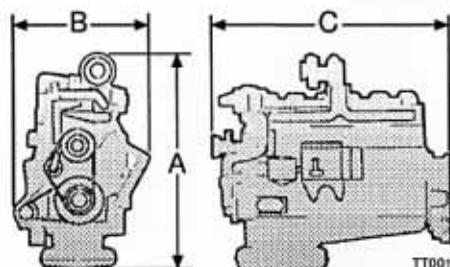


# TD 121 G

## Engine for mobile applications

TD 121 G

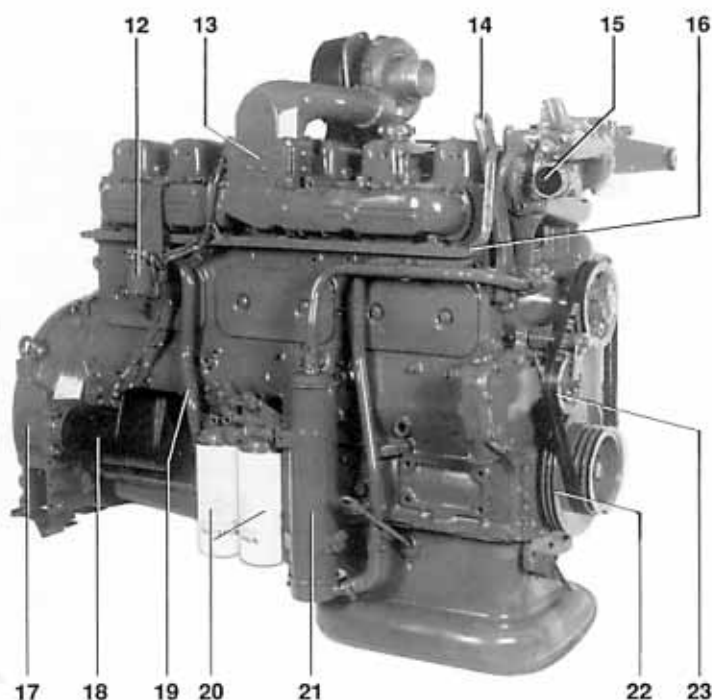
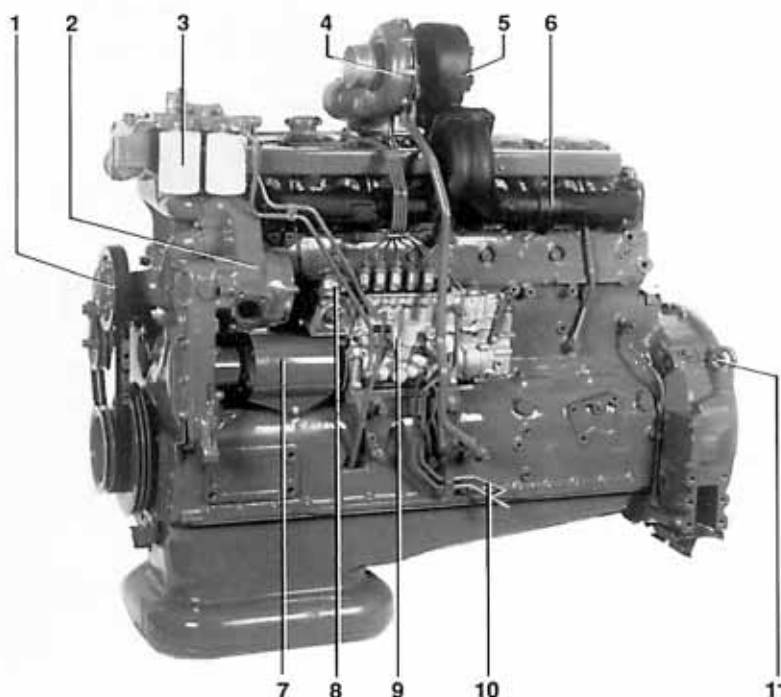
Turbocharged \_\_\_\_\_  
 Diesel fuel \_\_\_\_\_  
 Displacement indication (l) \_\_\_\_\_  
 Generation \_\_\_\_\_  
 Version \_\_\_\_\_



A = 1350 mm  
 B = 755 mm  
 C = 1455 mm

- Based on Volvo's well proven, dependable six-in-line turbo-charged engine.
- Built with high degree of precision to withstand high outputs and at the same time correspond to high demands on operational safety and service life.
- Smoke control through effective smoke limiter.
- Low fuel consumption and low noise level.

1. Fan hub
2. Gear driven coolant pump
3. Twin fuel filters of throw-away type
4. Turbo-charger
5. Connecting flange, exhaust line
6. Air cooled exhaust manifold
7. Pump coupling guard
8. Smoke limiter
9. Injection pump
10. Fuel pipes for tank connection
11. Lift eyelet
12. Relay for inlet manifold heater
13. Inlet manifold heater
14. Lift eyelet
15. Coolant pipe, outlet
16. Cable iron
17. Flywheel housing SAE 1
18. Starter motor
19. Crankcase ventilation
20. Twin full-flow oil filters of spin-on type
21. Oil cooler
22. Vibration damper
23. Automatic belt tensioner



# Technical data TD 121 G

Volvo Penta reserves the right to make changes at any time, without notice, as to technical data, prices, materials, standard equipment, specifications and models, and to discontinue models.

<b>General</b>						
In line four stroke diesel engine with direct injection						
Turbocharged and water to air intercooled			Bore	130.17 mm / 5.12 in		
Number of cylinders	6		Stroke	150 mm / 5.91 in		
Displacement, total	11.98 litres / 731 in <sup>3</sup>		Compression ratio	14.2:1		
Firing order	1-5-3-6-2-4		Dry weight	1075 kg / 2370 lb		
Rotation direction, anti-clockwise viewed towards flywheel			Wet weight	1130 kg / 2491 lb		
TD 121 G	Speed, rpm	1500	1800	2000	2200	
<b>Performance</b>		Test no. 348706068				
Intermittent Power						
without fan	kW / hp	212 / 288	240 / 326	251 / 341	256 / 349	
with fan	kW / hp	206 / 281	230 / 313	237 / 323	237 / 323	
Continuous Power						
without fan	kW / hp	190 / 258	216 / 294	226 / 307	—	
with fan	kW / hp	184 / 251	206 / 281	212 / 289	—	
Torque at Intermittent Power		Nm / lbft	1350 / 997	1274 / 940	1199 / 885	1112 / 821
Torque at Continuous Power		Nm / lbft	1210 / 893	1147 / 846	1080 / 797	—
Mean piston speed		m/s / ft/sec	7.5 / 24.6	9.0 / 29.6	10.0 / 32.8	—
Effective mean pressure at Continuous Power		MPa / psi	1.26 / 184	1.2 / 174	1.13 / 164	—
Max combustion pressure at Continuous Power		MPa / psi	10.9 / 1580	11.1 / 1600	11.1 / 1600	—
Total mass moment of inertia, J (mR <sup>2</sup> )		kgm <sup>2</sup> / lbf <sup>2</sup>	2.74 / 65			—
Degree of irregularity at Intermittent Power			1:95	1:216	1:360	—
Residual speed droop at load increase from 0 to 100%		%				6 – 8
Friction Power		kW	32	40	48	58
<b>Lubrication system</b>						
Lubricating oil consumption at continuous power		litre/h / US gal/h	0.35 / 0.093			
Oil system capacity including filters		litres	38			
Oil change interval						
CD oil quality	h	200				
VDS oil quality	h	400				
<b>Fuel system</b>						
Specific fuel consumption at 25% of Intermittent Power		g/kWh / lb/hph	251 / 0.407	275 / 0.446	295 / 0.478	322 / 0.522
50% of Intermittent Power		g/kWh / lb/hph	215 / 0.348	223 / 0.361	233 / 0.377	243 / 0.394
75% of Intermittent Power		g/kWh / lb/hph	206 / 0.334	212 / 0.343	221 / 0.358	230 / 0.373
100% of Intermittent Power		g/kWh / lb/hph	208 / 0.337	215 / 0.348	222 / 0.360	231 / 0.374
<b>Intake and exhaust system</b>						
Air consumption at Intermittent Power		m <sup>3</sup> / min / cfm	15.12 / 537	19.5 / 688	22.0 / 775	23.6 / 835
Max allowable air intake restriction		kPa / In wc	5 / 20			
Heat rejection to exhaust at Intermittent Power		kW / BTU/min	169 / 5969	209 / 7381	236 / 8334	260 / 9182
Exhaust gas temperature after turbine at Intermittent Power		°C / °F	550 / 1022	540 / 1004	540 / 1004	550 / 1022
Max allowable back-pressure in exhaust line		kPa / In wc	4.9 / 19.6	6.4 / 25.6	7.8 / 31.2	10.0 / 40
Exhaust gas flow at Intermittent Power		m <sup>3</sup> /min / cfm	44.8 / 1580	55.9 / 1971	62.9 / 2220	68.4 / 2417
Exhaust gas smoke		Bosch units	1.0	0.8	0.8	0.9
<b>Cooling system</b>						
Heat rejection radiation from engine at intermittent power		kW / BTU/min	17 / 967	19 / 1081	20 / 1137	20 / 1137
Heat rejection to coolant at intermittent power		kW / BTU/min	125 / 7109	144 / 8190	154 / 8758	165 / 9384

### Power Standards

The engine performance corresponds to ISO 3046, BS 5514 and DIN 6271. The technical data applies to an engine without cooling fan and operating on a fuel with calorific value of 42.7 MJ / kg (18360 BTU/lb) and a density of 0.84 kg/litre (7.01 lb/US gal, 8.42 lb/imp gal), also where this involves a deviation from the standards.

### Rating Guidelines

CONTINUOUS POWER rating corresponds to ISO Standard Power for continuous operation at variable speed. It is intended for constant load applications with uninterrupted service at full load for extended periods of time.

INTERMITTENT POWER rating corresponds to ISO overload power. It is intended for applications where intermittent power is utilized less than 1 hour within any period of 12 hours of continuous operation. The average load factor must not exceed the continuous rating.