Abbreviations and definitions

AOC– Ammonia Oxidation Catalyst
Neutralizes leftover ammonia from the SCR

CAC– Charge Air Cooler
Cools hot air from the turbocharger

DEF– Diesel Exhaust Fluid
Injected into the exhaust, reacts with NOx in the SCR to turn exhaust into nitrogen and water vapor

DI– Direct Injection
Injection system where fuel is injected directly into the engine cylinders

DOC—Diesel Oxidation Catalyst
Turns some exhaust chemicals into other harmless chemicals, reduces odor

DPF– Diesel Particulate Filter
Physically removes soot and ash from the exhaust and burns them up

ECU– Engine Control Unit
Computer that controls the engine

EGR– Exhaust Gas Recirculation
Helps reduce NOx in exhaust

HPCR– High Pressure Common Rail
High pressure fuel injection system, very precise and efficient

IDI—Indirect Injection
Fuel is injected into pre combustion chamber, older technology, less efficient

MEC– Mechanical Engine
No computer required to control engine

NA– Naturally Aspirated
Air drawn into engine with no turbo

NOx– Nitrogen Oxide
Pollutant produced during combustion

SCR– Selective Catalyst Reduction
Uses DEF to turn NOx into nitrogen and water vapor

STC– Series Turbo Chargers
Two turbos used instead of one, improves efficiency and low end torque

VGT– Variable Geometry Turbo
A turbo that can change to produce more or less boost based on demand

WGT– Waste Gate Turbo
Allows maximum boost at low speeds and bleeds off excess at high speeds.

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BUNKER HILL ENGINE
BUNKER HILL ENGINE SERVICE LLC

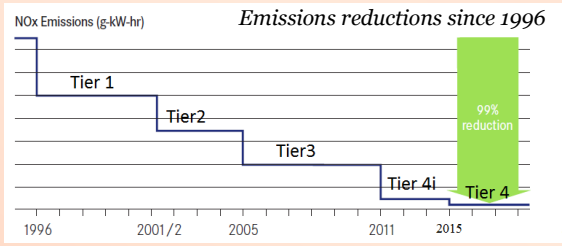
Final Tier 4 Diesel Power Units

12 to 600 HP

- John Deere, Yanmar, Kohler
- Power units or Gensets
- Reliable Service
- EPA Final Tier 4 Certified

What is EPA Final Tier 4?

Final Tier 4 is the latest level of EPA regulations that regulate off road Diesel engine exhaust emissions. As of Jan 1, 2015 all new off road diesel engines (mobile or stationary) are required by law to meet Final Tier 4 requirements.



Why are Tier 4 engines so expensive?

Engine manufactures have to use new technology and expensive treatment systems to make their engines pass emissions tests. Tier 4 engine prices can be close to twice the price of a tier 3, especially in engines over 75 HP.

What do I need to know about Tier 4?

As it is with most things, understanding your tier 4 engine, how it works and how to properly maintain it, is important to keep your engine running trouble free. Even so, you will likely have higher maintenance costs with tier 4. Choosing the right size engine will also be important. Tier 4 engines rely on Exhaust heat for the emissions system to work properly. A light load on a Tier 4 engine may cause emissions related breakdowns.

Is there any way around Tier 4?

No, EPA Regulations and Tier 4 are here to stay. Basically if you need a new engine, and a Final tier 4 engine will fit and work in your application, you are required to use a final tier 4 engine. However, there are a few ways to get around it temporarily depending on your situation.

-Replacement Engines; If a Tier 4 engine will not work for your application, the EPA has a replacement engine program that allows use of earlier engines. This program will end in 2018, and only applies to mobile equipment less than 40 years old or stationary equipment less than 15 years old. Check with an EPA consultant for more details.

-Used Engines: To the best of our knowledge at this time it is still legal to buy a used engine as long as it is a legal EPA engine (meaning it met the EPA standards as of the date it was built)

Notice: This brochure is based on our best understanding of the current EPA guidelines. Always consult the latest EPA Regulations or an EPA consultant BEFORE buying an Engine.

Engines Available

•All HP ratings shown are Intermittent ratings @ 1800 RPM•

John Deere

- 3029H EWX —2.9 Liter ———— 48-74 HP
  -ECU, HPCR, WGT/CAC, DOC,DPF
- 4045T EWX —4.5 Liter ———— 74 HP
  -ECU, HPCR, WGT, DOC,DPF
- 4045H PWL —4.5 Liter————85-140 HP
  -ECU, HPCR, WGT/CAC, EGR, DOC, SCR/DPF, AOC
- 4045H PSS —4.5 Liter————125-173 HP
  -ECU, HPCR, STC/CAC, EGR, DOC, DPF, SCR/DPF, AOC
- 6068H PVS —6.8 Liter———140-250 HP
  -ECU, HPCR, VGT/CAC, EGR, DOC, DPF, SCR/DPF, AOC
- 6068H PSS —6.8 Liter———225-300 HP
  -ECU, HPCR, STC/CAC, EGR, DOC, DPF, SCR/DPF, AOC
- 6090H PSS– 9.0 Liter———250-425 HP
  --ECU, HPCR, STC/CAC, EGR, DOC, DPF, SCR/DPF, AOC
- 6135H PSS– 13.5 Liter———414-600 HP
  -ECU, HPCR, STC/CAC, EGR, DOC, DPF, SCR/DPF, AOC

Yanmar

- 3TNV74F-SDSA —.993 Liter———12 HP
  -MEC, IDI, NA
- 3TNV80F-NGGE —1.27 Liter——13.8 HP
  -MEC, IDI, NA, Gen-spec
- 3TNV80F-SDSA—1.27 Liter————14 HP
  -MEC, IDI, NA
- 3TNV88F-UGGE —1.64 Liter——20.4 HP
  -MEC, DI, NA, Gen-spec
- 3TNV88C-DYEM —1.64 Liter———24 HP
  -ECU, HPCR, NA, EGR, DPF
- 4TNV88C –DYEM—2.19 Liter——36 HP
  -ECU, HPCR, NA, EGR, DPF
- 4TNV98C-NYEM —3.32 Liter———57 HP
  -ECU, HPCR, NA, EGR, DPF

Cover photo: John Deere 6068H PSS Engine

Kohler

- KDI1903TCR —1.9 Liter————–53 HP
  -ECU, HPCR, WGT/CAC, EGR, DOC
- KDI2504TCR —2.5 Liter————–71 HP
  -ECU, HPCR, WGT/CAC, EGR, DOC
- KDI3404TCR —3.4 Liter————74 HP
  -ECU, HPCR, WGT/CAC, EGR, DOC,
- KDI3404TCR-SCR —3.4 Liter—120 HP
  -ECU, HPCR, WGT/CAC, EGR, DOC, SCR/DEF

Gensets Available

All Gensets are prime power, 3 phase capable, Marelli generators. KW rating may vary depending on phase, voltage requirements, and application. Custom sizes also available. Call or stop in for more info.

- 9 KW—Yanmar 3TNV80F Engine
- 14 KW—Yanmar 3TNV88F Engine
- 23 KW—Yanmar 4TNV88C Engine
- 28 KW—Kohler KDI1903TCR Engine
- 34 KW—Yanmar 4TNV98C Engine
- 35 KW—Kohler KDI2504TCR Engine
- 45 KW – Kohler KDI3404TCR Engine
- 45 KW – John Deere 3029H EWX Engine
- 45 KW—John Deere 4045T EWX Engine
- 75 KW – Kohler KDI3404TCR-SCR
- 81 KW—John Deere 4045H PWL Engine
- 100 KW—John Deere 4045H PSS Engine
- 147 KW—John Deere 6068H PVS Engine
- 200 KW—John Deere 6068H PSS Engine
- 268 KW—John Deere 6090H PSS Engine
- 388 KW—John Deere 6135H PSS Engine

Note: At this time Final tier 4 engines are still in the processes of development and finalization. The models listed here may not all be available, and HP ratings and details are subject to change.