

Section 2 B200/230 Engines

Group 20 General

Performance, compression, octane requirements

Engine variant	Comp. ratio	Rec. octane RON	Power		Max. torque	
			kW at r/s	hp at rpm	Nm at r/s	kpm (ft.lbs) at rpm
B 200 K ⁵⁾	10.0:1	98 ¹⁾	74/90	101/5400	160/48	16.3/2900
B 200 K ⁶⁾	8.5:1	91 - 93 ¹⁾	72/90	98/5400	160/45	16.3/2700
B 200 E	10.0:1	95 ¹⁾	85/97	116/5800	155/55	15.8/3300
B 200 F	10.0:1	95 ²⁾	82/95	111/5700	158/47	16.1/2800
B 230 A ⁵⁾	10.3:1	98 ¹⁾	81/83	110/5000	187/42	19.1/2500
B 230 A ⁶⁾	9.0:1	93 ¹⁾	78/83	106/5400	179/42	18.2/2500
B 230 K	10.5:1	95 ¹⁾	85/85	116/5100		
B 230 E ³⁾	9.5:1	95 ²⁾	92/87	125/5200	185/53	18.9/3200
B 230 F	9.8:1	95 ²⁾	85/90	116/5400	185/45	18.9/2700
(Bosch 2.4)				(114/5400)		(136/2700)
B 230 F	9.8:1	95 ²⁾	85/90	116/5400	185/45	18.9/2700
(Bosch 3.1)				(114/5400)		(136/2700)
B 230 FD	10.0:1	95 ²⁾	85/90	116/5400	183/42	18.7/2500
B 230 FX	9.3:1	95 ²⁾	100/92	136/5500	185/48	18.9/2900

¹⁾ Unleaded fuel can be used.

⁴⁾ From 1990. Earlier 98 octane.

²⁾ Unleaded fuel **must** be used.

⁵⁾ Europe

Can be run on 91 octane unleaded.

⁶⁾ Overseas

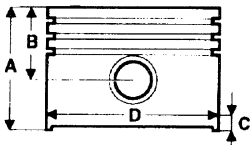
³⁾ Up to and including 1988: 10.3

Other general data	B 200	B 230
No. of cylinders.....	4	4
Cylinder bore..... mm	88.9	96.0
Stroke..... mm	80	80
Displacement..... dm ³ (litres)	1.99	2.32
Firing order.....	1-3-4-2	1-3-4-2
Compression..... MPa	0.9	0.9
Max. deviation between cylinders..... MPa	0.2	0.2
Weight..... kg	140-150	140-150

Group 21 Engine block

Cylinder head	B 200/230	
Height, new..... mm	146.1	
min. after machining..... mm	145.6	
Max. warp		
along..... mm	0.50	
across..... mm	0.25	
Cylinder head gasket thickness,		
unloaded..... mm	1.3	
loaded..... mm	1.2	

Cylinder block	B 200	B 230
Cylinder bore (D)		
Standard (C-marked)..... mm	88.90 - 88.91	96.00 - 96.01
(D-marked)..... mm	88.91 - 88.92	96.01 - 96.02
(E-marked)..... mm	88.92 - 88.93	96.02 - 96.03
(G-marked)..... mm	88.94 - 88.95	96.04 - 96.05
Oversize 1..... mm	89.29 - 89.30	96.30 - 96.31
2..... mm	89.67 - 89.68	96.60 - 96.61



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Engine type	Measurements in mm		
	A	B	C
B 200 K ¹⁾	67.7	37.7	13.4
B 200 K ²⁾	69.9	41.9	13.4
B 200 E/F	69.9	41.9	13.4
B 230 A/E/F	64.7	39.7	7.0
B 230 K	64.7	39.7	13.5

¹⁾ Europe

²⁾ Overseas

Pistons	B 200	B 230
Cylinder bore (D) (measured at right angles to gudgeon (piston) pin hole, distance C from lower edge)		
• Standard (C-marked)..... mm	88.88 - 88.89	95.98 - 95.99
(D-marked) mm	88.89 - 88.90	95.99 - 96.00
(E-marked) mm	88.90 - 88.91	96.00 - 96.01
(G-marked) mm	88.92 - 88.93	96.02 - 96.03
• Oversize 1 mm	89.27 - 89.28	96.28 - 96.29
2 mm	89.65 - 89.66	96.58 - 96.59
Piston clearance, new piston, B 200 1985... mm	0.003 - 0.027	0.003 - 0.027
others mm	0.010 - 0.030	0.010 - 0.030
used piston, max. mm	0.08	0.08
Piston weight		
• Max. weight diff. between pistons in same engine g	16	16
Piston rings, width		
• upper comp. ring mm	1.728 - 1.740	1.728 - 1.740
• lower comp. ring mm	1.728 - 1.740	1.728 - 1.740
• oil scraper ring mm	3.475 - 3.490	3.475 - 3.490
Piston rings, axial play (measured with ring on piston)		
• upper comp. ring mm	0.060 - 0.092	0.060 - 0.092
• lower comp. ring mm	0.030 - 0.062	0.040 - 0.072
• oil scraper ring mm	0.020 - 0.055	0.030 - 0.065
Piston rings, gap (measured in cylinder)		
• upper comp. ring mm	0.30 - 0.50	0.30 - 0.55
• lower comp. ring mm	0.30 - 0.50	0.30 - 0.55
• oil scraper ring mm	0.25 - 0.50	0.30 - 0.60
Gudgeon (piston) pin		
• Diameter, standard mm	23.00 $\begin{smallmatrix} +0 \\ -0.004 \end{smallmatrix}$	23.00 $\begin{smallmatrix} +0 \\ -0.004 \end{smallmatrix}$
oversize mm	23.05 $\begin{smallmatrix} +0 \\ -0.004 \end{smallmatrix}$	23.05 $\begin{smallmatrix} +0 \\ -0.004 \end{smallmatrix}$
• Length mm	60.00	65.00
• fit in connecting rod.....	Light thumb pressure (close running fit)	
• fit in piston	Thumb pressure (push fit)	

Valve system		
Valve clearance, check (adjustment)		B 200/230
• cold engine	mm	0.30 - 0.40(0.40)
• hot engine	mm	0.35 - 0.45(0.45)
Tappets		B 200/230
• diameter (A)	mm	36.975 - 36.995
• height (B)	mm	30 - 31
• clearance/ play tappets - cylinder head	mm	0.030 - 0.075
(Measurement points, see illustration in Service Manual)		

Valve springs					
B 200 K/E, B 230 A/E, B 230 K -1986			B 200/230 F, B 230 K 1987-		
\varnothing mm	Length mm	Load N (kp)	\varnothing mm	Length mm	Load. N (kp)
32.5	45.0	0	25.9	45.5	0
	38.0	280-320 (28-32)		38.0	280-320 (28-32)
	27.0	710-790 (71-79)		27.5	702-782 (0-78)

Valve guides	Intake valve	Exhaust valve
Length	mm 52.0	52.0
Inner diameter	mm 8.000 - 8.022	8.000 - 8.022
Press-in height, 200/230	mm 15.4 - 15.6	17.9 - 18.1
Clearance, valve stem-guide (measured with new valve)		
new, B 200/230	mm 0.03 - 0.06	0.06 - 0.09
max.	mm 0.15	0.15

Valve guides available in three oversizes indicated by grooves.	Size	Marking	Reamer
	Standard	No groove	—
	O/s 1	1 groove	999 5161
	O/s 2	2 grooves	999 5162
	O/s 3	3 grooves	999 5163

Valve seats	B 200/230	
	Intake	Exhaust
<ul style="list-style-type: none"> • diameter, standard mm oversize 1 mm oversize 2 mm • matching surface width mm • matching surface angle ° • reduction angle, <ul style="list-style-type: none"> upper ° lower ° • seat position in cylinder head <ul style="list-style-type: none"> diameter, standard mm oversize 1 mm oversize 2 mm interference mm 	46.00 46.25 46.50 1.3 - 1.9 45 15 70 45.83 46.08 46.33 0.17	38.00 38.25 39.50 1.7 - 2.3 45 15 70 37.83 38.08 38.33 0.17
Valves (stellite coating, must not be machine ground)		
<ul style="list-style-type: none"> • diameter, disc mm stem, new mm min. mm • matching surface angle ° 	44.00 7.955 - 7.970 7.935 44.5	35.00 7.945 - 7.960 7.925 44.5

Timing gears						
Engine type	Camshaft			Check camshaft setting (cold engine)		
	marking	max. lift height mm		Valve clearance at check mm	Valves to open at	
		inlet	exhaust		inlet	exhaust
B 200 K	Y	10.35		0.7	8° *	
	L	9.8		0.7	5° *	
B 200 E	V	11.37		0.7	11° *	
B 200 F	M	9.5	10.5	0.7	6° **	44° ***
B 230 A	A	10.5		0.7	13° *	
B 230 K	T	9.9		0.7	4° *	
B 230 E	A	10.5		0.7	13° *	
	V	11.37		0.7	11° *	
B 230 F/FD	M	9.5	10.5	0.7	6° **	44° ***
B 230 FX	VX3	11.37	10.65	0.7	7.7° *	50.1° ***

* before top dead centre. ** after top dead centre. *** before bottom dead centre.

Camshaft

Diameter, pivot pins	mm	29.95 - 29.97
bearings	mm	30.00 - 30.02
Radial play, new	mm	0.030 - 0.071
max.	mm	0.15
Axial play, B 200/230	mm	0.1 - 0.4

Timing gears

No. of teeth, crankshaft gear	19
countershaft gear	38
camshaft gear	38
No. of teeth on timing belt	123

Countershaft

Diameter, pivot pin, front	mm	46.975 - 47.000
intermediate	mm	43.025 - 43.050
rear	mm	42.925 - 42.950
Radial play	mm	0.020 - 0.075
Axial play	mm	0.20 - 0.46

Crank assembly

	1985-1987	1988-1993
Crankshaft		
Out-of-true, deviation, max. mm	0.025	0.025
Crankshaft, axial clearance, max. mm	0.080 - 0.270	0.080 - 0.270
Main bearing, radial clearance mm	0.024 - 0.072	0.024 - 0.061
Connecting rod bearing, radial play mm	0.023 - 0.067	0.023 - 0.067
Main bearing journals		
Diameter, standard mm	55.00	63.00
undersize 1 mm	54.75	62.75
undersize 2 mm	54.50	62.50
Out-of-roundness, max. mm	0.006	0.006
Taper, max. mm	0.006	0.006
Axial bearing width mm	35.40 $\begin{smallmatrix} +0 \\ -0.17 \end{smallmatrix}$	35.40 $\begin{smallmatrix} +0 \\ -0.17 \end{smallmatrix}$
Connecting rod bearing journals	1985-1993	
Diameter, standard mm	49.00	
undersize 1 mm	48.75	
undersize 2 mm	48.50	
Out-of-roundness, max. mm	0.01	
Taper, max. mm	0.01	
Connecting rod		
Play at piston mm	0.15 - 0.45	
Max. weight diff. between connecting rods in same engine g	20	
Flywheel		
Axial runout, max. per 100 mm diameter mm	0.02	
Carrier plate (automatic)		
Axial runout, max. mm	0.4	

Tightening torques

Applies to greased nuts and bolts.

Nm

Cylinder head (stage 1)	20
(stage 2)	60
(stage 3)	angle tighten 90°

Tighten bolts in sequence from the middle and out.

Main bearing cap	110
Connecting rod cap (stage 1)	20
(stage 2)	angle tighten 90°
Camshaft cap	20
Camshaft pulley	50
Camshaft idler pulley	50
Crankshaft, centre bolt	
(vibration damper, pulley), stage 1	60
stage 2	angle tighten 60°
Flywheel/carrier plate	
(use new bolts)	70
Spark plugs	20-30

Group 22 Lubrication system

General

Oil capacity and quality, see page 16

Oil pressure with warm engine and new oil filter:

engine speed r/s(rpm)	oil pressure MPa
15 (900)	0.10
33 (2000)	0.25
50 (3000)	0.30
max.	0.80

Oil pump	B 200/230	
Axial play mm	0.02 - 0.12	
Radial play (excl. bearing play) mm	0.02 - 0.09	
Gear flank play (excl. bearing play) mm	0.15 - 0.35	
Bearing play, drive spindle.....mm	0.032 - 0.070	
trailing spindle.....mm	0.014 - 0.043	
	B 200/230	B 200/230
Length, reduction valve spring at different loadsmm/N	39.20 / 0 26.25 / 46 - 54 21.00 / 62 - 78	47.6 / 0 32.0 / 40 - 48 26.0 / 56 - 67

Group 23 Fuel system

CO-content, idle speed				
Engine variant	CO-content %		Idle speed r/s (rpm)	
	Adjustment	Check	Manual	Automatic
B 200 K	1.5	1.0 - 2.5	15.0 (900)	
B 200 E	1.0	0.5 - 2.0	15.0 (900)	
B 200 F	*	0.4 - 0.8 ¹⁾	12.9 (775)	
B 230 A	2.0 ²⁾	1.5 - 3.0	15.0 (900)	
B 230 K	1.0	0.5 - 1.5	13.3 (800)	15.0 (900)
B 230 E	1.0 ²⁾	0.5 - 2.0	15.0 (900)	
-1988				
B 230 F, LH 2.2	0.6	0.4 - 0.8 ¹⁾	12.5 (750)	
1989-				
B 230 F, LH 2.4	*	0.4 - 0.8 ¹⁾	12.9 (775)	
B 230 F, LH 3.1	*	0.4 - 0.8 ¹⁾	12.9 (775)	
B 230 FD	*	0.4 - 0.8 ¹⁾	12.9 (775)	
B 230 FX	*	0.4 - 0.8 ¹⁾	12.9 (775)	

* Cannot be adjusted

¹⁾ Heated oxygen sensor (HO2S) disconnected. Measured upstream of three-way catalytic converter (TWC).

²⁾ Pulsed Secondary Air Injection (PAIR) system disconnected and plugged if fitted.

Fuel system, carburettor engines

Fuel pump					
Fuel pressure measured at the same height as the pump at 16.6 r/s (1000 rpm)	kPa	15 - 27			
Carburettor, Pierburg (DVG) 175 CDUS (B 230 A)					
Metering needle		DC			
Needle valve, size	mm	2.5			
Float level at approx 10° inclination	mm	7 - 9			
Clearance, damping piston mm		0.5 - 1.5			
Dashpot oil level (under edge)	mm				
Fast idle at					
Choke control out 25 mm.....	r/s (rpm)	20.8 - 22.5 (1250-1350)			
Carburettor, Solex-Cisac	variant*	1	2	3	4
Main jet, stage 1		150	135	115	142
stage 2		142	120	120	125
Air correction jet, stage 1		160	130	130	130
stage 2.....		135	145	135	160
Idling fuel jet.....		43	41	41	46
Idling air jet (constant CO).....		35	30	30	
Part load enrichment jet		80	60	50	60
Float level	mm	33.8	33.8	33.8	33.8
Fast idle (choke fully in)					
clearance between the cam and adjuster screw	mm	1.6	1.5	1.0	
Vacuum servo setting:					
- Choke fully out.					
- Vacuum servo pushrod pressed right in to furthest position.					
Choke throttle opening adjust to	mm	3.1	2.7	2.7	

* Variant 1: B 200 K Europe, early type.

(except the Nordic Countries, Switzerland)

2: B 200 K Overseas

3: B 200 K Nordic Countries, Switzerland, Europe later type.

4: B 230 K, 1987

Fuel system, Continuous fuel injection (CFI) engines

System pressure	kPa	450 - 530
Shut-off pressure	kPa	150 - 240
Control pressure, hot engine	kPa	345 - 375

PRESSURE REGULATOR		
Bosch P/N	0 438 140 004	
Volvo P/N	463 971-2	
Resistance	Ω	20 - 30
ACCUMULATOR		
Bosch P/N	0 438 170 001	
Volvo P/N	462 547-1	
INJECTORS		
Bosch P/N	0 437 502 015	
Volvo P/N	12 76 037-7	
Opening pressure	kPa	350 - 410
No leakage permitted below	kPa	290
START INJECTOR		
Bosch P/N	0 280 170 413	0 280 170 445
Volvo P/N	12 76 498-1	35 17 065-3
Injection capacity	cm ³ /min	85
Auxiliary air valve		
	I	II
Bosch P/N	0 280 140 106	0 280 140 114
Volvo P/N	13 46 476-3	13 46 477-1
Resistance	W	40 - 60
Fully open at	$^{\circ}\text{C}$	- 30
Fully closed at	$^{\circ}\text{C}$	+ 70
FUEL FILTER		
P/N	FB 821/4	
Volvo P/N	13 89 562-8	

FUEL PUMP	I	II
Bosch P/N	0 580 254 948	0 580 254 934
Volvo P/N	13 36 677-8	13 89 447-2
Pump capacity at 500 kPa system pressure, + 20° C and 12 V	l/h (l/min)	l/h (l/min)
+ 20° C and 12 V	145 (1.2)	145 (1.2)
11 V	125 (1.0)	125 (1.0)
10 V	105 (0.9)	105 (0.9)
Current consumption at 500 kPa system pressure, + 20° C and 12 V	A	A
	9.5	9.5
PREPUMP		
Manufacturers P/N.....	93151651	
Volvo P/N	13 89 721-0	
Current consumption.....	A	
	1 - 4	
MASS AIR FLOW (MAF) SENSOR		
Bosch P/N	0 438 040 113	0 438 040 118
Volvo P/N	13 57 446-2	13 57 591-5
Sensor plate rest position (measured at max. control pressure)	mm	mm
	0.3	0.3

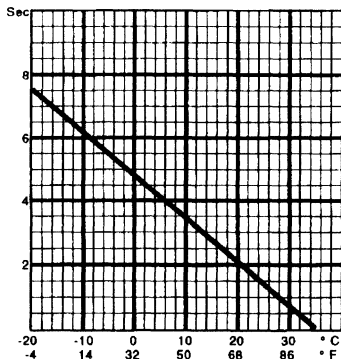
Thermal time sensor

Cut off temperature and connection time at -20 ° C is stamped on the thermo time sensor hexagon.

Engagement time at different temperatures, see diagram.

Volvo P/N 12 19 731-5

Manuf. P/N 232036/005/01



Components LH 2.2, LH 2.4, LH 3.1

CONTROL MODULES

Engine variant	Type	Volvo P/N	Bosch P/N
B 200 F 89-90	LH 2.4	35 31 206-5	0 280 000 590
	91	35 31 831-0	594
	-92	35 47 779-3	936
	92-	68 42 289-8	949
B 230 F 85-86	LH 2.2	13 36 801-4	0 280 000 511
	86-87	13 89 094-2	544
	88	35 17 011-7	554
	89-92 ¹⁾	35 01 687-2	556
	89-92 ²⁾	35 17 407-7	561
	90-92	35 17 885-4	572
	91-	35 01 687-2	556
	93	68 42 115-5	951
	93	91 46 223-4	946
	B 230 FD 93-	LH 2.4	35 07 179-4
B 230 FX 93-	LH 2.4	68 42 115-5	0 280 000 951
	LH 2.4	91 46 223-4	946

1) with EGR, EL

2) without EGR

MASS AIR FLOW (MAF) SENSOR	LH 2.2	LH 2.4	LH 3.1
Bosch P/N	0 280 212 007	0 280 212 016	0 280 217 001
Volvo P/N	13 46 645-3	35 17 020-8	35 17 881-3
Resistance between			
connectors 2 and 3	Ω 3.5 - 4.0	2.5 - 4.0	
connectors 2 and 6	Ω 0 - 1000		

PRESSURE REGULATOR	1985-1987	1988	1989-
Bosch P/N	0 280 160 214	0 280 160 292	0 280 160 294
Volvo P/N	13 06 935-6	35 17 063-8	35 17 064-6
System pressure..... kPa	250	250	300
Shut-off pressure..... kPa	150 - 250	150 - 250	200 - 300
INJECTORS	1985-1986	1987-1988	1989-
Bosch P/N	0 280 150 209	0 280 150 734	0 280 150 762
Volvo P/N	13 26 427-0	13 89 844-0	35 17 572-8
Injection capacity..... cm ³ /min at system pressure..... kPa	167 250	167 250	185 300
START INJECTOR	B 200 -1990 B 230	B 200 1991-	
Bosch P/N	0 280 170 446	0 280 170 455	
Volvo P/N	35 17 130-5	35 31 228-9	
Injection capacity..... cm ³ /min	160	123	
IDLE AIR CONTROL VALVE (IAC)..... type	I 1985-1987	I 1988	II 1989-
Bosch P/N	0 280 140 501	0 280 140 520	0 280 140 516
Volvo P/N	13 17 957-7	35 17 067-9	13 89 618-8
Resistance (type I: between connectors 3 and 4 and between connectors 4 and 5) (type II: between connections 1 and 2) approx. Ω	20	20	8

THROTTLE POSITION (TP) SWITCH	1985-1988	1989-	
Bosch P/N	0 280 120 301	0 280 120 325	
Volvo P/N	13 06 938-0	35 17 068-7	
THROTTLE POSITION (TP) SENSOR			
Bosch P/N	0 280 122 001		
Volvo P/N	13 36 385-8		
ENGINE COOLANT TEMPERATURE SENSOR, (ECT)			
Bosch P/N	0 280 130 026	0 280 130 032	
Volvo P/N	13 32 396-9	13 46 030-8	
Resistance at:			
- 10° C	Ω 8 260 - 10 560	8 260 - 10 560	
+ 20° C	Ω 2 280 - 2 720	2 280 - 2 720	
+ 80° C	Ω 290 - 364	290 - 364	
HEATED OXYGEN SENSOR (HO2S)	1985	1986-1988	1989-
Bosch P/N	0 258 003 006	0 258 003 009	0 258 003 034
Volvo P/N	13 46 738-6	13 46 962-2	35 01 753-2
Resistance in preheating resistor:			
cold HO2S (+ 20° C).....	Ω 2 - 3	2 - 3	2 - 3
hot HO2S (over 350° C).....	Ω 7 - 14	7 - 14	7 - 14
Tightening torque	Nm(ft.lbs) 55 (40)	55 (40)	55 (40)

FUEL PUMP	1985-1986	1986-	
Bosch P/N	0 580 464 025	0 580 464 039	
Volvo P/N	13 06 932-3	13 89 449-8	
Pump capacity at system pressure 300 kPa and +20°C			
12V l/h	130	130	
11V l/h	108	108	
10V l/h	86	86	
Current consumption at system pressure 300 kPa, +20° C, 12V:			
maximum A	6.5	6.5	
PREPUMP	1985	1986-1991	1991-
Volvo P/N	13 17 671-4	13 89 721-0	35 07 436-8
Current consumption A	1 - 2	3 - 4	3 - 4
FUEL FILTER	-1991	1992-	
Bosch P/N	0 450 905 601	0 450 905 200	
Volvo P/N	13 89 450-6	68 42 033-	
Filters particles down to mm	0.004	0.002	
Tightening torque, (12) Nm(ft.lbs.)	30-35	20-35 (15-26)	
(14) Nm(ft.lbs.)	40-45		
RELAY, FUEL INJECTION			
Volvo P/N (B 200/230 E)	35 23 639-7		
Volvo P/N (B 200/230 F)	35 23 608-2		

Group 26 Cooling system

General

Use Genuine Volvo green coolant, type C, diluted 50/50 with clean water.

This mixture helps prevent corrosion and damage by freezing.

- Never top up with only water. Use Genuine Volvo coolant diluted 50/50 with clean water.
- The coolant does not normally need to be changed. In the case of major repairs requiring the draining of the coolant, fresh coolant must be used since the drained coolant will have been subjected to oxidation and will contain dirt particles.
- Flush the cooling system when changing the coolant.
Use flushing agent P/N 11 61 328-8.

Engine type	Approx. volume litres	Expansion tank. Pressure valve opens at		Thermostat* °C (°F)			
		Pos. pressure kPa	Neg. pressure kPa	Type	Marking	Starts opening	Fully open
		B 200/230	9.5	65 - 85	7	1 2	87 92

Fan belts	
Without A/C:	
crankshaft - generator - water pump	HC 38 cog x 918
crankshaft - power steering	HC 38 cog x 938
With A/C:	
crankshaft - generator - water pump	HC 38 cog x 918
crankshaft - A/C compressor	HC 50 cog x 975
A/C compressor - power steering	HC 38 cog x 850

Group 28 Distributor ignition (DI) system

General

Engine type	Ignition system	Ignition setting		Spark plugs		
		° bt/dc	Engine speed r/s (rpm)	Desig.	P/N	Kit no.
B 200 K ¹⁾	TZ 28 H	7	12.5 ± 0.8 (750 ± 50)	W7DC ³⁾	13 06 605-5	273 597-5
B 200 K ²⁾	TZ 28 H	10	12.5 ± 0.8 (750 ± 50)	W7DC ³⁾	13 06 605-5	273 597-5
B 200 E	TZ 28 H	5	12.5 ± 0.8 (750 ± 50)	W6DC ⁴⁾	13 06 604-8	273 596-7
B 200 F	EZ 116 K	12	12.9 ± 0.8 (775 ± 50)	WR7DC	13 67 529-3	270 747-9
B 230 A ¹⁾	TZ 28 H	7	12.5 ± 0.8 (750 ± 50)	W7DC	13 06 605-5	273 597-5
B 230 A ²⁾	TZ 28 H	5	12.5 ± 0.8 (750 ± 50)	W7DC	13 06 605-5	273 597-5
B 230 K	Rex	12	12.5 ± 0.8 (750 ± 50)	WR6DC	13 67 529-3	270 747-9
B 230 E	TZ 28 H	10	12.5 ± 0.8 (750 ± 50)	W6DC ⁴⁾	13 06 604-8	273 596-7
B 230 F	Chrysler	12	12.5 ± 0.8 (750 ± 50)	WR7DC		271 409-5
B 230 F	EZ 116 K	12	12.9 ± 0.8 (775 ± 50)	WR7DC	13 67 528-5	270 746-1
B 230 FD	EZ 116 K	12	12.9 ± 0.8 (775 ± 50)	WR7DC	13 67 528-5	270 746-1
B 230 FX	EZ 116 K	12	12.9 ± 0.8 (775 ± 50)	WR7DC	13 67 528-5	270 746-1

1) Europe

2) Overseas

3) B 200 K 1988-, must use WR7DC

4) B 200/230 E 1988-, must use WR6DC

Components

CONTROL MODULES

Engine variant	Volvo P/N	Manufacturer. P/N
B 200 F , 1990-	35 31 830-2	0 227 400 176
B 230 F , Chrysler, -1987	13 46 107-4	
B 230 F , Chrysler, 1988	13 57 308-4	
B 230 F , Chrysler, 1988	35 17 641-1	
B 230 F , (EGR,EL) 1989-1990	35 01 688-0	0 227 400 140
B 230 F , 1989-1990	35 17 402-8	0 227 400 146
B 230 F , 1990-	35 31 325-3	0 227 400 169
B 230 F , (EGR,EL) 1991-1992	35 17 855-7	0 227 400 162
B 230 F , (EGR,EL) 1992-	68 42 495-1	0 227 400 209
B 230 FD	35 07 348-5	0 227 400 196
B 230 FX		
B 230 K , Renix	13 67 058-3	S 101 044 001
B 230 K , Renix ¹⁾	35 01 522-1	S 101 044 002

1) Sweden, manual transmission

Power amplifier

Engine (model year)	Volvo P/N	Bosch P/N
B 200/230 E , B 200 K	35 01 922-3	0 227 100 120
B 230 F -1987	13 17 809-0	0 227 100 118
B 230 F 1988-, B 200 F	35 01 921-5	0 227 100 145

Distributor

Engine variant	Volvo P/N	Bosch P/N
B 200 K, 1985-1989	13 36 690-1	0 237 024 013
B 200 E, 1985-1992	13 46 919-2	0 237 024 015
B 200 F, 1989-1993	13 67 468-4	0 237 523 003
B 230 A, 1985-1987 ¹⁾	13 36 690-1	0 237 024 013
B 230 A, 1985-1987 ²⁾	13 46 919-2	0 237 024 015
B 230 K, 1987-1990	13 67 468-4	0 237 523 003
B 230 E, 1985-1992	13 46 919-2	0 237 024 015
B 230 F, 1985-1986	13 32 587-3	0 237 506 001
1986-1988	13 67 382-7	0 237 520 004
1989-1993	13 67 468-4	0 237 523 003
B 230 FD/FX	13 67 468-4	0 237 523 003

Ignition coil

Engine variant	Volvo P/N	Manufacturer P/N	Resistance of coils	
			primary (1 and 15)	secondary (1 and high)
B 200, B 230	13 17 810-8	0 221 122 364	0.6 - 0.8 Ω	6.9 - 8.5 k Ω
B 230 F, -1988	13 36 137-3	0 221 122 345	1.1 - 1.3 Ω	9.6 - 11.6 k Ω
B 230 K, Rex	13 67 438-7	S 102 020 004 B	0.35 - 0.65 Ω	4.0 - 6.0 k Ω

Knock sensor (KS)

System	Volvo P/N	Bosch P/N	Tightening torque
Chrysler,.....	13 17 296-0	63653-005	
EZ-K, 1988-1993.....	13 67 644-0	0 261 231 006	20 Nm (15 ft lb)

RPM and CMP sensor

Engine type (model year)	Volvo P/N	Manufacturers P/N	Resistance in spool (Ω)	Inductance in spool (mH)
B 230 K , 87	13 89 357-3	S 101 001 03		
B 230 K , 88-90	35 47 847-8	14.64.040.0000	170 \pm 30	42 \pm 15 (10kHz)
B 230 F 1989-1991	13 89 399-5	14.64.039.0004	240 \pm 25	55 \pm 10 (10kHz)
1991-.....	35 47 847-8	14.64.040.0000	170 \pm 30	42 \pm 15 (10kHz)