

# Connections

Perkins newsletter for India

Issue 2 - January 2014

Welcome to the second edition of 'Connections' which includes an update on the recent SFC improvements on the 4000 Series, and mention of an upgrade program on the 4006 Series to meet the new emission standards in India. We also feature a case study on our 4008 engine which has run for more than 10,000 hours in two years, and a useful tips article on preventive maintenance for your engine.

Thank you for the suggestions you have already made on how we can continue to improve the magazine; your input is greatly appreciated. Please keep sending your thoughts and story ideas to [Enquiry\\_India@perkins.com](mailto:Enquiry_India@perkins.com).

Pankaj Kumar Jha, South Asia Marketing Manager



## End user benefits delivered by upgrades to the 4000 Series

**C**ustomers are set to benefit from recent upgrades to our 4000 Series engines, which are continuing to gather momentum as the 'must-have' power solution for the Indian diesel generator market in the 750 to 2250 kVA range.

### Fuel consumption

India is a prime market and so on average; each engine is run for more than 500 hours a year. There are of course variations in the usage of the generator set due to regional requirements and regional power deficits.

Nevertheless in a 'prime' market such as India, fuel consumption becomes a major operational cost. In fact, we estimate for an average engine running for more than 500 hours per year, the fuel cost is more than 90 percent of the total operational cost over a 10 year period.

We have listened to customer feedback and as part of our continued work in this area; we have revisited the engine upgrade programs and test data to recalibrate the fuel consumption figures.

After analysing a defined set of data and by making some minor upgrades to the product line, we have improved the Specific Fuel Consumption (SFC) for the current product.

As part of our continuing efforts to meet customer needs we will work on further SFC improvements for the 4000 Series product line. All current improvements in the SFC figures for each respective engine series can be found at the Perkins website – [www.perkins.com](http://www.perkins.com).

### Product upgrade on 4006 Series (750 kVA) engines to meet CPCB II Emission Standards

In the near future, the Indian diesel generator market will see the introduction of stricter emission standards for engines below 800 kW, after the Central Pollution Control Board defined a new set of limits for these engines.

We have already taken progressive steps to meet the future emission requirements and are ready with the 4006 Series engine upgrades to meet the new emission standards for India below 800 kW.

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THE HEART OF EVERY GREAT MACHINE



**E**missions legislation and fuel efficiency are just some of the factors which global engine manufacturers have had to focus on over the last decade, driving increased technology and opportunities for new, more compact power solutions, focused on meeting the customers needs; in addition to researching alternative fuels and the role they may play in the future.

One area set for growth is the independent power sector where the provision of generator sets can alleviate the burden on the main grid or provide power to areas and communities that are off-grid. While each and every installation has its own unique challenges there are some common themes. Reliability, cost-effectiveness and product support are messages that are heard on a daily basis. While these are synonymous with most global markets there are situations that are distinct to the Indian continent.

Standby power in India is very different to that in a more mature market, with generator sets in standby mode running for eight or more hours a day when brown-outs occur. From a technological point of view that means the engine, has to overcome the challenges posed by its application, its location, its installation and its ongoing maintenance. Reliability is key, which is why mechanical engines are so predominant. These engines offer simplicity yet are extremely robust and capable of withstanding the challenging environment and conditions often imposed on them, while being technologically advanced.

A great deal of work has been undertaken on our 4000 Series to improve many of its operating criteria with markets such as India in mind. The latest generation of these engines, the 4016 Series, delivers 10 percent more power than its predecessor while the package size has remained the same, so effectively increasing the power density (kVA/litre). This has been achieved without having to increase the size of the cooling pack; instead we have moved to an air to water charge cooled system that in itself offers greater flexibility as it can be located remotely.

Given the often, challenging conditions in which generator sets have to operate, especially in terms of ambient temperature, one of Perkins objectives was to ensure that peak performance was maintained. To this end the 4016 Series was developed to withstand ambient temperatures of up to 50°C at sea level or 40°C at 1,000m above sea level before any derating occurred. Ensuring this kind of reliability offers generator set manufacturers peace of mind.

Today's drive for progressively more efficient engines will continue the trend of increasing power density from a smaller package, meaning less fuel is burnt. This keeps running costs as competitive as possible, with fuel economy on our 4016 Series being improved; appealing to generator set packagers as they seek to sell their products to the end customer/user who is looking for maximum performance with minimum outlay.

Ultimately dependable and reliable power will remain one of the most important aspects of any engine manufacturers offering to the end customer/user. In this respect, we at Perkins are confident that our diesel, natural gas and bio fuel power solutions will continue to meet these important customer needs.

Matthew Bradshaw, General Manager India Sales

## Building the brand

As part of the work to establish and build brand visibility in the Aurangabad and wider Western India region, the team from Perkins India Private Limited hosted a special high tea meeting attended by local industrial houses and professional bodies, who are members of the Confederation of Indian Industries (CII), Marathwada Zonal Council. Venkatesan Ramaswamy, general manager of Perkins India, introduced the local Perkins leadership team

and took the attendees through a brief presentation on Perkins heritage since 1932, its global footprint and recent expansion in Asia. He also shared information on the 4000 Series which will be manufactured from the Aurangabad facility. Following the presentation, there was an opportunity for the members to network. Rishi Bagla, chairman of the CII Zonal Committee; Prashant Deshpande, vice chairman of the CII and C P Tripathi, president of the Aurangabad

Management Association were among those who participated in the meeting and welcomed Perkins to Aurangabad.



## More than 10,000 hours on the clock for Perkins powered generator

### Location:

Goa

### Specifications:

1 x 4008TAG2A

### Purpose of application:

Prime power

### Opportunity

Reliability and dependability are important considerations when

selecting a diesel generator set, especially for a prime power installation.

With these factors in mind, a pharmaceutical company based in Goa, selected a diesel set from Sterling Generators, powered by a 1010 kVA Perkins® 4008TAG2A.

### Result

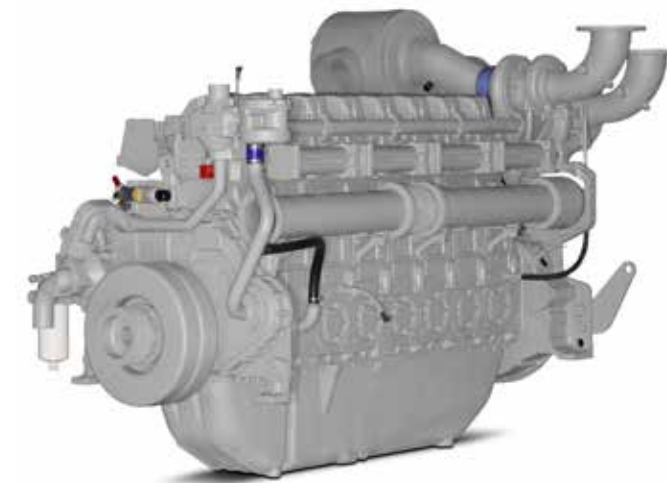
The generator set, which runs for between 10 and 12 hours every day, has now clocked up more than 10,800 running hours.

To keep the set in good working order, regular maintenance is undertaken by Sterling Generators.



### Comment

*"Perkins engines are well-known in the market place for their dependability and ease of maintenance," said Pankaj Jha, Perkins South Asia marketing manager. "This case study is a great example of how the 4000 Series delivers dependable prime power solutions, which really make a difference to businesses in India and around the world."*



### Company:

Sri Akila Castings

### Location:

Chennai

### Specifications:

1 x 4008TAG2A

### Purpose of application:

Back-up power

Focused on delivering the right service and support to our customers

### Opportunity

Sri Akila Castings is a family owned iron foundry business focused on the manufacture of castings. Reliable electrical energy is critical in the process of melting the metals to form the castings.

### Result

To support its business growth, Sri Akila Castings sourced a 1010 kVA Perkins 4008TAG2A powered diesel generating set, to provide the back-up power it needs during power outages.

To keep the set in good working order, Sri Akila Castings awarded Gmmco Power the annual maintenance contract for its Chennai installation. As well as general maintenance, Gmmco Power swiftly reacted when a problem arose with the engine; visiting the business to restore the power supply through the installation of a new engine.

### Comment

Chief executive officer of Sri Akila Castings, P.P. Prabhu, said: *"It was the Perkins 1010 kVA generator set together with Gmmco's maintenance and service support that ensured our survival through the power crisis situation. We would gladly recommend the Perkins brand and Gmmco's support to our associates and customers."*

# Enhanced engine performance and health

Engine maintenance is a key factor in enhancing the performance of your engine in your generator set. Our global field experience in various operating conditions, acquired over more than 80 years, shows that when compared to minimal maintenance practices, a well-planned preventive maintenance programme results in:

- Enhanced engine performance
- Reduced wear and tear
- Prevents unexpected breakdowns
- Improved availability and reliability
- Reduced cost of repairs
- Improved safety

Today, the majority of maintenance tasks are preventive in nature, due to the durability of our diesel engines.

Generally preventive maintenance includes:

- General/visual inspection
- Lubrication system
- Cooling system
- Fuel system
- Engine start/stop exercise
- Starting batteries

The table (right), shows a typical diesel engine maintenance schedule for generator set applications.

It is advisable to consult your local Perkins

distributor when developing a specific preventive maintenance schedule for your power solution, as the schedule for your engine is dependent on its operating environment, for example prime, standby and ambient conditions.

Keeping an accurate record of preventive maintenance and/or service performed on your engine in a log book is also an important for warranty support.

**For additional technical support, please contact your local Perkins distributor.**

Maintenance Checks	Daily	Weekly	Monthly
Check coolant level	X		
Check lubricating oil level	X		
Check fuel level	X		
Check the restriction indicators for the air filters	X		
Drain all water/sediment from the primary fuel filter	X		
Visual inspection of the engine systems	X		
Check charge air pipes		X	
Check/clean air cleaner		X	
Drain water from fuel tank		X	
Check battery charger			X
Tension of all drive belts			X
Check coolant concentration			X
Check drive belt tension			X
Drain exhaust condensate			X
Check starting batteries			X



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