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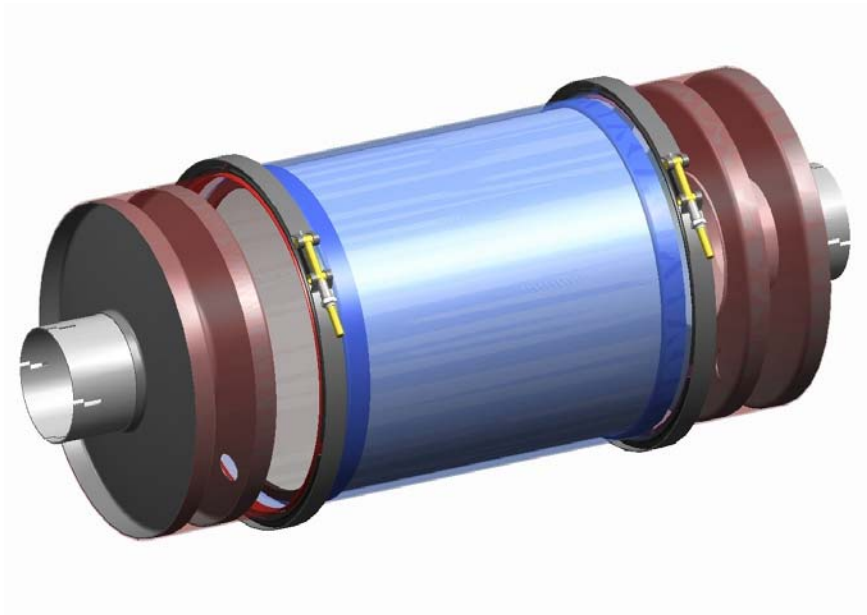
# **Diesel Particulate Filter Maintenance**

Anthony (Tony) J. Cook, PE  
Chief Engineer, Frame Systems  
International Truck and Engine Corporation  
Truck Technology and Development Center  
Fort Wayne, IN



## Diesel Particulate Filters – Why?

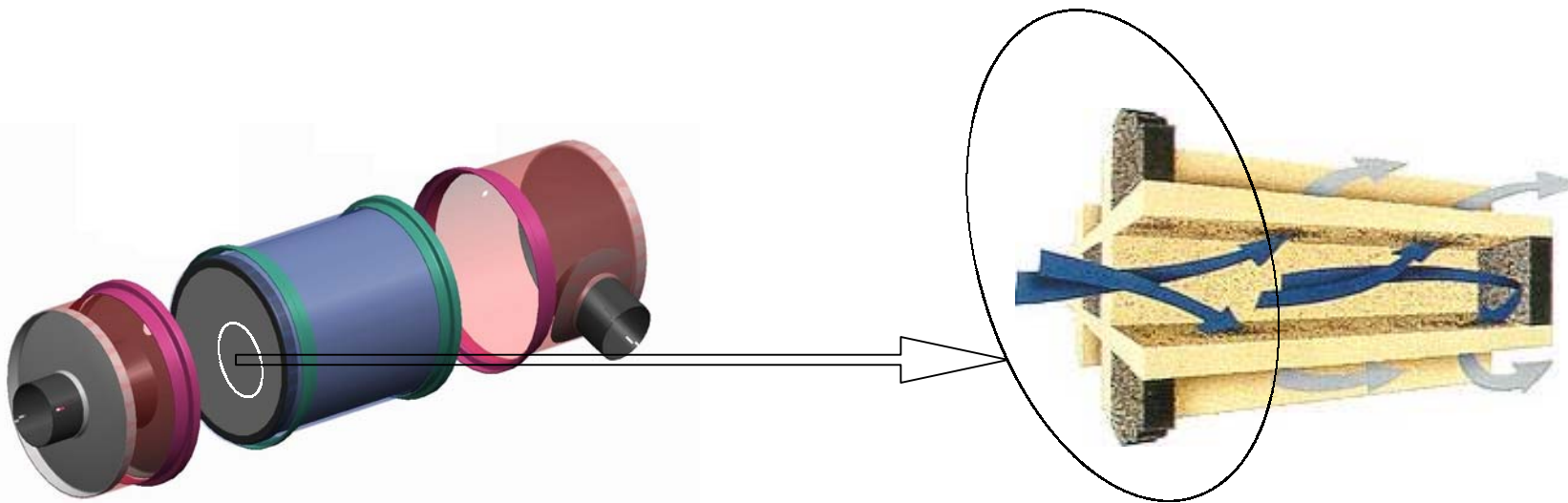
- 2007 Particulate Matter level = 0.01g/bHP-hr
  - Unachievable with foreseeable “engine-out” technology
  - Virtually assures use of a Diesel Particulate Filter (DPF)
    - Must also have 15ppm sulfur fuel to meet PM regulation





## DPF Maintenance – Why?

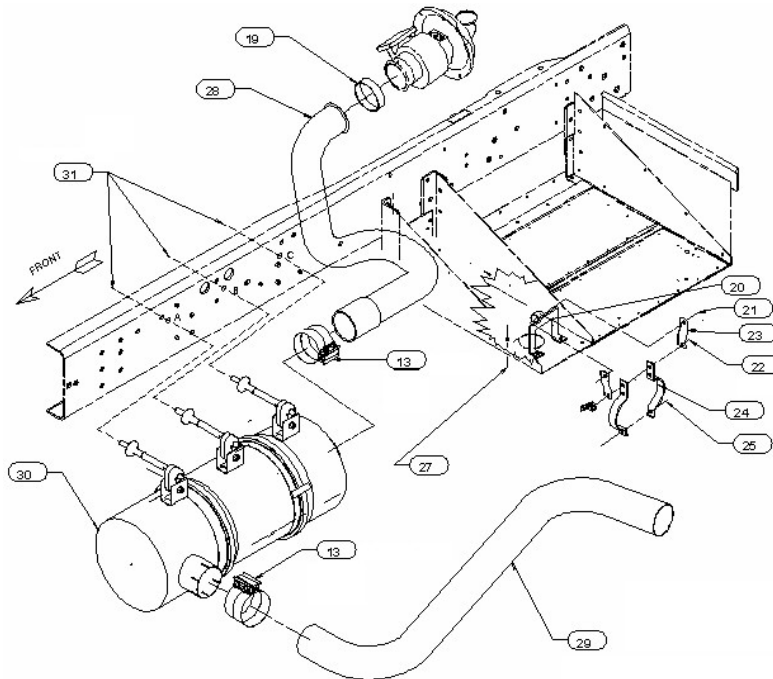
- DPF Function
  - Catch and hold exhaust particles for further processing;
    - Regeneration – soot and combustible fractions oxidized in the DPF
    - Maintenance – non-combustibles remain in the DPF and must be removed periodically





# DPF Maintenance – Issues & Concerns

- Development Needs
  - Service Procedures
    - DPF Conditioning, Disassembly, Ash Removal, Reinstallation





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## DPF Maintenance – Issues & Concerns

- Development Needs (continued)
  - Standards
    - SAE J-Standards and TMC Recommended Practices
  - Special Equipment
    - Typical shop equipment not sufficient
  - Ash Handling/Disposal Method
    - Not a hazardous residue under 40 CFR 261 Subpart C
    - Easily dispersible due to consistency



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## DPF Maintenance – Issues & Concerns

- Other Concerns
  - Cost
    - Expensive → must be handled with care!
    - Inventory carrying costs (versus mufflers) and availability
    - Need for serialization???
  - 80/20 Fuel Rule
    - Enables contamination from multiple sources
  - Recycling
    - Will automotive infrastructure support commercial vehicle aftertreatment devices???