Tier 4 Maintenance & Troubleshooting Workshop

*The Rental Show*

February 20, 2016
Workshop Outline

Introduction to SerDia 2010
- How and where to get it, installation procedures.
- Interface licensing and fees.
- Different levels of interfaces.

Home Screen and Navigation Icons
- Information on home screen.
- Importance of using the most current version.

Error Memory 1 & 2
- Active or Passive codes, hour meters etc.
- Discuss importance of KWP codes versus SPN and FMI codes.

Fuel System Overview
- **Safety** (extreme pressures in common rail fuel system).
- Fuel Requirements.
- ZFL and IQA codes.
- Pressure Relief Valve Counter.
- Fuel System codes

Compression Test
- Procedure/instructions.

Injector switch off test
- Discuss how to use and procedures.
- Discuss what this is actually testing.

Graphing Features
- Real time graphing ability.

Exhaust Aftertreatment System Overview
- D.O.C and the SCR system used on the T4F 3.6L engine.
- Meets T4F emissions compliance without a Diesel Particulate Filter.
- DEF Quality and testing with the refractometer

Discuss when to involve the DEUTZ Dealer Network.
- Inside warranty coverage
- Repairs involving the crankshaft, crankcase, camshaft, cylinder head, or connecting rods.

Questions and Answers
Supplemental Reference Notes

SerDia 2010

- The SerDia 2010 program is free, and can be loaded on multiple laptops or notebooks.
- SerDia 2010 does not work on Apple IOS.
- Installation instructions can be found on you tube by searching installing SerDia 2010, and following the instructions in the video.

Decom Interface

- The part number of the interface is **0293-7571**.
- Interfaces have to be purchased and licensed before they will work with SerDia 2010.
- One interface per license, licenses will need to be updated every six months
- All interface licensing and updating is maintained through Germany.
- It is necessary to have access to SerDia 2010 and a Decom interface to accurately diagnose and repair DEUTZ Tier 4 engines.

Codes and Definitions

- A Tier 4 code list with brief descriptions can be found on the website [www.serdia.deutz.com](http://www.serdia.deutz.com).
- Field Service Diagnostic Systems (FSDS) also provides codes and brief descriptions. FSDS provides a mobile version that can be used in the field, just by entering the following address [http://96.32.76.153fsds.html](http://96.32.76.153fsds.html).
- Please note codes referencing the High Pressure Fuel System components involve high operating system pressures. Exercise extreme caution around high pressure fuel system components.

Maintenance

- Maintenance intervals and requirements can be found in the engine operation manual supplied with each engine.
- Maintenance adhesives should be attached to the engine or equipment, indicating maintenance points and intervals.
- 2.9 & 3.6L DEUTZ engines do not require valve adjustments, or replacement of timing belts or fuel injectors.
- Do not prefill oil or fuel filters when replacing, there is a risk of contamination.

Safety

- The common rail fuel system on these engines can have fuel pressures up to **2,200 Bar/31,908 PSI**.
- **Do not loosen high pressure fuels lines to bleed air from the fuel system. This could result in damage, injury or death.**
- High pressure fuel lines on the common rail engines cannot be re-used and require special procedures and torque specifications to prevent damage or injury or death.
- Repairs on this high pressure common rail fuel system should be carried out by authorized and trained individuals only.
Supplemental Reference Notes

Fluid Requirements

- **Oils**
  - A list of DEUTZ approved Oils, Additives, and Coolants can be found on the DEUTZ AG Website ([www.deutz.com](http://www.deutz.com)).
  - Bulletins on this website discuss oil recommendations by engine models, climates, and by DEUTZ Quality Class.
- **Coolant/Antifreeze**
  - Again a list of DEUTZ approved Coolants is provided on the DEUTZ AG website.
  - Bulletins on this website also discuss periodic testing and maintaining of the coolant, and the mixing water to prevent damage to the cooling system.
- **Additives**
  - Only DEUTZ additives are approved for use in DEUTZ engines.
- **Diesel Exhaust Fluid (DEF)**
  - Testing of DEF fluid for DEUTZ T4F engines, (if equipped), requires the use of a refractometer, part number **0293-7499**.
  - Acceptable range is 31.8% to 33.2%.
  - Many of the field service issues that are seen with the Selective Catalyst Reduction system relate back to poor DEF quality.
- **Diesel Fuel**
  - Use only Ultra low sulfur/sulfur free diesel fuel in DEUTZ T4 engines
  - Do not use Bio Fuels in any T4 DEUTZ engines.

Need DEUTZ Parts or Service?

- Go to [www.deutzamericas.com](http://www.deutzamericas.com), and click on the Distribution tab.
- From there select applicable Continent, Region, State.
- Select the closest Authorized DEUTZ Dealer or Distributor to your location to obtain contact information..
- There is a mobile version of the DEUTZ Service Locator available for Apple I phones. Just search the App Store for DEUTZ Service Locator.
- For 24 hour emergency service call 1 (800) 241-9886.

Interested in DEUTZ Service Training?

- Go to [www.deutzamericas.com](http://www.deutzamericas.com)
- Point on the Support Tab, a drop box will open with a Training tab, Click on the Training tag
- From here you will be able to register for classes, or view the upcoming Training classes etc.
- You can send questions or requests to **training.s@deutzusa.com**.
- DEUTZ offers training at the Corporate Headquarters in Norcross GA, and Field Training for Dealers and OEM’s and Rental Companies.

Thank you for your time and attention.