kidding! :)
j.

Made by Jure Urbancic, July 1996

Go to Volvo Page *Go to Volvo Theme Essays*

Volvo 242 GT setups

NOTE! I am not 100% sure about all the facts stated in lower text. And would like all people who know something or anything to change or add to post me an E-mail. They will be mentioned in special thanks at the bottom of the page. Full name will be stated but no E-mail unless You would like that also (frequent erratic postings, E-mail changes,...).

The first sportier Volvo 240 (242 at the time) was 242 GT, produced in 1978 - 1979 - 1980. Few cars were sold in 1981 as they were left in dealer's car lots due to lower interest of the prospective buyers. In Australia they were turned into automatic versions although all 242 GT's had M46 (4SPD+OD) gearbox. Pretty desperate measure, right?
242 GT had two engines B21E and B21F of B21 family. Second for countries with exhaust gas limitations as USA. Both engines weren't specially tuned to achieve higher speed; just the same as any normal 242/244/245 with B21E/F.B21F produced around 110 HP and B21E produced 123 HP (both DIN).
Apart from B21 242GT's also had B23E engines from 1979 on; but not in US. Those engines produced 100kW / 136HP or 103kW/140HP. So European '79 242GT had top speed of 182 km/h (achieved in 4th speed) and acceleration 10,0 sek from 0-100 km/h, made 1 km with standstill start in 31,6 sek. For comparison there are numbers for '81 244 Turbo (155HP / B21ET): top speed 194 km/h, 0-100km/h 8,8 sek, 1 km with standstill start 30,0 sek.
GT's had rear differential ratio of 4.1:1. The same as previous (and later) B21A engines 242/244/245DL+GL later(77-). This helps the car improve acceleration as each gear is shorter. Certainly there has to be an excemption, the B23E equipped GT's had rear diff. ratio 3,73 :1, like later 240 Turbo. Transmission was always M46 (4spd+OD); 3,71; 2,16; 1,37; 1; OD: 0,798; R: 3,68
Bumpers were so called "commando bumpers", similar to 74-80 242/244/245, GT's were just anodised black.
Rear-view mirrors were also anodised black; ordinary early 240's had chromed mirrors, later there were small black plastic things ->'79 / '80 GT's
There were two types of air dam's, earlier that was wrapped around lower edge of bumper and not twisted back up on lower edge of the air dam. And second one (year 1980) that was twisted in frontal direction. Earlier had no auxiliary vent holes in the middle, later had standard three and a plastic covered one for towing hook (pass. side)
Lights setup was exactly the same as '74-'76 242/244/245 GLE; two round 180mm Bosch lamps and two fog lamps in grille. The grille itself was not the same (GLE/GT) as GT's had different diagonal line left and right from Volvo badge in the middle. All GT's had headlamp wipers (like 74-76 models -> at rest the wipers were up).
Brakes were the same as on ordinary models, all 4 disks. Front disks / rotors were ventilated.
Interior was similar to GL's, all had tach from factory, some red lining and special seat

covers. Some GT's were available with power roof form factory others didn't have stand. spare wheel, just a compressor and special kit.
Most important changes happened to suspension. It's very interesting to see that all modelyears had different setup. Front springs were a bit shorter and 30% stiffer as DL/GL/GLE. Rear springs were standard. GT had four gas pressurised shock absorbers (DeCarbon). 1978 had 21 front bar and 21 mm rear bar, 1979 had 21mm front bar and 23 mm rear bar, 1980 had standard bars. For instance later 240 Turbo came with front and rear 23 mm bar.
1978/79 had 14" alloy wheels, 1980 had 15" Turbo wheels (Virgo).

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Special features of early 242/244/245 's

I think early 240 models should be around '74 to '76 vintage. They were available with B20A (for Us B20F) until '76, B21A (not in US) and B21E (not in US) and B21F (only in US).
Really early 240's had B20A as L, B21A as DL and B21E as GL. B20A had SU-HIF6 carburettor, B21A had Zenith - Stromberg 175 CD2SE, B21E had Bosch K-jetronic injection.
NOTE GL was top equipment at the time. GL's had all leather seats, optional 4spd+OD(M41), optional sunroof, power windows, tinted windows, special GL on grill, tach, GL steering wheel, 5'5X14 wheels, wider tyres, injection (B21E).
DL's had all optional, except GL steering wheel and grill.
L's had poorer seats and door covers, otherwise the same as DL.
M40 (4 speed), M41 (4 speed +OD) and BW35 (3 speed auto) transmissions were available. Ratios were 3,41/1,99/1,36/1(M40 and M41) + 0,80 (OD at M41) R:3,25 both.
BW35 was manufactured at Borg-Warner with ratios: 2,39/1,45/1 R:2,09
Rear end ratios were 4.1:1(all B20A some B21A and some B21E) or 3,9:1 (few B21A most B21E)
They were available in quite few colours; hit of '74 and '75 was orange and green (both dark and light) other were black, white, light blue, dark blue, brown, dark red,...
The steering wheel is quite interesting. It's 4 spoke symmetrical like on late 144 and 164 with massive central plastic "pillow". Later steering wheels were also 4 spoke but wit two horizontal and two vertical spokes. Earlier had four spokes going diagonal. Power steering was available as option for injected cars; GL's.
"Sticks" left and right from steering wheel for turn signals and wipers were triangular shaped in section but had logos of main beam lamps and turn signals and wipers together with "MAIN BEAM " and "TURN SIGNAL" written on left on and "WIPE" on right one.
There was a difference in fan knob. Models without A/C had this knob almost identical to lamp switch knob; round with white stick in it to point on 0,1,2,3. Others with so called "combined system" had two different knobs, round at the bottom but rectangular shaped at the end; on left and right and three push type switches for floor , def and rec in centre. (Like most later models). Few cars had mixed knobs like standard ventilation system and fan knob out of "combined system".
GL's had leather seats and heated driver's seat as standard equipment. ('74)
Rearview mirrors were chromed. GL's had both mirrors (242/244/245) DL's and L's didn't have right ones, except 245 L/DL models. NO model had power mirrors, they were all adjustable from outside. (Quite a pain, especially for the right one).

Wheels were mostly Fergat 5X14 for L/DL and 5,5X14 for GL's. They had 5 ventilating holes (less than later types). L/DL's had special wheel caps, covering the part of wheels where it's attached on the car. So covering up ordinary nuts (not chromed). GL's had smaler caps (hub caps) covering only centre hole and chromed nuts. (NOTE some DL's had same wheel setup as GL's, only with 5X14 wheels for no appearant reason). Tires were original L/DL 175R14 (actually bigger than 195/60R15) and 185/70R14 for GL's. The exhaust system was a bit different, it had more curves especially at back, went more left and end pipe was aimed downward.
Light and grill setup was virtualy unchanged until '76 - '77. Two 180 mm Bosch headlights, Cibie DRL's, wide grill with GL emblem for GL's. Headlamp wiper/washer was available as option from factory on all types L/DL/GL 242/4/5. Rear lights were similar to '74 144 and '73- 164; smaller than those on 260's, made by Hella. Fog lamps in grill (so called GLE grill) was available as option.
All early models had so called "commando" bumpers. Those are big aluminium type bumpers with a lot of rubber on ends to prevent excessive damage when making contact with other cars. Really early models had front rubber made from one piece, later had two piece rubber one left and one right of license plate.
There doesn't seem to be any suspension setup changes from early 240's, only that really early ones were a bit high on nose, maybe they had longer or stiffer front springs, or weaker rear springs?

I heard early 240's had a bit stronger front springs (wire diameter was bigger), but I have no empirical data to backup this one.
Sway bar setup was 19 mm front and 16 mm rear bar on all 242/244/245. On the other hand few models came out without rear bar but that was few years later.
Shocks were standard Volvo OEM -> Boge (blue strut inserts).
I am not aware if R-sport line of suspension was available as option so soon or it was only put on 242 GT's ('78)?
Early 242/244/245 had "descriptive" switches. Instead of painted fog lamp on switch there was "FOG LAMP" written on it and also "FASTEN SEAT BELTS" written instead of logo and so on. Base equipment had two switches; one "HAZARD" for all four blinkers and one for rear demist. 245 had another switch for rear wiper - washer. Optional swithes were: A/C switch between hazard and rear demist, fog lamp switch just left of rear wiper/washer which was left of rear demist. Some time ago I heard there were also switches saying "REAR FOG LAMP"; 244 DL '74 has a fuse for rear fog lamp but rear lamp cluster doesn't have the socket. I think this was available only on V6 equipped 200 series because they had bigger rear lamps with rear fog lamp.

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R -Sport . What's still available?

R - Sport was Volvo's trademark for performance oriented equipment. The project was more or less cancelled since Volvo doesn't make special catalogues for performance equipment any more. all goes in the same sack -> optional equipment.
So what's available?
Well only sportier seat cover (first class material) with better lateral support bears the name R -Sport in nowadays optional equipment catalogues.
Almost extremely stiff shocks and thick anti-sway bars are available for 200/700/800/900 series but no R -sport is mentioned. Seems like the stuff is there (for a lot of $$$) but name is not. Why? Don't have a clue. R-sport springs are still available through dealer (look P/N page) although nobody knows how long.
Another thing is semi official Volvo performance parts manufacturer Steffansson Automotive, Bilgatan 5, Kungalv, Sweden. They offer brand new and shiny R - Sport 16V heads for B21/23/230 engine family. With this head B23 drilled to 2,5 litre can produce around 260 HP.
Most other hot R -Sport stuff lies on salvage yards or still in some dark corner of big warehouse.
What was available?
R -sport: springs, instrument panels, steering wheels, anti - sway bars, shocks, carb turbo's, 16V heads, cams (B20 & B18),...

R-Sport production models:

343 GLS R-Sport

Only 100 of these marvellous cars were made in '80/'81. Body of ordinary 343 GLS (3-door version, white paint with yellow-blue RS - Team 18 decals. One on hood (U styled in hood wrinkle) and one on each side of the car. There was GLS sign on grill. Car had Alloy rims of 5,5 X 13" with 185/70-13 tyres, optional also 5 spoke 14" alloy rims. Under hod was B19 and so called "340 B19 RS-Kit". That means twin Solex carburettor with special air intake nozzles and sport air filter, rally camshaft (R-Sport) and electrical radiator fan. This 1,986 litre engine produced 87kW / 118HP at 6000 RPM and 160 Nm of torque at 3000 RPM. 343 GLS R-Sport had transaxle transmission (gearbox together with rear differential) and 50% : 50% wieght distribution. Those who wanted more of R-Sport could buy those 14" wheels, extra driving lights, front air dam (deeper one), racing brake pads, sportier steering wheel and a whole line of R -Sport garderobe.

And another intersting story about an engine made in Volvo's R-Sport department in '80 / '81, run on rallycross championship of '80 and also its winner.
It's actually a derivative of plain old B14 from 343 cars. But drilled to 1,709 litre, racing head with two valves per cylinder but in V -form (the valves) and central electrode spark, added fuel injection (injectors in intake manifold not in head itself) and Garett turbocharger. Whole pile of mechanical and electronical parts produced 260 HP!
Per - Inge Walfridsson became European champion in rallycross with so equipped 343. Second was Schanche with Ford Escort RS (280HP).

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Trim levels on Volvo's

It was year '69/'70 when Volvo started to use DL and GL to designate type of engine and level of factory equipment. First 140 DL's had B20A engine when GL's had new B20E fuel injected engine, producing 120 HP. Top of the line 164 didn't have any additional designations, like 960 doesn't.
When 240 model was introduced in 1974 there were L , DL and GL. L with old B20A, DL with new B21A and GL with also new B21E (FI). L stands for Luxe, DL for DeLuxe and GL for GrandLuxe. 1978 came the GT (only as 242 GT), GT is an old designation, used for sports cars, not exactly racing versions but more or less "touring" sports car. First GT was Lancia Aurelia.
GL wasn't good enough for top equipped Volvos of 240 and 260 series so GLE came up. We can argue whether it is GrandLuxeExecutive or anything else; GLT means GrandLuxeTouring, should be something between GT and GLE, not as sporty as later TURBOs. With sportier wheels, steering wheel, suspension. Turbo is real substitution for GT's.
In the mean time few other types were made as GLS as GrandLuxeSpecial (mainly used on 300 series) or GLI as GrandLuxeInjection (240 GLI, with B21E). Few precious versions had the RS, standing for R - Sport (340 GLS RS). At the end of 240 series production there was a need for SE, SpecialEdition and CLASSIC. 940 and 850's were also S - Sport or Standard since 940S had turbo B230FK engine and 850 125 HP 2.0 litre 10V engine (B5202F).

All factory options available for Volvo 240 (through all years of course):
Fog lamps, Headlamp wiper washer, front spoiler, alu wheels, power rear-view mirrors, power roof, power steering, tach, 4 spd. + OD on early models, leather seats, tinted widows, leather shifter shoe, leather steering wheel (GT, ROMA), rear headrests, various Volvo SoundSystem stereos and speakers, R -Sport seat covers, Voltmeter, Oil press gauge, Oil temp gauge, outside temperature gauge, wood trim (only post 8.80 dashboards), power windows, power locks, trailer hitch, rear spoiler, reflective tape on bumpers, refl. plastic between rear lights, whole set of driving and aux. fog lamps, wind deflectors, heated seats, air condition, nivomat, sport shocks, bars, springs, limited slip differential, auto tranny, rear belts on early models, Volvo cellular phones, cabin air intake cover, block heater, car heater (gasoline or diesel driven), Front arm rest (between front seats), Cup holder in front armrests, huge assortment of roof racks, rear sun deflectors, alarm, ABS, AirBag (only drivers' side), board computer, aux. instrument. panel, R-Sport inst. panel, sun roof, decor decals, econometer add seats and more.

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Oil change intervals

When I look in my old '74 manual (for 244 with B21A) Volvo recommends 10.000 km interval for engine oil and use of 10W-40 oil. For '74 that's quite confident decision, remember oils weren't as good then as they are now. NO semi or full synth oil with viscosity of 0W-60 or 5W-50. To prevent excessive engine wear when starting dead cold (like -25 deg. C or more) or when revving way into red zone on a hot day (+40 deg. C or more).
Those B21/23/230 engines without turbo are famous for extremely long life in any kind of different conditions. But they're not magic, I cannot say that a person who doesn't change his oil on regular interval of 9.000 - 10.000 km won't see his engine at let's say 200.000 kms. Many other factors also influent engine wear, but some are far harder to deal with than oil changes. Same goes for oil filter, they cost here about 9 USD each and are not that much of financial burden.
My experiences and many of my friends for that matter say its best to change both oil filter and oil between 6000 and 8000 km (interval). Or if your Volvo has turbocharger around 5000 km (interval). Turbochargers are extremely sensitive to bad, worn oil so its best to give your money for oil than early turbo rebuild. (many other factors also contribute, but things tend to go much worse if oil is not changed regularly).
Diesel Volvos have prescribed interval at 8000 km. Most diesel owners say that they're engine would 100% go to early grave if oil changes weren't performed at 5000 - 6000 km interval. It's diesel combustion together with relatively high compression of that kind of engines who causes rather filthy oil in short amount of time. No need to say Turbo Diesel owners must be even more rigorous about oil type any change intervals.

Most if not every car manufacturer recommends checking the oil level after every gas fill - up. That's not always possible but very useful. Since regular level check ups will tell you how much oil your engine drinks or drips and when it may leave you with red oil lamp or forever.
Various engines use various amounts of oil, but almost every one will use a certain amount, maybe not measurable, maybe significant. It tends to be more when you rev the car religiously or drive on highways with high speeds (130 km/h and more) or when the car has short rear differential ratio, short last gear (top speed in red zone) or only 4 speed transmission. OHC engines tend to use a bit more oil than OHV engines. Turbos may leak oil into exhaust or into intercooler or intake through turbo bearings. High compression on diesels means they're more oil thirsty.
Some manufactures cover themselves with figures like 1 litre of oil every 1000 km is max. number, or even more than that. It's usually seen in exhaust even if it's less than 1 l / 1000 km. So remember if your oil consumption rises and rises and your see clouds out of exhaust your rings, valve stem seals, or turbo bearing or any combination of all three may be bad. (don't remember the flame trap if it's clogged). If there are no clouds and the consumption is really starting to be excessive look down, You may stand in oil!

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850GLT 2.5 20V

Technical specifications:

2,5 20V , 170 HP/6200 RPM, 221 Nm/3300 RPM
AW Auto transmission, with sport, economy and winter programs
Cetus wheels 6,5-15
Michelin Pilot HX 195/60-15 tyres orig.
205/55-15 Pirelli Drago at the moment
CR-901 SoundSystem 2x 40W coax. loudspeakers
Volvo Anti-Theft device
max speed approx. 220 km/h (factory only 205 km/h)
0-100 km/h approx. 9,2 sec (factory 9,6 sec and manual 8,9 sec)
fuel consumption approx. 7.5 - 9.5 - 11.0 litres/100km

No major modifications...

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SWITCHES

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Switch	Model
Hazard (red)	all
Rear Demist (green)	all
Air Cond (?)	all with A/C
Air Cond (potentiometer) (Black) +-	A/C in 264 GLE
Rear Wipe Wash (green)	all 245/265
Fog Lamp (green)	all with fog lamps
Rear Fog Lamp (orange)	all with bigger rear lights (264, 240 after '79)
Aux Lamps (green)	all with factory aux. lamps

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Maintained by the Owner modified feb.1997
