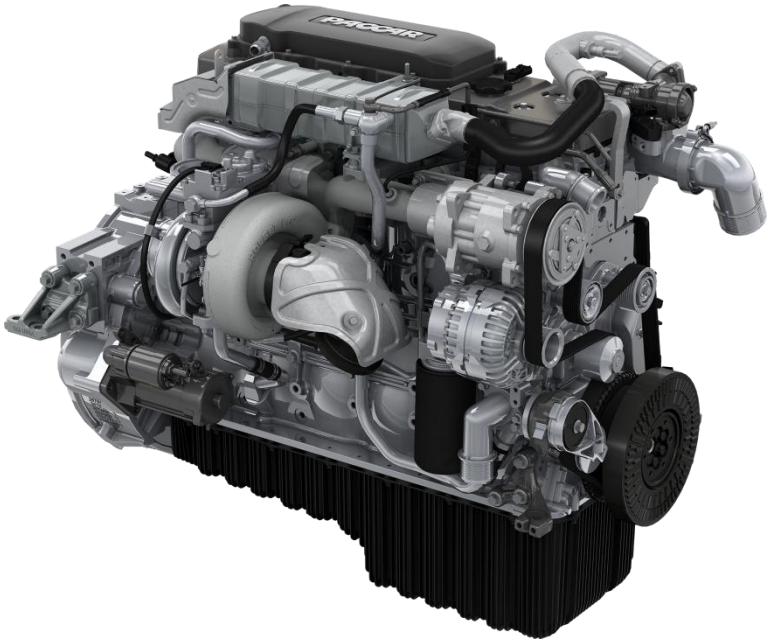
PACCAR PX-7 engines



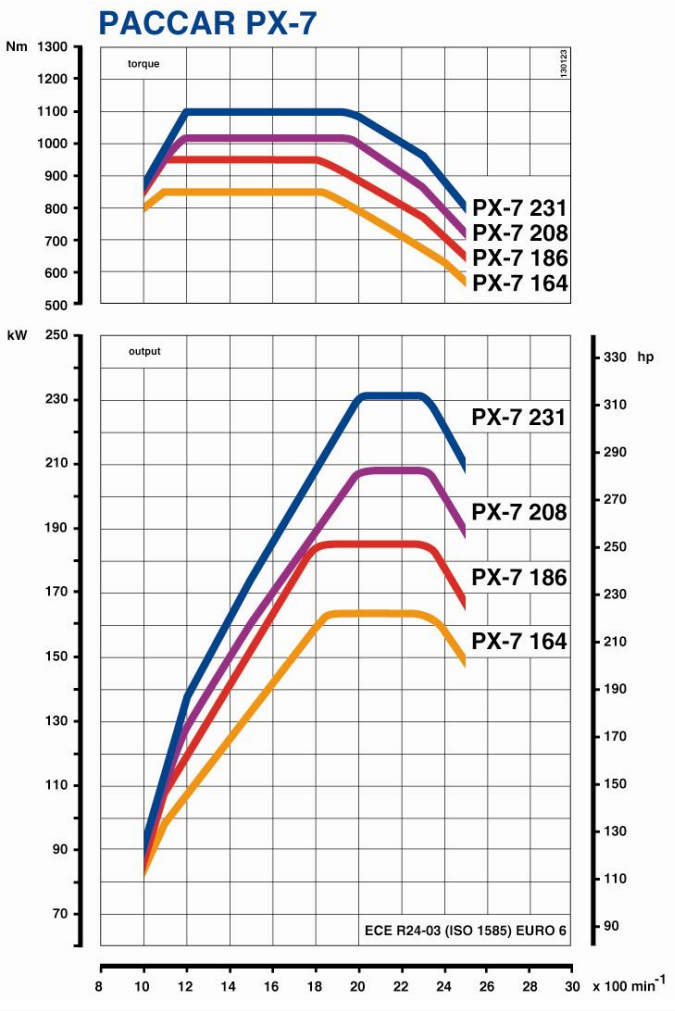
The 6.7 litre Euro 6 PACCAR PX-7 engine uses ultra-modern common rail technology, a turbo with variable geometry and advanced controls for maximum efficiency. In order to comply with the strict Euro 6 emissions requirements, it features exhaust gas recirculation, together with SCR technology and an active soot filter.

Engine	Output kW (hp)	Torque Nm
PX-7.164	164 (223)[1]	850 at 1100 - 1800 rpm
PX-7.186	186 (253)[1]	950 at 1100 - 1800 rpm
PX-7.208	208 (283)[2]	1020 at 1200 - 2000 rpm
PX-7.231	231 (314)[2]	1100 at 1200 - 2000 rpm

[1] at rated engine speed 1800 - 2300 rpm
[2] at rated engine speed 2000 - 2300 rpm

General information
Six-cylinder in-line turbocharged diesel engine with intercooling. Ultra clean combustion with Exhaust Gas Recirculation (EGR), Diesel Particular Filter (DPF) and Selective Catalytic Reduction (SCR) aftertreatment for Euro 6 emission levels.

Bore x stroke .....107 x 124 mm
Piston displacement .....6.7 litres
Compression ratio.....17.3 to 1



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Details

Main construction

Cylinder block	cast iron stiffened ladder frame, contoured and deep skirted with cylinder bores direct in the block
Cylinder head	one-piece cast iron cross-flow type cylinder head composite valve cover
Valves	four valves per cylinder
Pistons	aluminium alloy pistons, Ni-resist with symmetrical re-entrant combustion chamber; gallery cooled
Piston rings	2 compression rings; 1 scraper ring
Crankshaft	forged alloy steel with balance weights; viscous damper at front end; supported in 7 bearings
Cam shaft	steel forged and induction hardened supported in 4 bearings; driven from the timing gears (single plain train at the rear of the engine)
Oil sump	23.4 litres composite oil sump with closed crankcase ventilation

Fuel injection and induction

Fuel injection	Common Rail (CR) injection system
Injectors	electronically controlled
Injection timing	variable start and duration, electronically controlled
Injection pressure	max. 1800 bar
Fuel injection	start and duration, as well as the injection pressure, are controlled by the engine mounted electronic control module
Induction	turbocharged with charge cooling (intercooling)
Turbocharger	variable geometry turbocharger (VGT) with electrical actuator
Emission control	exhaust gas recirculation (EGR)

Lubrication

Oil filter	full-flow oil filter with replaceable element
Oil cooler	coolant-to-oil plate type heat exchanger
Oil pump	gear-type, driven by crankshaft

Cooling system

Pump	belt driven centrifugal pump
Thermostat	single wax type in cylinder head
Fan drive	crankshaft driven with temperature controlled viscous coupling
Expansion tank	translucent tank (for visual level check) behind the front grille panel

Auxiliaries and exhaust brake

Compressor	driven from rear timing gears
Alternator	poly-V-belt driven at engine front
Steering pump	driven from timing gears (via compressor)
Exhaust brake	VGT turbo with electrical control
Cold start system	automatically controlled electric grid heater in the air inlet manifold (optional)

PACCAR PX-7 engines

General

Distribution applications up to 18 ton

The PACCAR PX-7 is ideally suited for rigid trucks due to the high torque and power. It is used in application classes up to 18 tons or drawbar applications and available up to 310 hp with a high maximum torque of 1100Nm.

The engines have composite oil sumps; to save weight and reduce noise. The engines mounts have been redesigned in order to isolate engine vibrations from the chassis and cab. New efficient fans provide a high cooling air flow against a low power demand.

A Frigoblock application mounted to the engine is available as an option to serve the conditioned distribution.

Performance

All PACCAR PX-7 engines deliver excellent torque at low engine speeds and a high torque is available over a wide rev range.

Therefore the PX-7 engines are easy to drive, even in dense traffic without frequent gear changes.
The characteristics make the PX-7 engines pre-eminently suitable for tough inner-city distribution jobs.

The standard exhaust brake delivers up to 165 kW braking power.

Fuel efficiency

A well-controlled combustion process together with additional technology to achieve the ultra-low Euro 6 emission values.

The highly efficient combustion results in an excellent fuel economy as another leading edge of the PACCAR PX-7 engines.

Environment

PACCAR PX-7 engines use the proven PACCAR technology for exhaust gas aftertreatment, consisting of a Diesel Particulate Filter (DPF) and a Selective Catalytic Reducer (SCR) with airless AdBlue injection. The neatly packed aftertreatment unit is placed at the right-hand side of the chassis. A vertical installation behind the cab is available for specific applications.

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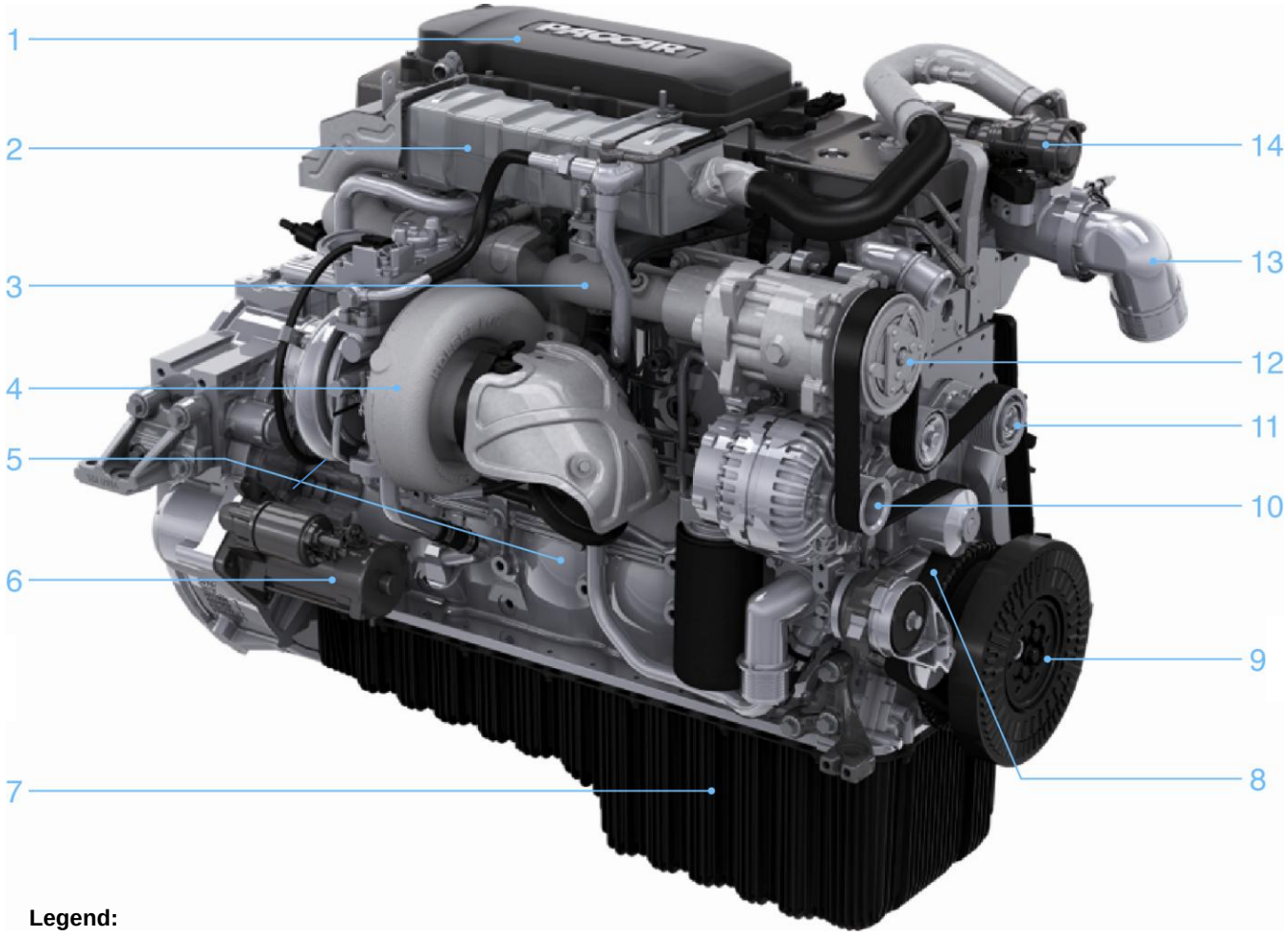
Lay-out



Legend:

1. CCV cover
2. EGR cooler
3. Exhaust manifold
4. VGT Turbo
5. Engine block
6. Starter engine
7. Oil sump
8. Poly-V-belt auxiliary drive
9. Crankshaft
10. Alternator
11. Water pump
12. Air conditioning compressor
13. Air intake elbow
14. EGR valve