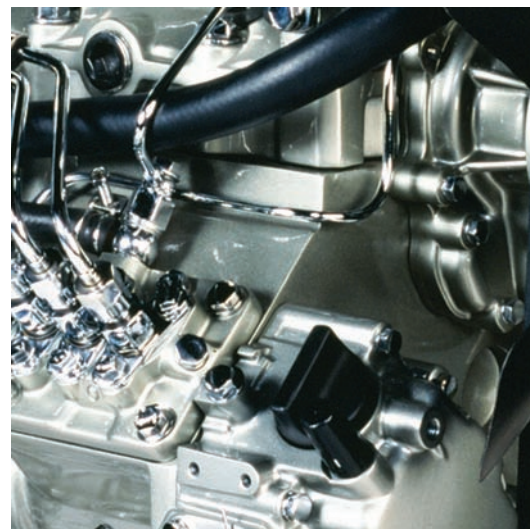
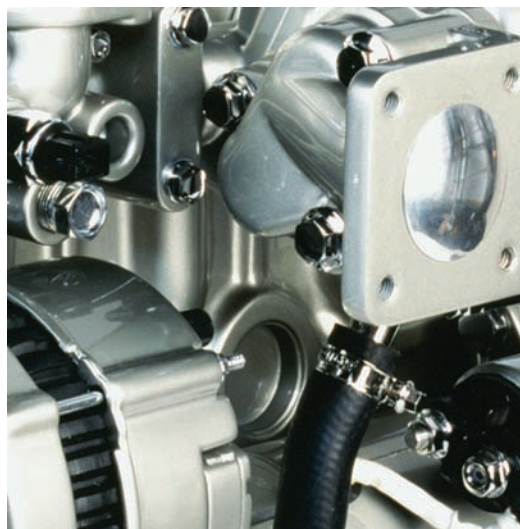




400 Series

Tier 3/Stage IIIA
.... and beyond



The heart of every
great machine

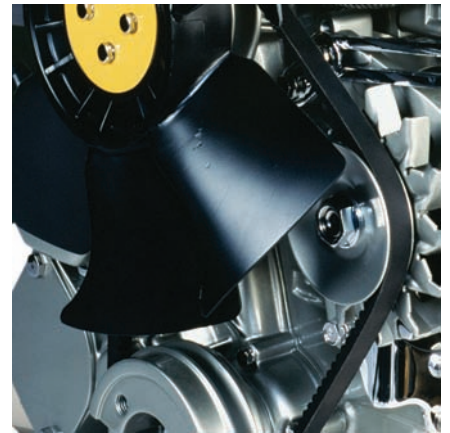
Meeting customer needs

Perkins has been advancing diesel engine technology for over 70 years. Today we are designing, developing and manufacturing engines that meet worldwide customer needs more precisely than ever before. This international success can be attributed to the Perkins philosophy of putting customers at the heart of our business, helping them to meet their market challenges, anticipating trends and providing the power solutions to match changing requirements.

The 400 Series range from Perkins enforces our commitment to the exciting compact power market providing emission solutions for Tier 3 and beyond. An increased product range, improved productivity, increased refinement, and low cost of ownership combine to deliver a class leading and award winning product that firmly places Perkins at the forefront of the world of compact power.

The 400 Series is a range of tough 2, 3 and 4 cylinder water-cooled engines which provide clean, quiet and cost-effective power. They cover a power span of 8.2 – 49.2 kW (10.9 – 65.9 hp) and offer naturally aspirated, turbocharged and aftercooled models, with the additional choice of mechanically balanced ratings.

The versatile nature of the 400 Series makes it ideal to suit a large variety of applications in Agriculture, Lawn and Garden, Construction, Materials Handling, General Industrial and Electric Power.



The 400 Series has evolved further to meet the forthcoming legislation on emissions and noise

Queen's Award

The 400 Series has been awarded a 2005 Queen's Award for Enterprise in the International Trade category.

For the last 40 years the British Government's Department of Trade and Industry submits its recommendations to HM the Queen as part of her Birthday celebrations to recognise UK companies that have demonstrated an Outstanding Achievement in the field of Enterprise.



Customer benefits

Perkins provides a complete solution

Specifying the engine to meet your needs

Our application team can work from your product requirements and ensure the package is tailored to suit you. Engine installation support – working with your engineering and purchasing teams we can advise on optimising the engine installation.

Product development

Continuous support as your product range evolves and adapts to meet the forthcoming legislation on emissions and noise.

Customised logistics

Working with your purchasing department we can provide engine delivery and stock control to meet your growing needs.

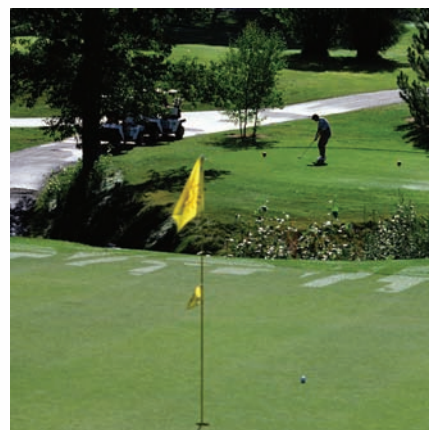
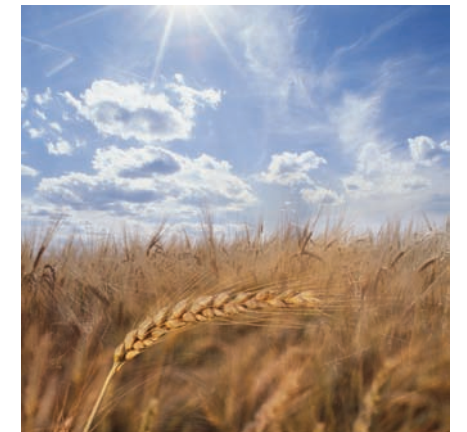
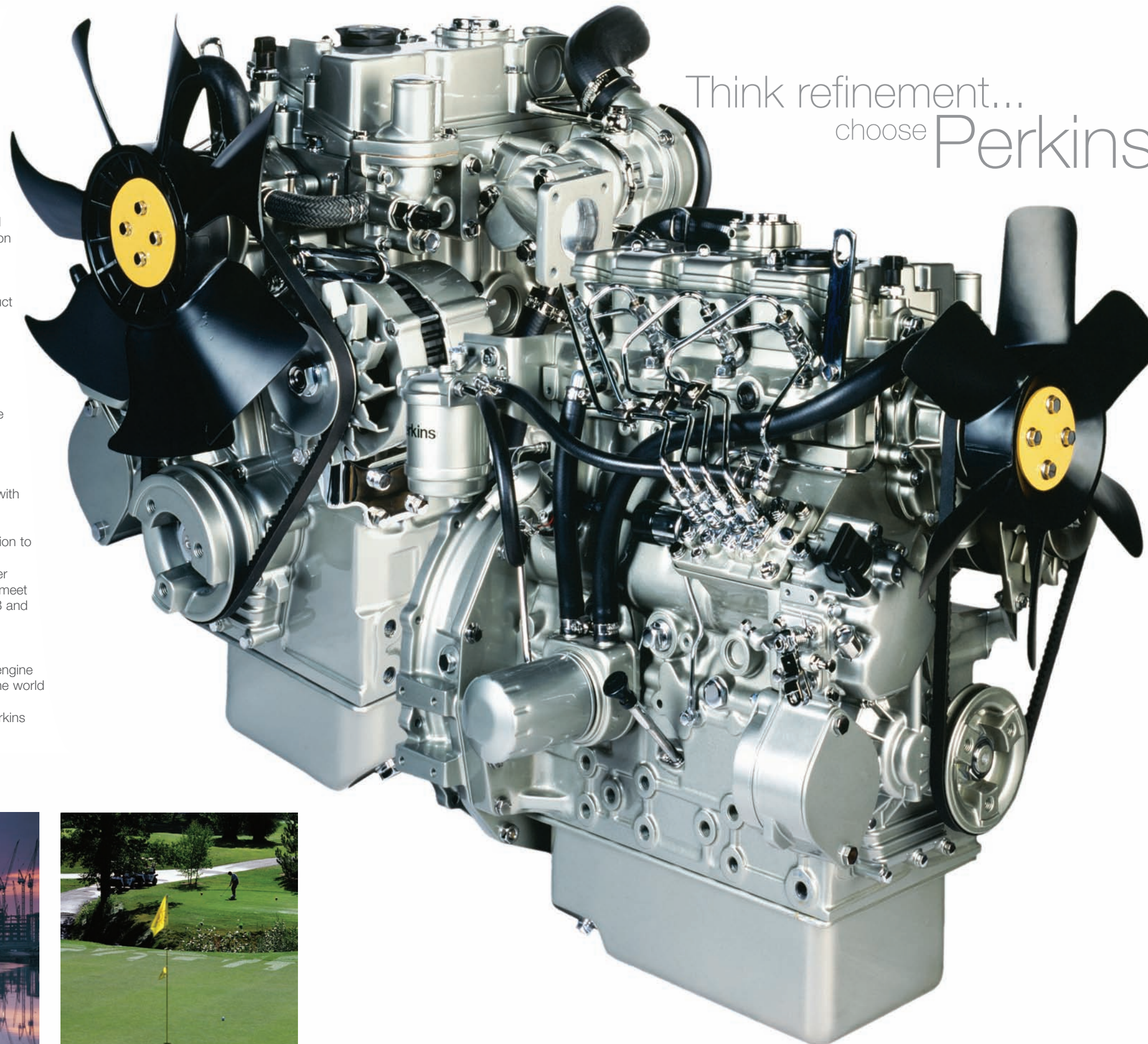
Emissions

Developed to ensure compliance with forthcoming Tier 3 and Stage IIIA emissions legislation, 400 Series technology also provides the solution to the 2008 introduction of Tier 4A legislation (in the 19 - 37 kW power range) and provides a platform to meet the even stricter limits of Stage IIIB and Tier 4B in the coming decade.

Global Product Support

Perkins product support ensures engine expertise is available throughout the world and around the clock. Surpassing customer's needs and keeping Perkins powered machines productive.

Think refinement...
choose **Perkins**



Productivity

- High power and torque
- Designed for quality and reliability
- Expanded product range

Low cost of ownership

- 500 hour service intervals
- 500 hour oil change
- 1,000 hour fuel filter change
- Standard two year warranty
- Low oil consumption and servicing costs

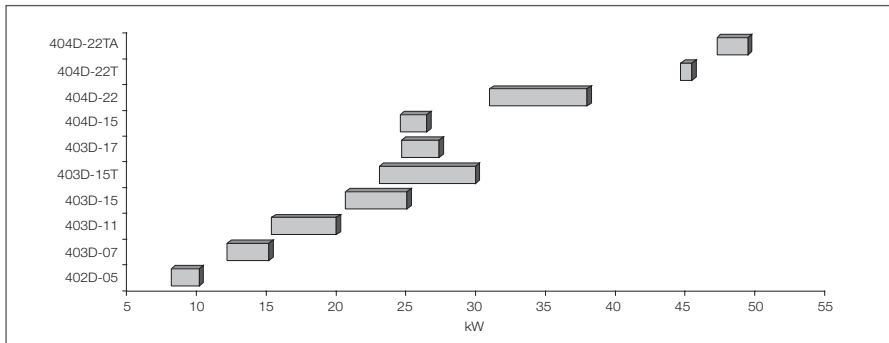
Refinement

- Low emissions – smoke and noise
- Modern aesthetics
- Tailored technology
- Options to support reduction of machine noise

Product functionality

- Glow plugs for reliable cold starting to -30°C
- SAE A and A-A PTO capability
- 35° gradeability continuous
- Multiple fan positions
- Option of electronic controlled governing

Engine range



Features and benefits

- 8.2-49.2 kW from an engine envelope of 0.08-0.25m³
- Compact size and design
- Ease of installation even in the smallest of machines
- Noise levels have been kept to a minimum
- Subjective harshness has been controlled and reduced
- Reduced smoke emission levels
- An improved governor and compliance testing that delivers increased reliability
- A two year/2,000 hour warranty demonstrates our confidence in durability and reliability
- Oil and filter changes are set at 500 hours as standard

Engine data

Engine Data	402D-05	403D-07	403D-11	403D-15	403D-15T	403D-17	404D-15	404D-22	404D-22T	404D-22TA
Cylinders	2	3	3	3	3	3	4	4	4	4
Displacement (litres)	0.5	0.7	1.1	1.5	1.5	1.7	1.5	2.2	2.2	2.2
Cassette Fuel Pump	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indirect injection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cooling System:										
Liquid, 50/50 anti-freeze	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bore (mm)	67	67	77	84	84	84	77	84	84	84
Stroke (mm)	72	72	81	90	90	100	81	100	100	100
Compression Ratio	23.5:1	23.5:1	23:1	22.5:1	22.5:1	23.1:1	23.5:1	23.3:1	23.3:1	23.1:1
Maximum Power (kW)	10.2	15.3	21	25.1	30	26	26.5	38	45.5	49.2
Minimum Power (kW)	8.2	12.2	14.7	20.7	23.1	24.7	24.5	27.5	44.7	49.2
Length (mm)	407	442	491	572	572	572	591	658	666	666
Width (mm)	371	376	406	422	512	422	393	425.5	516.3	516.3
Height (mm)	523	536	576	643	643	664	576	725	725	725
Envelope (m ³)	0.08	0.09	0.12	0.16	0.19	0.16	0.14	0.21	0.25	0.25
Weight (kg)	57	71	87	149	156	153	106.8	184	194	194

Global Product Support

Wherever it is required in the world, Perkins product support is designed to keep a Perkins engine running. We recognise the importance of maximising engine productivity to fulfil our customer's needs, hence our goal to be the world leader in global product support for engines.

Our network are the engine experts when it comes to the full Perkins range. Perkins trained distributors have TIPSS (The Integrated Product Support Solution) suite of web enabled tools at their fingertips, providing them with the very latest, up-to-date real time information. So whether it's for parts identification and ordering, engine fault diagnosis or technical information, the Perkins distributor can complete the job to Perkins stringent standards, first time, worldwide.

From cradle to grave, Perkins has the solutions to meet customer needs. From standard maintenance, to comprehensive repair or complete overhaul, a cost effective solution is available whatever the age or condition of the Perkins engine. Perkins OE specification parts also come with a 12 month warranty, providing the best quality at the lowest possible cost.

Fully dedicated to looking for innovative solutions to industry issues, Perkins is working hard to ensure continuity of component supply. The exchange range offers remanufactured parts, giving good as new quality parts, from reworked core. A sustainable proposition, at the right price and all this with a reduced impact on the environment.

To give complete peace of mind to the machinery user, Perkins also offer Extended Service Contracts that take the worry out of engine ownership. Flexible coverage can be taken out for up to 8,000 hours of engine service, giving total protection against unexpected repair costs.



Perkins global product support is designed to enhance the customer experience of owning a Perkins powered machine. We deliver this through the quality of our distribution network, extensive global coverage and a range of Perkins supported OEM partnership options. So whether you are an end-user or an equipment manufacturer our engine expertise is essential to your success.

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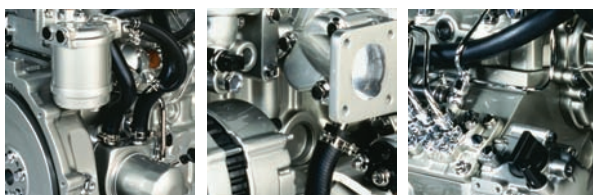
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