

PACCAR GR engines

GR184 - GR210



The power-to-weight ratio of the six-cylinder PACCAR engines is amongst the best in this performance class. These engines feature a high flexibility, resulting in excellent driveability and less gear-shifting

| Engine | Output kW (hp) | Engine rpm | Torque Nm |
|--------|----------------|------------|-------------------------|
| GR184 | 184 (250) | 1900 | 950 at 1200 - 1700 rpm |
| GR210 | 210 (286) | 2100 | 1020 at 1200 - 1800 rpm |

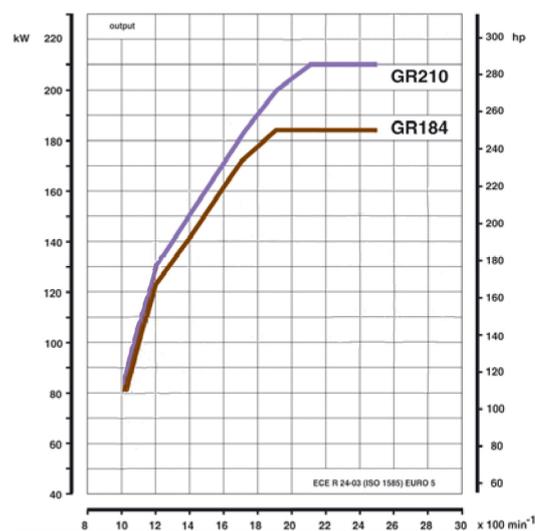
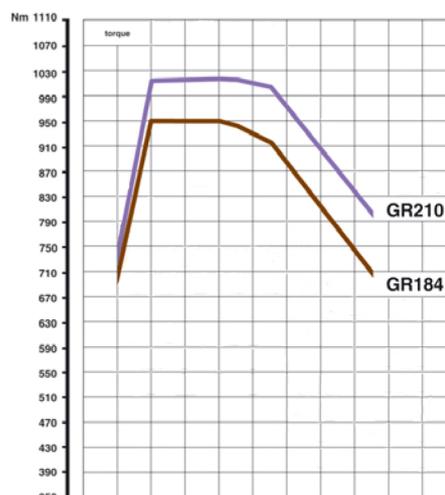
General information

Six-cylinder (GR), vertical in-line turbocharged diesel engine with intercooling.

Clean combustion with Selective Catalytic Reduction (SCR) aftertreatment for Euro 5 emission level.

Bore x stroke 107 x 124 mm

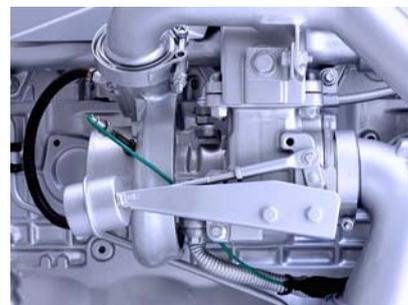
Piston displacement GR (6 cyl)..... 6.7 litres



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Details

| Main construction | | Fuel injection and induction | |
|-------------------|--|------------------------------|---|
| Cylinder block | cast iron stiffened ladder frame, contoured and deep skirted with cylinder bores direct in the block | Fuel injection | high-pressure common rail |
| Cylinder head | one-piece cross-flow type head, covering all 6 cylinders; cast iron four valves per cylinder | Injectors | electronically controlled |
| Valves | | Injection timing | variable start and duration, electronically controlled |
| Cylinder liners | dry, replaceable, plateau honed | Injection pressure | max. 1800 bar |
| Pistons | aluminium alloy pistons, Ni-resist with symmetrical re-entrant combustion chamber; gallery cooled | Fuel injection | start and duration, as well as the injection pressure, are controlled by the engine mounted electronic control module |
| Piston rings | 2 compression rings; 1 scraper ring | Induction | turbocharged with charge cooling (intercooling) |
| Crankshaft | forged alloy steel with balance weights; viscous damper at front end; supported in 7 (GR) bearings steel | Turbocharger | turbocharger with waste gate |
| Cam shaft | forged and induction hardened; supported in 4 bearings; driven from the timing gears (single plain gear train at the rear of the engine) | | |



| Lubrication | | Auxiliaries and exhaust brake | |
|----------------|---|-------------------------------|--|
| Oil filter | full flow filter with replaceable element | Compressor | driven from rear timing gears |
| Oil cooler | coolant-to-oil plate type heat exchanger | Alternator | poly V-belt driven at engine front |
| Oil pump | gear-type, driven by crankshaft | Steering pump | driven from timing gears (via compressor) |
| Cooling system | | Exhaust brake | pneumatically operated butterfly valve in the exhaust duct |
| Pump | belt driven centrifugal pump | Cold start system | automatically controlled electric grid heater in the air inlet manifold (optional) |
| Thermostat | single wax type in coolant return line | Exhaust brake | modulating butterfly valve |
| Oil filter | full flow filter with replaceable element | | |
| Fan drive | crankshaft driven with temperature controlled viscous coupling | | |
| Expansion tank | translucent tank (for visual level check) behind the front grille panel | | |



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General

Reliability and durability

Building on an excellent reputation for reliability and durability of its Euro 3 predecessor, the PACCAR GR range of engines marks a major evolutionary step to even higher standards.

A reduced number of different components, enhanced oil circulation around the engine with a new sump oil suction tube and redesigned breather and oil drain configuration all contribute to a hard to match sturdiness of the new PACCAR engines.

The direct benefit to the operators is a longer service interval, using E5 mineral oil.

Performance

Both maximum performance and maximum torque are available over a wide rev range.

That's why vehicles with a PACCAR GR engine are easy to drive and even in dense traffic do not require frequent gear shifts.

These characteristics make the GR engines pre-eminently suitable for tough innercity distribution jobs.

The standard exhaust brake delivers up to 165 kW for GR engines.

Fuel efficiency

The combination of high pressure common rail injection and SCR aftertreatment technology contributes to a very precise control of the combustion process.

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

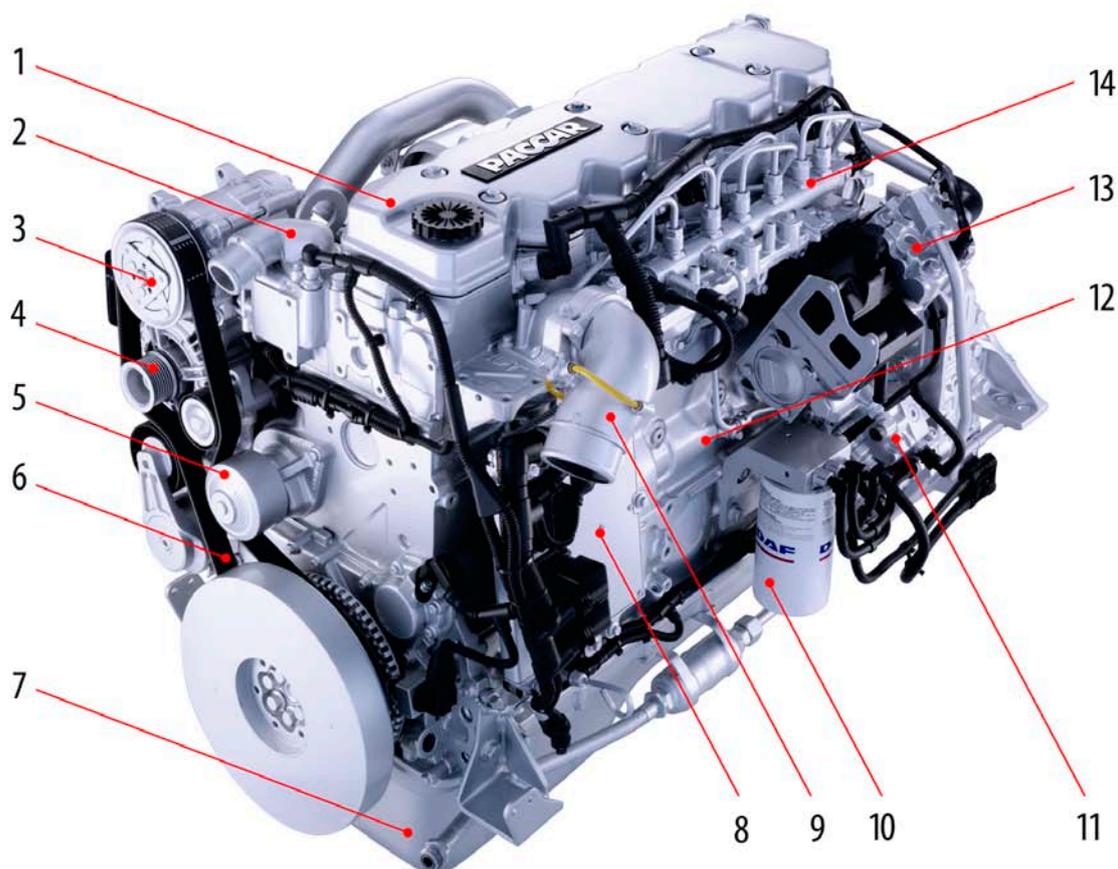
Environment

The PACCAR engines use SCR technology to comply with the most stringent requirements for exhaust gas emissions.

The six-cylinder GR engines comply with the Euro 5 standard.

PACCAR GR engines

lay-out



Legend:

- | | |
|--------------------------------|-------------------------------|
| 1. Valve cover | 8. ECU unit |
| 2. Thermostat housing | 9. Air intake pipe |
| 3. Airco compressor | 10. Fuel filter |
| 4. Alternator drive | 11. Fuel pump |
| 5. Water pump drive | 12. Engine block |
| 6. Poly-V belt auxiliary drive | 13. Air compressor |
| 7. Oil sump | 14. High-pressure common rail |