



CARS

Part 0 (03)
SPECIFICATIONS
P 120
Station Wagon

SERVICE MANUAL



VOLVO
101 059

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GENERAL

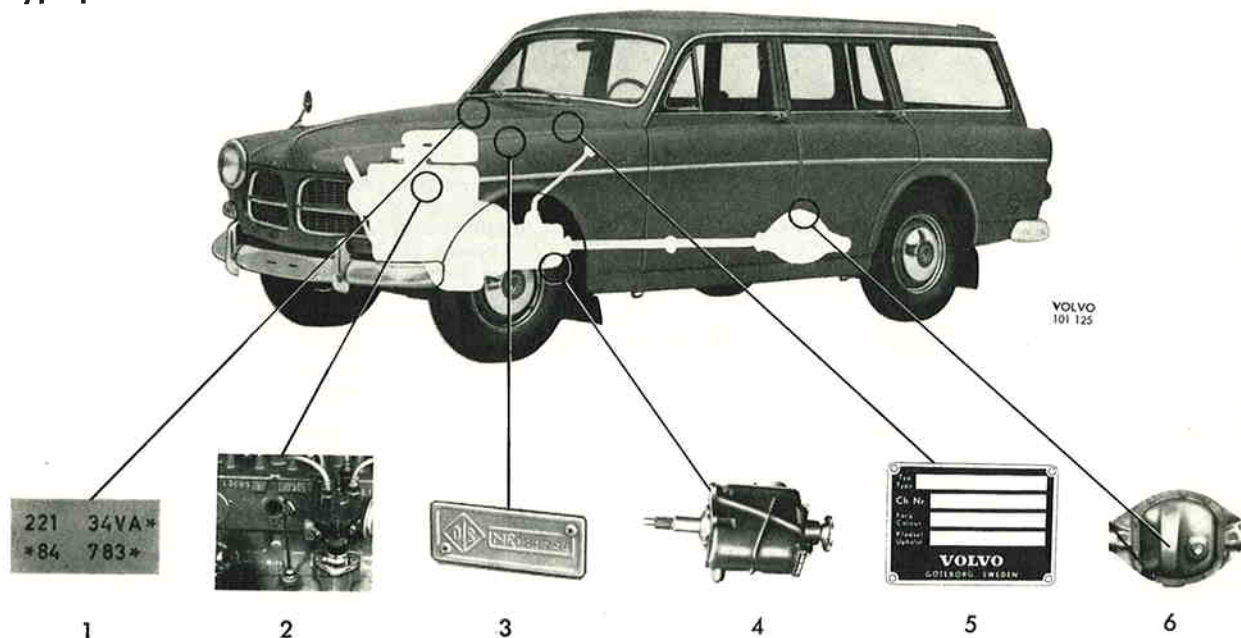
TYPE DESIGNATIONS

These specifications concern the Volvo 120 Station Wagon with the type designations and main data shown below.

Type designation	Model	With effect from	Chassis number	Engine	Gearbox	Rear axle
P 22134	VA/HA	Feb 1962	1— 1399	B 18 A	M 40	4.55:1
P 22244*)				B 18 D	M 40	4.55:1
P 22134	VB/HB	Aug 1962	1400— 8274	B 18 A	M 40	4.55:1
P 22244*)				B 18 D	M 40	4.55:1
P 22134	VD/HD	Aug 1963	8275—17949	B 18 A	M 40	4.55:1
P 22244*)				B 18 D	M 40	4.55:1
P 22134	VE/HE	Aug 1964	17950—	B 18 A	M 40	4.55:1
P 22244*)				B 18 D	M 40	4.55:1

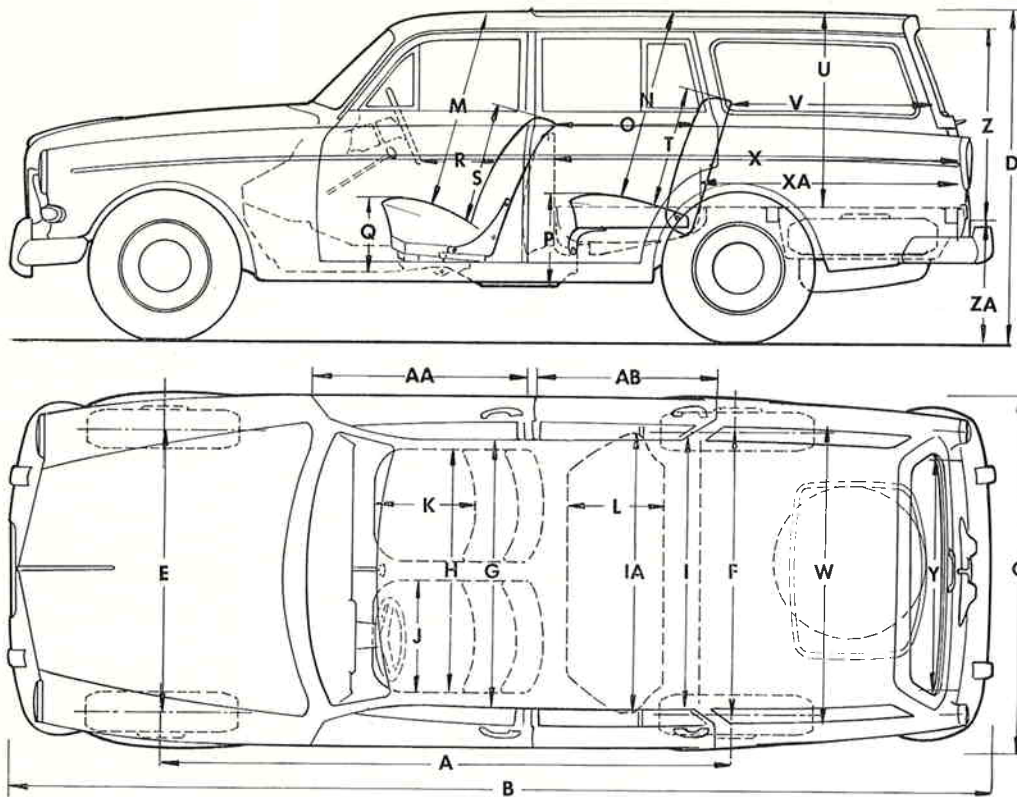
*) United States market only.

Type plates



1. The chassis number is stamped on the bulkhead.
2. Engine type designation, serial and part numbers.
3. Body number.
4. Gearbox type designation, serial and part numbers.
5. Vehicle type designation, chassis number, colour and upholstery codes.
6. Rear axle. Number of teeth and ratio on plate attached to lower part of inspection cover.

GENERAL DATA



VOLVO
26890

Dimensions:

	* mm	* in.	** mm	** in.		* mm	* in.	** mm	** in.
A Wheelbase	2600	102.36			P Height of rear seat cushion above floor	370	14.57	400	15.75
B Overall length	4490	176.77			Q Height of rear seat cushion above floor	330	12.99	340	13.39
C Overall width	1620	63.78			R Space between steering wheel and squab	350	13.78	390	15.35
D Overall height	1530	60.24			S Height of front squab	540	21.26		
E Track, front	1315	51.78			T Height of rear squab	550	21.65	580	22.83
F Track, rear	1315	51.78			U Height, floor-roof of luggage space	865	34.06		
G Front seat width at shoulder height	1280	50.39	1340	52.75	V Distance between rear squab and rear door	970	38.19	900	35.43
H Width over front seat, hip height	1340	52.75	1290	50.79	W Width, luggage space	1260	49.61		
I Rear seat width at shoulder height	1250	49.21	1330	52.36	X Length, luggage space (rear seat folded down)	1830	72.05		
IA Rear seat width, hip height	1330	52.36	1240	48.81	XA Length, luggage space (rear seat in raised position)	1185	46.65		
J Width of front seat	530	20.87			Y Width of rear door	1055	41.54		
K Length (depth), front seat	470	18.50	500	19.69	Z Height of rear door	780	30.71		
L Length (depth), rear seat	460	11.11	480	18.90	ZA Loading height	620	24.41		
M Roof height, front seat, 15 cm (6") in front of squab	980	38.58	950	37.40	AA Door width, front	935	36.81		
N Roof height, rear seat, 15 cm (6") in front of squab	910	35.83	950	37.40	AB Door width, rear	840	33.07		
O Distance between front seat squab and rear seat cushion	600	23.62	700	27.56					
					The front seats can be fully adjusted lengthwise	150	5.91	225	8.86

Turning circle:

Outermost edge of vehicle 11200 mm (37 ft. 4 in.)
Kerb to kerb 10600 mm (35 ft.)

Type designation	Kerb weight		Dry weight		Axle pressure (with kerb weight)			
	kg	lb.	kg	lb.	Front		Rear	
VA/HA	1260	2777	1140	2513	592	1305	668	1472
VB/HB	1260	2777	1140	2513	592	1305	668	1472
VD/HD	1270	2799	1146	2526	597	1316	673	1483
VE/HE	1270	2799	1146	2526	597	1316	673	1483

* Up to chassis number 17949.
** W.e.f. chassis number 17950.

LUBRICATION

ENGINE

Oil capacity, with oil filter	3.75 litres (3 1/2 Imp. qts. = 4 US qts.)
without oil filter	3.25 litres (3 1/4 Imp. qts. = 3 1/2 US qts.)
Oil pressure at 2000 r.p.m. (with warm engine and new oil)	3.5—6.0 kg/cm ² (50—85 lb/sq.in.)
Lubricant	Engine oil for Service MS
viscosity, all the year round	Multigrade oil SAE 10W—30
viscosity, below 0° C (32° F)	SAE 10W
between 0 and 30° C (32 and 90° F)	SAE 20
above 30° C (90° F)	SAE 30
Oil for carburettor damping cylinders	SAE 20 engine oil (multigrade oil may not be used)

GEARBOX

Lubricant, type	Gear oil
viscosity, below 0° C (32° F)	SAE 80
above 0° C (32° F)	SAE 90
Oil capacity	0.75 litres (1 1/4 Imp. pints = 1 1/2 US pints)

DIFFERENTIAL

Lubricant, type	Hypoid oil
viscosity, below 0° C (32° F)	SAE 80
above 0° C (32° F)	SAE 90
Oil capacity	1.3 litres (2 3/8 Imp. pints = 2 3/4 US pints)

STEERING BOX

Lubricant, type	Hypoid oil
viscosity, below 0° C (32° F)	SAE 80
above 0° C (32° F)	SAE 90
Oil capacity	0.25 litres (3/8 Imp. pint = 1/2 US pint)

ENGINE

GENERAL

	B 18 A	B 18 D
Type designation	(496801 and 496814)*	(496802-815-816-817)
Output, h.p. at r.p.m. (SAE)	75/4500	90/5000
(DIN)	68/4500	80/5000
Max torque, kgm (lb.ft.) at r.p.m. (SAE)	14.0 (103)/2800	14.5(105)/3500
(DIN)	13.5(98)/2600	14.0(103)/3000
Compression pressure (warm engine) when turned over with starter motor, 250—300 r.p.m. kg/cm ²	11—13	
lb./sq.in.	156.4—185.0	
Compression ratio	8.5:1	
Number of cylinders	4	
Bore	84.14 mm (3.313")	
Stroke	80 mm (3.150")	
Displacement	1.78 litres	
Weight, including electrical equipment and carburetters..	approx. 155 kg (342 lb.)	

* Refers to the engine model number, and is stamped on the right-hand side of the engine.

CYLINDER BLOCK

Material	
Bore, nominal standard	
0.020" oversize	
0.030" oversize	
0.040" oversize	
0.050" oversize	

B 18 A

B 18 D

Special-alloy castiron
84.14 mm (3.313")
84.65 mm (3.333")
84.90 mm (3.343")
85.16 mm (3.353")
85.41 mm (3.363")

PISTONS

Material	
Permissible weight deviation between pistons in same engine	
Height, overall, early prod.	
late prod.	
Height from gudgeon pin centre to piston crown	
Piston clearance	

Light-alloy

10 grammes (0.35 oz.)
83.5 mm (3.287")
71.0 mm (2.795")
46 mm (1.811")
0.02-0.04 mm (0.0008-0.0016")

Piston rings

Piston ring gap, measured in ring opening	
Piston ring oversizes	

0.25-0.50 mm (0.010-0.020")
0.020"
0.030"
0.040"
0.050"

COMPRESSION RINGS

Marked "TOP". Upper ring chromed.	
Number on each piston	
Height	
Piston ring clearance in groove	

2
1.98 mm (0.078")
0.054-0.081 mm (0.0021-0.0032")

SCRAPER RINGS

Number on each piston	
Height	
Piston ring clearance in groove	

1
4.74 mm (0.1866")
0.044-0.072 mm (0.0017-0.0028")

GUDGEON PINS

Floating fit. Circlips at both ends in piston	
Fit:	
In connecting rod	
In piston	
Diameter, standard	
0.05 mm (0.002") oversize	
0.10 mm (0.004") oversize	
0.20 mm (0.008") oversize	

Close running fit
Push fit
22.00 mm (0.866")
22.05 mm (0.868")
22.10 mm (0.870")
22.20 mm (0.874")

CYLINDER HEAD

Height, measured from cylinder head face to bolt head level	
Distance from the upper surface of the cylinder head to the upper end of the overflow pipe (pipe located under thermostat)	

88 mm (3.46")

35 mm (1.38")

CRANKSHAFT

Crankshaft, end play	
Main bearings, radial clearance	
Big-end bearings, radial clearance	

0.017-0.108 mm (0.0007-0.0043")
0.026-0.077 mm (0.0010-0.0030")
0.039-0.081 mm (0.0015-0.0032")

Main bearings

B 18 A

B 18 D

MAIN BEARING JOURNALS

Diameter, standard	63.441—63.454 mm (2.4977—2.4982")
0.010" undersize	63.187—63.200 mm (2.4877—2.4882")
0.020" undersize	62.933—62.946 mm (2.4777—2.4782")
0.030" undersize	62.679—62.692 mm (2.4677—2.4682")
0.040" undersize	62.425—62.438 mm (2.4577—2.4582")
0.050" undersize	62.171—62.184 mm (2.4477—2.4482")
Width on crankshaft for pilot bearing shell	
Standard	38.930—38.970 mm (1.5327—1.5343")
Oversize 1 (0.010" undersize shell)	39.031—39.072 mm (1.5367—1.5383")
2 (0.020" undersize shell)	39.133—39.173 mm (1.5407—1.5423")
3 (0.030" undersize shell)	39.235—39.275 mm (1.5447—1.5463")
4 (0.040" undersize shell)	39.336—39.376 mm (1.5487—1.5503")
5 (0.050" undersize shell)	39.438—39.478 mm (1.5527—1.5543")

MAIN BEARING SHELLS

Thickness, standard	1.985—1.991 mm (0.0781—0.0784")
0.010" undersize	2.112—2.118 mm (0.0831—0.0834")
0.020" undersize	2.239—2.245 mm (0.0881—0.0884")
0.030" undersize	2.366—2.372 mm (0.0931—0.0934")
0.040" undersize	2.493—2.499 mm (0.0981—0.0984")
0.050" undersize	2.620—2.626 mm (0.1031—0.1034")

Big-end bearings

BIG-END BEARING JOURNALS

Width of bearing recess	31.950—32.050 mm (1.2579—1.2618")
Diameter, standard	54.089—54.102 mm (2.1295—2.1300")
0.010" undersize	53.835—53.848 mm (2.1195—2.1200")
0.020" undersize	53.581—53.594 mm (2.1095—2.1100")
0.030" undersize	53.327—53.340 mm (2.0995—2.1000")
0.040" undersize	53.073—53.086 mm (2.0895—2.0900")
0.050" undersize	52.819—52.832 mm (2.0795—2.0800")

BIG-END BEARING SHELLS

Thickness, standard	1.833—1.841 mm (0.0722—0.0725")
0.010" undersize	1.960—1.968 mm (0.0772—0.0775")
0.020" undersize	2.087—2.095 mm (0.0822—0.0825")
0.030" undersize	2.214—2.222 mm (0.0872—0.0875")
0.040" undersize	2.341—2.349 mm (0.0922—0.0925")
0.050" undersize	2.468—2.476 mm (0.0972—0.0975")

CONNECTING RODS

End play on crankshaft	0.15—0.35 mm (0.006—0.014")
Length, centre to centre	145 ± 0.1 mm (5.710 ± 0.004")
Max. permissible weight deviation between connecting rods in same engine	6 grammes (0.21 oz.)

FLYWHEEL

Permissible axial throw, max.	0.05 mm (0.002") at a diam. of 150 mm (6")
Ring gear (chamfer facing forwards)	142 teeth

FLYWHEEL HOUSING

Max. axial throw for rear face	0.05 mm (0.002") at a diam. of 100 mm (4")
Max. radial throw for rear guide	0.15 mm (0.006")

CAMSHAFT

Marking	
Number of bearings	
Front bearing journal, diameter	
Centre bearing journal, diameter	
Rear bearing journal, diameter	
Radial clearance	
End play	
Valve clearance for control of camshaft setting (cold engine)	
Inlet valve should then open at	

B 18 A

B 18 D

A	
3	
46.975—47.000 mm (1.8494—1.8504")	
42.975—43.000 mm (1.6919—1.6929")	
36.975—37.000 mm (1.4557—1.4567")	
0.020—0.075 mm (0.0008—0.0030")	
0.020—0.060 mm (0.0008—0.0024")	
1.1 mm (0.04")	
10° after T.D.C.	

Camshaft bearings

Front bearing, diameter	
Centre bearing, diameter	
Rear bearing, diameter	

47.020—47.050 mm (1.8512—1.8524")
43.025—43.050 mm (1.6939—1.6949")
37.020—37.045 mm (1.4575—1.4585")

TIMING GEARS

Crankshaft gear, number of teeth	
Camshaft gear (fibre), number of teeth	
Backlash	
End play, camshaft	

21
42
0.04—0.08 mm (0.0016—0.0032")
0.02—0.06 mm (0.0008—0.0023")

VALVES

Inlet

Disc diameter	
Stem diameter	
Valve seat angle	
Seat angle in cylinder head	
Seat width in cylinder head	

40 mm (1.58")
8.685—8.700 mm (0.3419—0.3425")
44.5°
45°
1.4 mm (0.06")

Exhaust

Disc diameter	
Stem diameter	
Valve seat angle	
Seat angle in cylinder head	
Seat width in cylinder head	

35 mm (1.38")
8.645—8.660 mm (0.3404—0.3409")
44.5°
45°
1.4 mm (0.06")

Valve clearance

Clearance, both warm and cold engine, exhaust	
Clearance, both warm and cold engine, inlet	

0.40—0.45 mm (0.016—0.018")
0.40—0.45 mm (0.016—0.018")

VALVE GUIDES

Length	
Inner diameter	
Height above upper face of head	
Clearance, valve stem—guide, inlet valve	
exhaust valve	

63 mm (2.48")
8.725—8.740 mm (0.3435—0.3441")
21 mm (0.83")
0.025—0.055 mm (0.0010—0.0022")
0.065—0.095 mm (0.0026—0.0037")

VALVE SPRINGS

Early prod.:	
Length, without loading, approx.	
with a loading of 25.5±2.0 kg (56±4 1/2 lb.) ..	
with a loading of 66.0±3.5 kg (145±8 lb.)	

45 mm (1.77")
39 mm (1.54")
30.5 mm (1.20")

Late prod.:
Length, without loading, approx.
with a loading of 29.5 ± 2.3 kg (65 ± 5 lb.)
with a loading of 82.5 ± 4.3 kg ($182 \pm 9 \frac{1}{2}$ lb.)

B 18 A	B 18 D
46 mm (1.81")	
40 mm (1.57")	
30 mm (1.18")	

LUBRICATING SYSTEM

Oil capacity, with oil filter
without oil filter

3.75 litres (3 1/2 Imp. qts. = 4 US qts.)
3.25 litres (3 1/4 Imp. qts. =
3 1/2 US qts.)

Oil pressure at 2000 r.p.m. (with warm engine and new oil)

3.5–6.0 kg/cm² (50–85 lb./sq.in.)

Lubricant
viscosity, all the year round
viscosity, below 0° C (32° F)
between 0 and 30° C (32 and 90° F)
above 30° C (90° F)

Engine oil for Service MS
Multigrade oil SAE 10W–30
SAE 10W
SAE 20
SAE 30

Lubricating oil filter

Type
Make

Full-flow
Wix or Mann

Lubricating oil pump

Lubricating oil pump, type
number of teeth on each gear
end play
radial clearance
backlash

Gear
10
0.02–0.10 mm (0.0008–0.0040")
0.08–0.14 mm (0.0032–0.0055")
0.15–0.35 mm (0.0060–0.0140")

Relief valve springs (in oil pump)

Length, unloaded, early prod.
late prod.
loaded with 4.0 ± 0.2 kg ($9 \pm 1/2$ lb.), early prod.
 9.5 ± 0.3 kg ($21 \pm 3/4$ lb.)
 8.0 ± 0.8 kg ($17 \frac{1}{2} \pm 1 \frac{3}{4}$ lb.), late
prod.

approx. 31 mm (1.22")
approx. 32.5 mm (1.28")
27.5 mm (1.08")
22.5 mm (0.88")

22.5 mm (0.88")

FUEL SYSTEM

Fuel pump

Fuel pump, type I, diaphragm pump
Fuel pump, type II, diaphragm pump
Fuel pump, type III, diaphragm pump
Fuel pressure, measured at same level as pump.....

AC-UG
Pierburg APG
AC-YD
min. 0.11 kg/cm² (1.5 lb./sq.in.)
max. 0.25 kg/cm² (3.5 lb./sq.in.)

Carburettors

Type
Make and designation

Down-draught	Horizontal
Zenith 36 VN	SU-HS 6

DATA (ZENITH 36 VN)

Venturi	30
Main jet.....	117
Compensating jet	115
Idling jet	70
Air jet for idling	70
Air jet for partial acceleration	140
Acceleration jet, early prod.	40
late prod.	50

Acceleration pump stroke
 Float valve
 Gasket for float valve, thickness
 Idling speed (warm engine)

DATA (SU-HS 6)

Number
 Size (air intake diameter)
 Fuel needle, designation
 Idling speed
 Oil for damping cylinders

IGNITION SYSTEM

Voltage
 Order of firing
 97 octane ROT
 97-100 octane ROT
 at 1500 engine r.p.m. (vacuum regulator disconnected)
 Sparking plugs
 Sparking plug gap
 tightening torque

Distributor

Make
 Breaker points, gap
 pressure
 Dwell angle
 Direction of rotation

COOLING SYSTEM

Type
 Radiator cap valve opens at
 Capacity
 Fan belt, designation
 tension: The pulley should start slipping when
 the force applied is

Anti-freeze

Amount of glycol required for frost-protection down to
 -10° C (+15° F)
 -20° C (-5° F)
 -30° C (-22° F)
 -40° C (-40° F)
 The maximum depression of freezing point down to
 -56° C (-70° F) is obtained by adding 5.1 litres (1 1/8
 Imp. galls = 1 1/4 US galls) of ethylene glycol.

Thermostat

Type
 Marked
 Starts to open at
 Fully open at

B 18 A

Short
 1.75
 1 mm (0.04")
 500-700 r.p.m.

B 18 D

2
 44.5 mm (1 3/4")
 ZH
 500-700 r.p.m.
 SAE 20, engine oil
 (not multigrade)

12 V
 1-3-4-2
 21-23° before
 T.D.C.

22-24° before
 T.D.C.

Bosch W 175 T1 or equivalent
 0.7-0.8 mm (0.028-0.032")
 3.8-4.5 kgm (28-32 lb.ft.)

Bosch
 0.4-0.5 mm (0.016-0.018")
 0.4-0.6 kg (0.88-1.32 lb.)
 61° ± 4°
 Anti-clockwise

Pressure
 0.25-0.30 kg/cm² (3-4 lb./sq.in.)
 pressure
 approx. 8.5 litres (2 Imp. galls. =
 2 1/4 US galls.)
 HC 38 X 35"

8.0-11.0 kg (17.6-24.3 lb.) at a lever
 of 150 mm (6")

2 litres (3 1/2 Imp. pints = 4 US pints)
 3 litres (5 1/4 Imp. pints = 6 US pints)
 4 litres (7 Imp. pints = 9 US pints)
 4.5 litres (1 Imp. gall. = 1 1/4 US gall.)

Fulton Sylphon 1-1700-D 3
 170
 75-78° C (167-172° F)
 89° C (192° F)

WEAR TOLERANCES

B 18 A

B 18 D

Cylinder

To be rebored when wear reaches (if engine shows abnormal oil consumption) 0.25 mm (0.010")

Crankshaft

Permissible out-of-round on main bearing journals, max. 0.05 mm (0.002")
 Permissible out-of-round on big-end bearing journals, max. 0.07 mm (0.003")
 Crankshaft end play, max. 0.15 mm (0.006")

Valves

Permissible clearance between valve stems and valve guides, max. 0.15 mm (0.0060")
 Valve stems, permissible wear, max. 0.02 mm (0.0008")

Camshaft

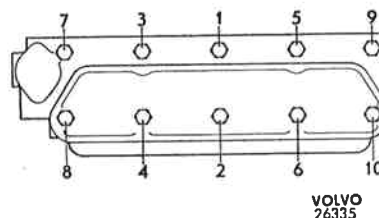
Permissible out-of-round (with new bearings), max. 0.07 mm (0.0030")
 Bearings, permissible wear 0.02 mm (0.0008")

Timing gears

Permissible backlash, max. 0.12 mm (0.005")

Tightening torques

	Kgm	Lb.ft.
Cylinder head	8.5-9.5	61-69
Main bearings	12-13	87-94
Big-end bearings	5.2-5.8	38-42
Flywheel	4.5-5.5	33-40
Sparking plugs	3.8-4.5	27-33
Camshaft nut	13-15	94-108
Crankshaft pulley bolt	7-8	51-58
Dynamo bolt (3/8"-16")	3.5-4.0	25-29
Oil filter nipple	4.5-5.5	33-40
Oil sump bolts	0.8-1.1	6-8



Tightening sequence, cylinder head bolts

ELECTRICAL SYSTEM

BATTERY

Type	Boliden 107GM60 or equivalent
Earthed	Negative terminal
Voltage	12 V
Battery capacity, standard	60 Ah

Electrolyte specific gravity:
Fully charged battery
When recharging is necessary
Recommended charging current

B 18 A
1.275-1.285
1.230
4.5 A

B 18 D

IGNITION SYSTEM

Order of firing
Ignition setting:
97 octane ROT
97-100 octane ROT
at 1500 engine r.p.m. (vacuum regulator disconnected)
Ignition coil
Spark plug, type
thread
gap
tightening torque.....

1-3-4-2
21-23° before
T.D.C.
22-24° before
T.D.C.

Bosch ZS/KZ 1/12 A (14/3)
Bosch W 175 T 1 or equivalent
14 mm (0.06")
0.7-0.8 mm (0.028-0.032")
3.8-4.5 kgm (27.5-32.5 lb.ft.)

DISTRIBUTOR

Make
Designation

Bosch
VJU 4 BL 33 (JFUR 4) Early prod. VJU 4 BL 33
(JFUR 4)
Late prod. JFR 4

Test values (VJU 4 BL 33)

Direction of rotation
Ignition setting values, centrifugal regulator:
Crankshaft degrees 0
Crankshaft r.p.m. 750-1050
Vacuum regulator:
Crankshaft degrees
Vacuum cm (in.) Hg
Breaker points, gap
pressure
dwell angle

Anti-clockwise
10 22 22±3
1300-1850 2300-2900 2800-3300
6 15±4
6-10 (2.36-3.94") 18 (7.09")
0.4-0.5 mm (0.016-0.020")
0.4-0.5 kg (0.88-1.10 lb.)
57-63°

Test values (JFR 4)

Direction of rotation
Ignition setting values, centrifugal regulator:
Crankshaft degrees 0
Crankshaft r.p.m. 510-1050
Breaker points, gap
pressure
dwell angle.....

Anti-clockwise
10 20 26±3
1450-1920 2350-3700 4600-4900
0.4-0.5 mm (0.016-0.020")
0.50-0.63 kg (1.1-1.4 lb.)
59-65°

DYNAMO

Make
Designation
Voltage
Rated effect
Max. continuous effect
Earthed
Direction of rotation
Ratio, engine-dynamo
Brushes, designation.....
number
pressure

Bosch
LJ/GG 240 12/ LJ/GG 240 12/
2400 AR 7 2400 AR 6
12 V
240 W
30 A
Negative terminal
Clockwise
1.8:1
WSK 43 L 1
2
450-600 grammes (1.0-1.3 lb.)

Test values

Field winding resistance
 Charging, cold dynamo, 240 W
 warm dynamo, 240 W
 Speed for rated voltage, unloaded

B 18 A

B 18 D

4.8 + 0.5 ohms
 2300 r.p.m.
 2500 r.p.m.
 1700 r.p.m.

Charging relay

Make
 Equalizing resistance aR
 Control resistance wR

Bosch RS/VA 240/12/2
 15.5—16.5 ohms
 8—9 ohms

Test values

Reverse current relay:

 Adjusted for, cutting-in at
 reverse current at.....

12.4—13.1 V
 2.0—7.5 A

Voltage control:

 Control voltage, dynamo unloaded (idling).....
 loaded

14.1—14.8 V
 13.0—14.0 V

Loading current:

 Cold dynamo and voltage control
 Warm dynamo and voltage control

45 A
 30 A

STARTER MOTOR (early prod.)

Make
 Voltage
 Earthed
 Direction of rotation
 Output
 Number of teeth on pinion
 Brushes, designation.....
 number

Bosch EGD 1/12 AR 37
 12 V
 Negative terminal
 Clockwise
 about 0.9 h.p. at -10° C (+15° F)
 about 1.2 h.p. at +20° C (70° F)
 9
 DSK 35/5
 4

Test values

Mechanical:

 Rotor end play
 Brush spring tension
 Distance from pinion to ring gear
 Frictional torque of rotor brake
 Pinion idling torque
 Backlash
 Pinion modulus

0.1—0.3 mm (0.004—0.012")
 0.8—0.9 kg (1.76—1.98 lb.)
 2.5—3.0 mm (0.10—0.12")
 3—5 kgcm (2.6—3.4 lb.in.)
 1.3—1.8 kgcm (1.13—1.56 lb.in.)
 0.35—0.60 mm (0.014—0.024")
 2.11

Electrical:

 Unloaded starter motor:
 11.5 V and 40—60 A.....
 Loaded starter motor:
 10 V and 200 A.....
 Locked starter motor:
 r.p.m. = 0

5500—7500 r.p.m.
 1100—1300 r.p.m.

8 V

400—450 A