

John Deere Power Systems
Marketing Information Bulletin
MIB16-08/2B



SUBJECT: Stage V Line-up - Announcement



Introduction

John Deere is announcing its line-up of Stage V ready engines publically on December 8th, 2016.

The European Union (EU) has voted to introduce new Stage V emissions regulations under the Non-Road Mobile Machinery Directive:

- Introduced a 1×10^{12} kW/hp particle number (PN) limit
- Existing PM limit decreased by 40% (from 0.025 to 0.015 g/kWh)
- Extended scope of regulated engines (below 19 kW & above 560 kW)
- Constant speed engines used in mobile applications fall under the same regulations.

Implementation Date	Affected Engine Range
January 1, 2019	37-56 kW & >130 kW
January 1, 2020	57-130 kW

One of the principle characteristics of the legislation is to drive the use of diesel particulate filters (DPF).

This means original equipment manufacturer (OEM) customers currently using a John Deere engine with a DPF will not have to re-engineer their machine to meet the requirements of Stage V regulations.

John Deere has been using DPF technology since Interim Tier 4/Stage III B, and is well positioned to help customers transition to the EU's Stage V standard. We have extensive experience with the development and integration of DPFs in both John Deere and OEM equipment, with more than 425 million DPF hours in the field.

Equally well positioned to help OEMs provide value to their customers is the fully trained service network who have worked with DPF technology since 2011. This is a major advantage to end users as well; they will not have to wait for the service points to get up to speed — a potential outcome for engine manufacturers who do not already use DPFs.

John Deere Engine Line-up for Stage V

John Deere Final Tier 4/Stage IV engines fitted with DPF technology already meet the requirements of the future Stage V regulation. The line-up of Stage V ready engines from John Deere include the following:

- PowerTech EWX 2.9L: 36 - 55 kW (48 - 74 hp)
- PowerTech EWX 4.5L: 55 kW (74 hp)
- PowerTech PWS 4.5L: 93 - 104 kW (125 - 140 hp)*
- PowerTech PSS 4.5L: 93 - 129 kW (125 - 173 hp)
- PowerTech PVS 6.8L: 104 - 187 kW (140 - 250 hp)
- PowerTech PSS 6.8L: 168 - 224 kW (225 - 300 hp)
- PowerTech PSS 9.0L: 187 - 317 kW (250 - 425 hp)
- PowerTech PSS 13.5L: 309 - 448 kW (414 - 600 hp)

* capable of 63-86 kW ratings

Aftertreatment Optimization

John Deere Power Systems has leveraged new catalyst technologies and emissions control calibrations to deliver greater package flexibility and offer easier installation with recent Gen 1.5 optimization of aftertreatment systems. This has delivered up to a 39 percent reduction in size and up to 57 percent reduction in weight over Gen 1.0 engine aftertreatment systems.

For OEM customers developing applications not impacted by Stage V regulations, John Deere continues to offer its aftertreatment system in various configurations today - including some no-DPF solutions. The modular building block approach offers greater application flexibility to help OEMs meet increasingly challenging machine design goals and needs at this time.

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