Sec. 2 B 5204/5254, B 5252, B 5234 Engines

Group 20 General

Performance, compression ratio, octane rating

Engine type	Comp. ratio	Rec. octane RON	Output		Max. torque	
			kW at r/s	hp*(bhp) at r/min	Nm at r/s	kpm(ft.lbf) at r/min
B 5204 S	10.3:1	95	105/108	143/6500 (141/6500)	176/63	17.9/3800 (130/3800)
B 5254 S	10.5:1	95	125/103	170/6200 (168/6200)	220/55	22.4/3300 (162/3300)
B 5252 S	10.0:1	95	103/90	140/5400 (138/5400)	206/60	21.0/3600 (152/3600)
B 5234 T	8.5:1	95	166/88	225/5280 (222/5280)	300/33-88	30.6/2000-5280 (221/2000-5280)

Unleaded fuel only. Can be run on 91 octane unleaded.

* Metric horsepower.

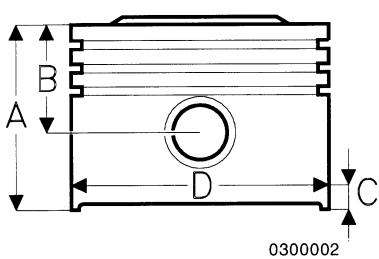
Other general data

	B 5204 S	B 5234 T	B 5252 S B 5254 S
No. of cylinders	5	5	5
Cylinder bore ..... mm	81.0	81.0	83.0
Stroke ..... mm	77.0	90.0	90.0
Displacement ..... dm^3 (litres)	1.984	2.319	2.435
Firing order	1-2-4-5-3	1-2-4-5-3	1-2-4-5-3
Compression ..... MPa	1.3 - 1.5	1.1 - 1.3	1.3 - 1.5
max. deviation between cylinders ..... MPa	0.2	0.2	0.2
Weight, complete (including ancillaries and oil) ..... kg	173	176-190	173

Group 21 Engine Block

Cylinder head	B 5204/5254 S B 5234 T	B 5252 S
Height, new ....mm	129.0 ± 0.05	132.1 ± 0.05
Max machining ....mm	0.30	0.30
Max warp, along ....mm	0.50	0.50
across ....mm	0.20	0.20

Cylinder block	B 5204 S, B 5234 T	B 5252/5254 S
Bore		
Standard (C-marked) ....mm	81.00 - 81.01	83.00 - 83.01
(D-marked ....mm	81.01 - 81.02	83.01 - 83.02
(E-marked) ....mm	81.02 - 81.03	83.02 - 83.03
(G-marked) ....mm	81.04 - 81.05	83.04 - 83.05
Oversize 1 ....mm	81.20 - 81.21	83.20 - 83.21
2 ....mm	81.40 - 81.41	83.40 - 83.41



Engine type	Figures in mm		
	A	B	C
B 5204 S	66.4	42.4	16.0
B 5254 S	59.9	35.9	16.0
B 5252 S	59.9	35.9	16.0
B 5234 T	59.9	35.9	16.0

Pistons	B 5204 S B 5234 T	B 5252 S	B 5254 S
Piston diameter (D) (measured at right angle to gudgeon (piston) pin, **distance C** from bottom of piston)			
• Standard (C-marked) ..... mm	80.98 - 80.99	82.98 - 82.99	82.98 - 82.99
(D-marked) ..... mm	80.99 - 81.00	82.99 - 83.00	82.99 - 83.00
(E-marked) ..... mm	81.00 - 81.01	83.00 - 83.01	83.00 - 83.01
(G-marked) ..... mm	81.017-81.032	83.017-83.032	83.017-83.032
• Oversize 1 ..... mm	81.177-81.192	83.177-83.192	83.177-83.192
2 ..... mm	81.377-81.392	83.377-83.392	83.377-83.392
Piston clearance, ... mm (new piston)	0.01 - 0.03	0.01 - 0.03	0.01 - 0.03
Piston weight ..... g			
• Max weight difference between pistons in same engine ..... g	10	5	10
Piston rings, axial clearance (measured with ring on piston)			
• upper comp. ring ..... mm	0.05 - 0.085	0.05 - 0.085	0.05 - 0.085
• lower comp. ring ..... mm	0.03 - 0.065	0.03 - 0.065	0.03 - 0.065
• oil scraper ring ..... mm	0.02 - 0.055	0.02 - 0.055	0.02 - 0.055
Piston rings, ring gap (measured in cylinder)			
• upper comp. ring ..... mm	0.20 - 0.40	0.20 - 0.40	0.20 - 0.40
• lower comp. ring ..... mm	0.20 - 0.40	0.20 - 0.40	0.20 - 0.40
• oil scraper ring ..... mm	0.25 - 0.50	0.25 - 0.50	0.25 - 0.50
Gudgeon (piston) pin, diameter ..... mm	$23.0\ ^{+0}_{-0.004}$	$23.0\ ^{+0}_{-0.004}$	$23.0\ ^{+0}_{-0.004}$

length ..... B 5234 T: 66.0 mm, Others: 61.0 mm
fit in connecting rod ..... Light thumb pressure (close running fit)
fit in piston ..... Thumb pressure (push fit)

Valve system	B 5204/5254 S B 5234 T	B 5252 S
Hydraulic tappets		
• diameter (A) .....mm	32.00 $^{+0.025}_{-0.041}$	35.00 $^{+0.025}_{-0.041}$
• height (B) .....mm	26.00 ± 0.5	26.00 ± 0.5
• distance (C) unloaded, min .....mm	18.40	18.40
• distance (C) standard meassure, approx. ...mm	17.50	17.50
• distance (C) compressed .....mm	16.15 $^{+0.3}_{-0.1}$	16.5 $^{+0.3}_{-0.1}$
(Measuring points, see service manual.)		
Valve springs		
• external diameter .....mm	27.9 ± 0.2	30.8 ± 0.2
• internal diameter .....mm	20.1 ± 0.2	22.0 ± 0.2
• length		
unloaded .....mm	42.4	43.2
loaded to 34.0 mm .....N	270 ± 15	
24.5 mm .....N	670 ± 32	
loaded to 37.0 mm .....N		300 ± 18
26.4 mm .....N		870 ± 40
Valve guides		
Intake		
• diameter, standard .....mm	12.0	12.0
oversize 1 .....mm	12.1	12.1
2 .....mm	12.2	12.2
• clearance, valve stem-guide, new .....mm	0.3 - 0.06	0.03 - 0.06
max .....mm	0.15	0.15
• height above upper face of cyl. head .....mm	13.0 ± 0.2	13.0 ± 0.2
Exhaust		
• diameter, standard .....mm	12.0	12.0
oversize 1 .....mm	12.1	12.1
2 .....mm	12.2	12.2
• clearance, valve stem-guide, new .....mm	0.03 - 0.06	0.03 - 0.06
new, Turbo .....mm	0.04 - 0.07	
max .....mm	0.15	0.15
• height above upper face of cyl. head .....mm	13.0	13.0 ± 0.2

Valve seats	B 5204/5254 S B 5234 T	B 5252 S
Intake		
• diameter, standard ..... mm	32.61	43.11
oversize ..... mm	33.11	43.61
• matching surface width ..... mm	1.4 - 1.8	1.4 - 1.8
• matching surface angle	45°	45°
• reduction angle,		
upper	15°	15°
lower	60°	60°
• seat recess in cylinder head		
diameter, standard ..... mm	$32.5\ ^{+0.025}_{-0}$	$43.0\ ^{+0.025}_{-0}$
oversize ..... mm	$33.0\ ^{+0.025}_{-0}$	$43.5\ ^{+0.025}_{-0}$
interference ..... mm	0.069 - 0.11	0.069 - 0.11
Exhaust		
• diameter, standard ..... mm	28.61	38.11
oversize ..... mm	29.11	38.61
• matching surface width ..... mm	1.8 - 2.2	1.8 - 2.2
• matching surface angle	45°	45°
• reduction angle,		
upper	15°	15°
lower	60°	60°
• seat recess in cylinder head		
diameter, standard ..... mm	$28.5\ ^{+0.021}_{-0}$	$38.0\ ^{+0.021}_{-0}$
oversize ..... mm	$29.0\ ^{+0.021}_{-0}$	$38.5\ ^{+0.021}_{-0}$
interference ..... mm	0.076 - 0.11	0.076 - 0.11

Valves	B 5204/5254 S B 5234 T	B 5252 S
Intake		
• diameter, disc ..... mm	31.0 ± 0.15	40.0 ± 0.15
stem ..... mm	6.97 $^{+0}_{-0.015}$	6.97 $^{+0}_{-0.015}$
• total length ..... mm	104.05 ± 0.20	98.1 ± 0.3
max. machining of stem ..... mm	0.4	0.4
• Edge height ..... mm	1.5	1.5
min. after machining ..... mm	1.2	1.2
• Matching surface angle ..... °	44.5	44.5
Exhaust (stellite-flashed, may not be machined)		
• diameter, disc ..... mm	27.0 ± 0.15	35.0 ± 0.15
stem ..... mm	6.96 $^{+0}_{-0.015}$	6.97 $^{+0}_{-0.015}$
• total length ..... mm	103.30 ± 0.20	97.1 ± 0.3
max. machining of stem ..... mm	0.4	0.4
• Edge height ..... mm	1.5	1.5
min. after machining ..... mm	1.2	1.2
• Matching surface angle ..... °	44.5	44.5

Timing gears

Engine type	Camshaft		Control of camshaft setting (cold engine)					
	Profile		Max. lift height		Valve opening at check (mm)		Camshaft timing	
	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust
B 5204 S	PGI	PGE	8.45	8.45	0.7	0.7	6° *	30° **
B 5254 S	PGI	PGE	8.45	8.45	0.7	0.7	6° *	30° **
B 5252 S	HEI	HEF	9.60	9.60	0.7	0.7	6.5° *	39.5° **
B 5234 T	PHI	PHE	7.95	7.95	0.7	0.7	4.2° *	31.8° **

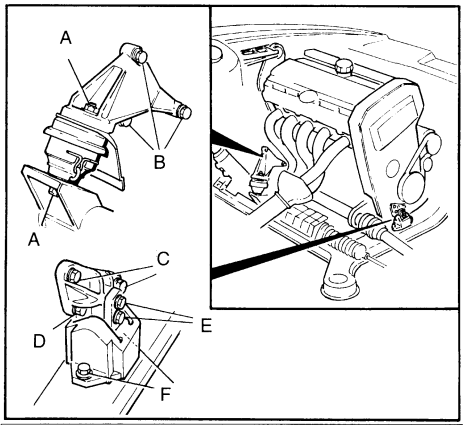
* after top dead centre; ** before bottom dead centre

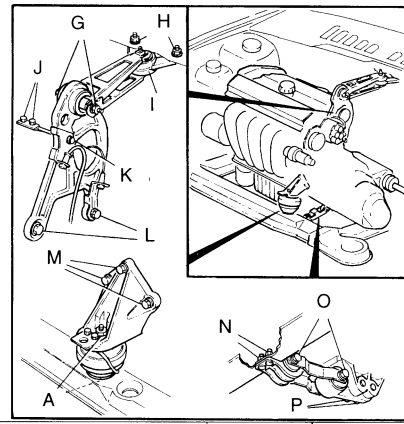
Camshaft

Engine type	B 5204/5254 S	B 5252 S
Radial play, min .....mm	0.030	0.030
max.....mm	0.071	0.071
Axial play .....mm	0.05 - 0.20	0.05 - 0.20
Timing belt, dimension, – 1993	143 x 21	139 x 21
1993 –	148 x 23	144 x 23

Crankshaft assembly	B 5204/5254 S B 5202 S B 5234 T
Crankshaft	
Max. out-of-true ..... mm	0.032
Axial clearance, max ..... mm	0.19
Radial clearance(main bearings) ..... mm	0.025 - 0.045
Main bearing journals	
Diameter, standard ..... mm	$65.00\ ^{+0}_{-0.013}$
undersize ..... mm	64.75
Max out-of-round ..... mm	0.004
Taper, max ..... mm	0.004
Width of axial bearing ..... mm	$26.0\ ^{+0}_{-0.04}$
Connecting rod bearing journals	
Diameter, standard ..... mm	$50.00\ ^{+0}_{-0.016}$
undersize ..... mm	49.75
Width of journal ..... mm	26.0 + 0.1
Taper, max ..... mm	0.004
Max. out-of-round ..... mm	0.004
Connecting rods	
Diameter ..... mm	$53.00\ ^{+0}_{-0.013}$
Max. out-of-round ..... mm	0,006
Axial clearance at crankshaft ..... mm	0.15 - 0.45

Tightening torques (apply to oiled nuts and bolts).	Nm	ft.lb
Cylinder head (stage 1)	20	15
(stage 2)	60	44
(stage 3) ....angle tighten	130°	130°
Bolts should be tightened in sequence from centre towards ends.		
Middle section M10 (stage 1)	20	15
M10 (stage 2)	45	33
M 8 (stage 3)	24	18
M 7 (stage 4)	17	12
M10 (stage 5) ....angle tighten	90°	90°
Bolts should be tightened in sequence from centre towards ends.		
Connecting rod bearing caps (stage 1)	20	15
(stage 2)....angle tighten	90°	90°
Vibration damper (centre nut)	180	132
Flange bolts, vibration damper (stage 1)	25	18
(stage 2)....angle tighten	30°	30°
Carrier plate (stage 1)	45	33
(stage 2)....angle tighten	50°	50°
Transmission - engine	48	36
Camshaft pulley	20	15
Tensioning pulley, camshaft timing belt	39	28
Damper unit, "	24	18
Idler pulley, "	24	18
Coolant pump	17	12
Exhaust manifold	23	17
Intake manifold	17	12
Fuel distribution manifold, (stage 1)	10	7
(stage 2)....angle tighten	75°	75°
Oil sump	17	12
Oil pump	10	7
Plug, oil sump	35	25
Oil suction line	17	12
Cover panel, front edge	17	12
Oil trap	15	11
Nipple, oil filter	40	29
Oil pressure switch	50	36
Engine speed (RPM) sensor	6	4.5
Knock sensor (KS)	20	15
Engine coolant temperature (ECT) sensor, thermostat	20	15
Spark plugs	25	18
Flywheel (stage 1)	45	33
(stage 2)....angle tighten	65°	65°





	Tightening torque for engine mountings		Nm	ft. lb
A	Nut (bolt), engine mounting		50	36
B	Rear engine mounting - engine block		50	36
	R/H engine mounting,			
C	upper bolts - engine block (10 mm)	angle-tightening	35 + 60°	25 + 60°
D	lower bolt - engine block (8 mm)	angle-tightening	20 + 60°	15 + 60°
E	mounting pad - engine mounting	angle-tightening	35 + 90°	25 + 90°
F	engine mounting - subframe	angle-tightening	65 + 60°	48 + 60°
	Upper torque arm,			
G	front bushing	angle-tightening	35 + 90°	25 + 90°
H	rear bushing - body	angle-tightening	35 + 60°	25 + 60°
I	rear bushing - torque arm	angle-tightening	35 + 60°	25 + 60°
J	bracket - cylinderhead		10	7
K	bracket - torque arm		25	18
L	torque arm - cylinder block	angle-tightening	45 + 90°	33 + 90°
M	Front engine mounting - engine block		25	18
	Lower torque arm,			
N	front bushing - subframe, M12	angle-tightening	65 + 60°	48 + 60°
	(early 1992, M 8)		30	22
O	torque arm - bushings	angle-tightening	35 + 90°	25 + 90°
P	rear bushing - gearbox	angle-tightening	35 + 40°	25 + 40°

Group 22 Lubrication System

General

Oil volume and quality, see page 11

Oil pressure with hot engine and new oil filter

Engine speed r/s (rpm)	Oil pressure MPa	
	B 5204/5254 S B 5252 S	B 5234 T
12.5 (750)	0.10	0.10
33 (2000)	0.25	0.25
50 (3000)	0.30	0.30
Max	0.50	0.60

Springs, reduction valve	B 5204/5254 S B 5252 S	B 5234 T
no. of turns	26	
outside diameter mm	9.5	
length, unloaded mm	82.13	76.22
loaded to length 56.1 mm N	52 ± 4	59 ± 4
39.9 mm N	85 ± 8	108 ± 8

Group 23 Fuel system

Engine type	Fuel system
B 5204 S, B 5254 S	LH 3.2 (MFI)
B 5252 S	Fenix 5.2 (SFI)
B 5234 T	Motronic 4.3 (SFI)

CO-content, idle speed	B 5204/5254 S B 5252 S	B 5234 T
Nominal value for CO content ..... %	0.6 ± 0.4	0.6 ± 0.4
Engine idle speed, 1992 –1993 ..... r/s (rpm)	13.3 (800)	
1994 ..... r/s (rpm)	14.2 (850)	14.2 (850)
with activated el. cooling fan, 1992 ... r/s (rpm)	13.7 (825)	
1993 ... r/s (rpm)	13.3 (800)	
1994 ... r/s (rpm)	14.2 (850)	14.2 (850)

CO-content and idle speed cannot be adjusted, only checked.
Measured upstream of three-way catalytic converter (TWC).
Heated oxygen sensor (HO2S) connected.
Automatic gearbox:
The gear selector lever should be in the "P" position during the check and handbrake set.

Components MFI/SFI

Control module	Volvo P/N	Manuf. P/N
B 5204 S, 92 ..... Bosch	13 35 855-1	0 280 000 **592**
B 5204 S, 93, man ..... Bosch	68 42 679-0	0 227 400 **956**
automatic ..... Bosch	91 35 777-2	0 280 000 **964**
B 5204 S, 93, man ..... Bosch	91 46 178-0	0 280 000 **956**
automatic ..... Bosch	91 46 177-2	0 280 000 **964**
B 5204 S, 94, man ..... Bosch	91 46 649	0 280 000 **956**
B 5254 S, 94, automatic ..... Bosch	91 46 648	0 280 000 **964**
B 5254 S, 92 ..... Bosch	13 67 760-4	0 280 000 **593**
B 5254 S, 93 ..... Bosch	35 17 962-1	0 280 000 **953**
B 5254 S, 93 ..... Bosch	91 46 179-8	0 280 000 **953**
B 5254 S, 94 - ..... Bosch	91 46 476-8	0 280 000 **952**
B 5254 S, 94 -, airpump ..... Bosch	91 46 318-2	0 280 000 **966**
B 5252 S, 93 ..... Siemens	35 07 862-5	S 103 955 400/A
B 5252 S, 93 ..... Siemens	91 35 975-2	S 103 955 400/D
B 5252 S, 94 - ..... Siemens	91 35 703-8	S 103 955 402/B
B 5252 S, 94 - ..... Siemens	91 46 124-4	S 103 955 403/B
B 5234 T, 94 -, automatic, OBD ..... Bosch	68 42 209-9	0 261 203 **074**
B 5234 T, 94 -, man, OBD ..... Bosch	68 42 208-8	0 261 200 **549**
B 5234 T, 94 -, EGR, OBD2 ..... Bosch	68 42 210-4	0 261 203 **072**

Mass air flow (MAF) sensor	**B 5204 S, B 5254 S**	**B 5234 T**
Volvo P/N	13 66 220-2	35 07 697-5
Manuf. P/N ..... Bosch	0 280 217 **002**	
Resistance between connectors 1 and 4, approx. ..... Ω	110	

Pressure sensor	**B 5252 S**
Volvo P/N ..... Delco	35 07 100-0

Pressure regulator	**B 5204/5254 S B 5234 T**	**B 5252 S**
Volvo P/N	35 07 902-9	35 31 983-9
Manuf. P/N ..... Bosch Siemens	0 280 160 **746**	70 56 348.0001
System pressure* ..... kPa	300	300

*Fuel pressure above pressure in intake manifold.

Injectors	**B 5204/5254 S**	**B 5252 S**
Volvo P/N	35 07 422-8	13 89 563-6
Manuf. P/N Bosch/Bendix	0 280 150 **779**	4088914-0001
Injection volume cm^3/min	185	
at system pressure kPa	300	
resistance of coil Ω	15.9 ± 0.35	14 - 18
Injectors	**B 5234 T**	
Volvo P/N	68 42 369-8	
Manuf. P/N Bosch	0 280 705 **478**	
Injection volume cm^3/min	316	
at system pressure kPa	400	
resistance of coil Ω	14.5	

Idle air control (IAC) valve	**B 5204/5254 S, B 5234 T**	
	1991 – 92	1993 –
Volvo P/N	35 17 378-0	35 31 803-9
Manuf. P/N Bosch	0 280 140 **528**	0 280 140 **542**
Resistance between		
connectors 1 and 2 Ω	10 - 14	10 - 14
2 and 3 Ω	10 - 14	10 - 14
Idle air control (IAC) valve	**B 5252 S**	
Volvo P/N	35 07 699-1	
Manuf. P/N VDO	408.202.013/001	
Resistance between		
connectors Ω	7.75 - 8.3	

Throttle position (TP) sensor	**B 5204/5254 S B 5234 T**	**B 5252 S**
Volvo P/N	1 336 385-8	
Manuf. P/N Bosch	0 280 122 **001**	
Resistance between connectors		
1 and 3, idle kΩ	0.9 - 1.1	8 - 12
full load kΩ	2.3 - 2.9	20 - 30

Engine coolant temperature (ECT) sensor	**B 5204/5254 S B 5234 T**	
Volvo P/N	35 45 031-1	
Manuf. P/N SWF		
Resistance at:		
0° C (32°F) Ω	7300	
+ 20° C (68°F) Ω	2800	
+ 40° C (104°F) Ω	1200	
+ 80° C (176°F) Ω	300	
+ 100° C (212°F) Ω	150	
Intake air temperature (IAT) sensor	**B 5252 S**	
Volvo P/N	13 89 556-0	
Manuf. P/N Bendix	X 102 152	
Resistance at:		
+ 20° C (68°F) Ω	2500	
Heated oxygen sensor (HO2S), P/N	**Volvo P/N**	**Manuf. P/N**
B 5204/5254 S, –1993	35 31 075-4	0 258 003 **120**
B 5204 S, OBD, 1993–	91 35 664-2	
B 5254 S, OBD, 1993	91 35 664-2	
B 5254 S, OBD without airpump, 1994	91 35 664-2	
B 5254 S, with airpump, 1994	68 42 522-2	0 258 003 **336**
B 5252 S, –1993	35 47 001-2	
B 5252 S, OBD, 1993–	91 35 329-2	
B 5234 T, front	68 42 522-2	0 258 003 **336**
B 5234 T, rear	68 42 619-6	0 258 003 **335**
Heated oxygen sensor (HO2S), data	**B 5204/5254 S B 5252 S**	**B 5234 T**
Resistance of pre-heating resistor:		
cold (+20°C) Ω	3	1.5 - 2.5
hot (above 350° C) Ω	13	6.0 - 10.0
Tightening torque Nm(ft.lb)	55 (41)	56 (41)

Fuel pump	**B 5204/5254 S B 5252 S**	**B 5234 T**
Volvo P/N, –1993	35 01 615	
1993–	91 35 418	91 35 605
Manuf. P/N Bosch	0 580 453 **033**	0 580 453 **037**
Pump capacity at + 20° C,		
and a system pressure at kPa	300	400
13V l/h	103 - 160	> 140
12V l/h	87 - 145	> 120
11V l/h	70 - 128	> 100
Current consumption at + 20° C,		
and a system pressure at kPa	300	400
13V max. A	8.5	
12V max. A	8.4	12.0
11V max. A	8.3	
Fuel filter	**B 5204/5254 S B 5252 S**	
Volvo P/N	35 07 416-0	
Manuf. P/N Bosch	0 450 905 **216**	
Filters particles down to mm	0.002	
Main relay		
Volvo P/N	35 23 740-3	
Manuf. P/N Bosch	V 4495	
Resistance of coil Ω	80	
Relay, fuel pump		
Volvo P/N	13 62 913-4	
Manuf. P/N Stribel	898 149	
Resistance of coil Ω	80	

Group 25 Intake and exhaust systems

Turbocharged (TC) engines

Engine type	B 5234 T
Basic charge pressure (without electronic control), at full load and 20° C, 3000 r/min ..... kPa	35 ± 5
Maximum charge pressure (with electronic control), at full load and 20° C, 5100 r/min ..... kPa	66 ± 7

Tightening torque	Nm	ft. lb
Exhaust manifold - cylinder head	23	17
Exhaust manifold - heat shield	15	11
Exhaust manifold - turbocharger (TC) unit, nuts	25	18
Exhaust manifold - turbocharger (TC) unit, studs	20	15
Exhaust system, pipe to turbocharger (TC) unit	30	22
Exhaust system, flange connection front - rear pipe	25	18
Exhaust system, pipe to manifold	10	7
Intake manifold	17	12

Group 26 Cooling system

General

Use Genuine Volvo green coolant mixed 50/50 with clean water.

This mixture helps prevent corrosion and damage by freezing.

- Never top up with only water. Use Genuine Volvo coolant mixed 50/50 with clean water.

- The coolant does not normally need to be changed. In the case of major repairs requiring the draining of coolant, fresh coolant must be used since the drained coolant will have been subjected to oxidation and may contain other contaminants .
  Note: Used coolant should be disposed of or collected in accordance with prevailing environmental regulations.

- Clean the cooling system when changing the coolant.

Engine type	Approx volume litres	Expansion tank. Pressure valve opens at		Thermostat ˚C (˚F)		
		Pos pressure kPa	Neg pressure kPa	Marking	Starts opening	Fully open
B 5204 S	7.2	150	7	87	87(189)	102(216)
B 5254 S	7.2	150	7	87	87(189)	102(216)
				90	90(194)	105(220)
B 5252 S	7.2	150	7	87	87(189)	102(216)
				90	90(194)	105(220)
B 5234 T	7.0	150	7	87	87(189)	102(216)

Grou p 28 Ignition system

General

Engine type	Type	Ignition setting* btdc	Engine speed rpm
B 5204/B 5254 S	EZ 129 K (DI)	10° ± 2°	800 ± 50
B 5252 S	Fenix 5.2 (SFI/DI)	10° ± 2°	800 ± 50
B 5234 T	Motronic 4.3 (SFI/DI)	6° ± 2°	850 ± 50

*Cannot be adjusted, only checked.

Components

Control module (B 5252 S and B 5234 T, see fuelsystem)

Engine type	Volvo P/N	Bosch P/N
B 5204 S, - 1992	13 35 834-6	0 227 400 **178**
1992	68 45 002-2	**204**
1992	68 42 749-1	**204**
1993	68 42 678-2	**211**
1993 -	91 46 293-7	**211**
B 5254 S, - 1992	13 67 767-9	0 227 400 **205**
1992	68 45 003-0	**205**
1992	68 42 748-3	**205**
1993, USA	35 17 961-3	**206**
1993, USA [1)]	35 17 960-5	**215**
1993	68 42 677-4	**213**
1993	91 46 294-5	**213**
1994	91 46 371-1	**227**
1994, [2)]	91 46 680-5	**222**
1993 -	91 46 295-2	**206**
1993 - [1)]	91 46 296-0	**215**

1) with EL EGR.
2) with AIR pump and EL EGR.

Ignition coil/power stage

Engine type	Volvo P/N	Manuf. P/N	Resistance of coils	
			1 and 15	1 and HT
B 5204 S, - 92	13 67 777-8	0 221 601 **005**	0.5 Ω ± 10%	8.4 kΩ ± 10%
B 5204 S, 93-	35 07 934-2	0 221 601 **452**		
B 5254 S, - 92	13 67 777-8	0 221 601 **005**	0.5 Ω ± 10%	8.4 kΩ ± 10%
B 5254 S, 93-	35 07 934-2	0 221 601 **452**		
B 5252 S, 93-	35 31 839-3	5WK 6500		6 - 7 kΩ
B 5234 T	35 31 300-6	029 700-7260	0.5 - 1.5 Ω	8 - 9 kW
	91 35 689-9		0.5 - 1.5 Ω	8 - 9 kΩ

Spark plugs

Engine type	Volvo kit no.	Designation		Electrode gap	Tightening torque
		Bosch	Champion		
B 5204 S	271 603-3	FR 6 DC	RC 7 YC	0.7 - 0.8	25 Nm(18 ft.lb)
B 5252 S	271 727-0	FR 7 DC	RC 9 YC	0.7 - 0.8	25 Nm(18 ft.lb)
B 5254 S	271 727-0	FR 7 DC	RC 9 YC	0.7 - 0.8	25 Nm(18 ft.lb)
B 5234 T	271 766-8		RC 7 GYC	0.7 - 0.8	25 Nm(18 ft.lb)

Distributor arm (rotor)

Volvo P/N	Bosch P/N	Resistance (Ω)
13 67 783-	1 234 332 **390**	1.1 - 1.3

Ignition cables

Cable type	Volvo P/N	Resistance (kΩ ± 20%)					
			cyl 1	cyl 2	cyl 3	cyl 4	cyl 5
Ignition coil-Distributor Distributor - Spark plugs	13 35 874-2	2.4	3.5	3.0	2.3	1.9	1.3

Knock sensor (KS)

Engine type	Volvo P/N	Manuf. P/N	Tightening torque
B 5204/5254 S	13 67 644-0	0 261 231 **046**	20 Nm(15 ft.lb)
B 5234 T	13 67 644-0	0 261 231 **046**	20 Nm(15 ft.lb)
B 5252 S	35 47 792-6	S 102 964 001	20 Nm(15 ft.lb)

RPM sensor

Engine type	Volvo P/N	VDO P/N	Resistance of coil (Ω)	Inductance of coil (mH)
92	35 07 941-7	K340.804/051/002	240± 25	55 ± 10(10kHz)
93 -	35 47 699-3	S102 460 001	300± 40	70 ± 10(10kHz)

Camshaft position (CMP) sensor

Volvo P/N	Bosch P/N
13 83 966-7	0 232 101 **009**

Relay, electric cooling fan (FC)

Volvo P/N	Resistance of coil (Ω)
13 98 845-6	8

Relay, A/C

Volvo P/N	
35 45 619-3	