

# KIO TI REGENERATION PROCESS



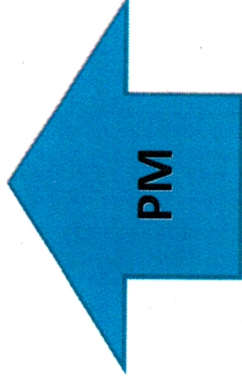
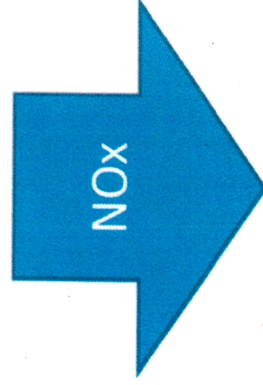
## IV. KIOTI TIER IV

### ENGINE (ABOVE 25HP) REGENERATION

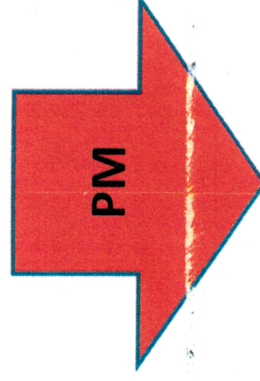
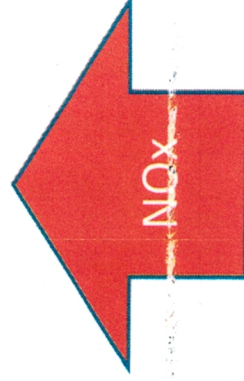


## Emissions Reaction to Combustion Temperature

- Low Combustion Temperature

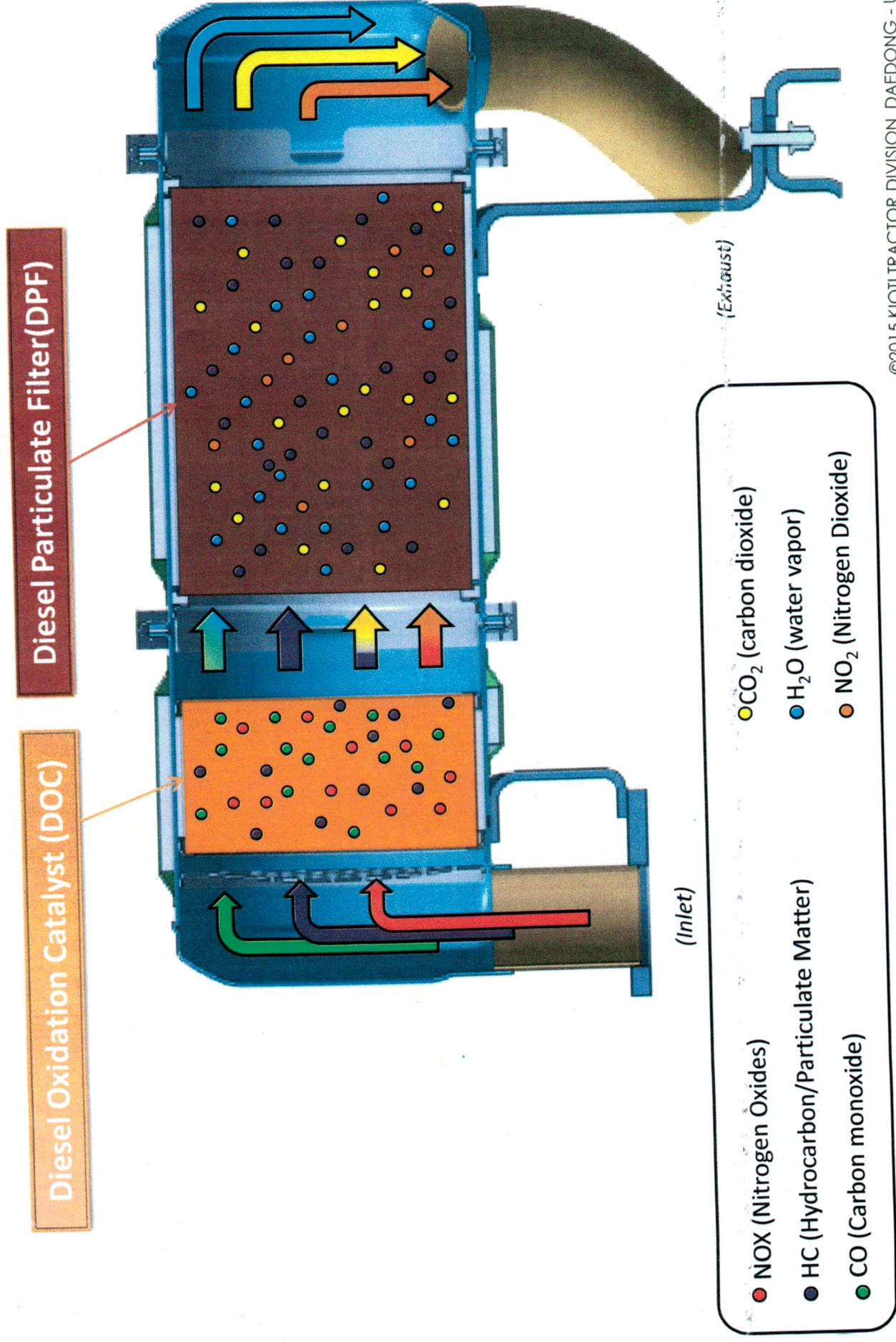


- High Combustion Temperature



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What is **PM** (particulate matter)? –

Soot or particulate material is the result of incomplete combustion of hydrocarbons -HC

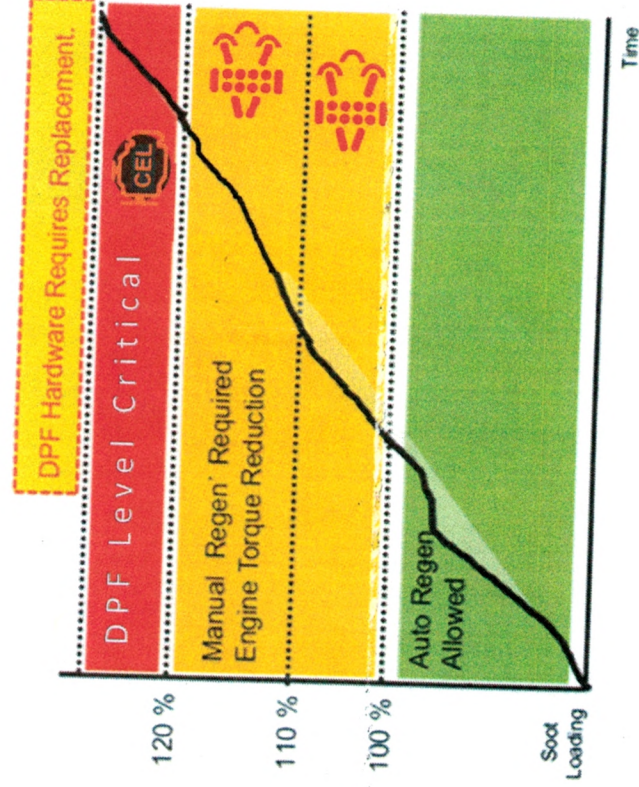
Why is particulate matter so important?–

The amount of PM caught in the DPF is what determines if a regen is necessary.



2015 KIOTI TRACTOR DEALER MEETING

Level	Percentage %	Regeneration Type Available	Torque reduction (%)
3	120 and above	None	50
2	110-119	Manual	30
1	100-109	Manual	30
	80-99	Auto/Manual	0



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2015 KIOTI TRACTOR DEALER MEETING

#### Passive regeneration:

- Particulate material is burnt **NATURALLY** when the exhaust gas temperature is high. Through every day use, high RPM or work load the exhaust gas temperature (EGT) are hot enough to burn particulate matter. *Example: Running the tractor at or above PTO speed*

#### Active regeneration:

##### Automatic Regeneration

- ECU initiates regen when conditions are desirable.  
\*RPM above 1600, Diesel Oxidation Catalyst (DOC) above 480°F

##### Manual Regeneration

- Operator initiated regen when DPF warning lamp is illuminated  
\*can be initiated at any time regardless if DPF light is on or not.



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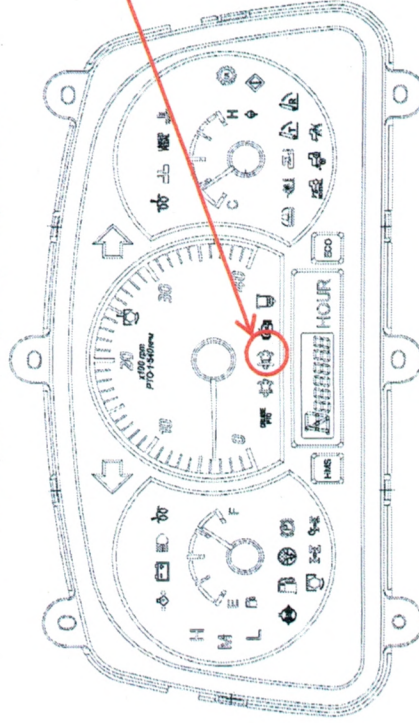


2015 KIOTI TRACTOR DEALER MEETING

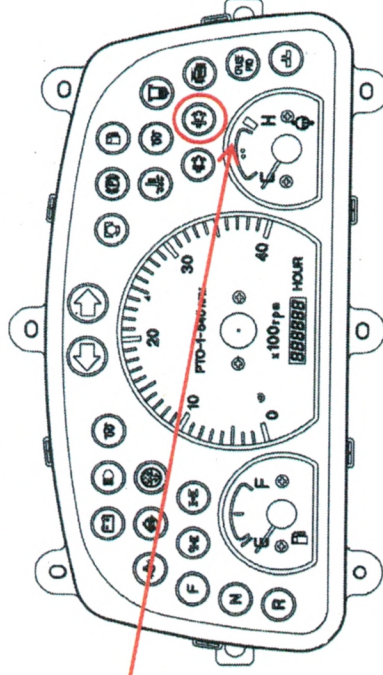
### Key Points for Automatic Regen:

- Soot levels to be between 80% - 100%
- Once CCRT temperature reaches 250°C (480°F) regen will begin
- RPM at or above 1,600; if RPMs drop below 1,600 regen process will be cancelled
- ECU will command post injection to increase CCRT temperature to 600°C (1100°F)
- Automatic regen will occur about every 40 running hours, but also depends on the working conditions
- Automatic regen last approximately 20 minutes
- Regen underway lamp will be lit during the process
- Do not shut engine off until “regen underway lamp” is off

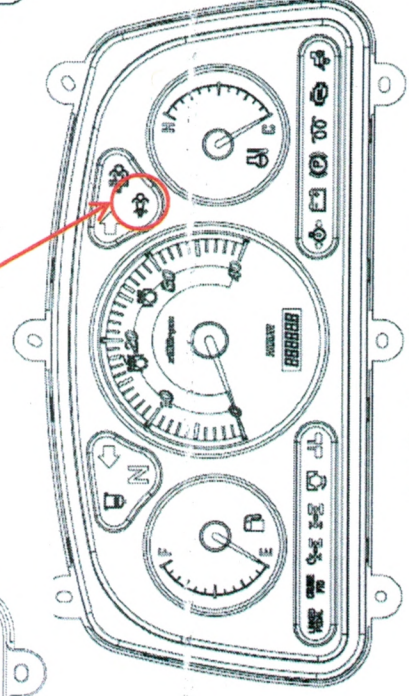
**NX series – 45/50/55/6010**



**RX series – 6620/7320**



Regen Underway Lamp



**CK/DK – '10 series**



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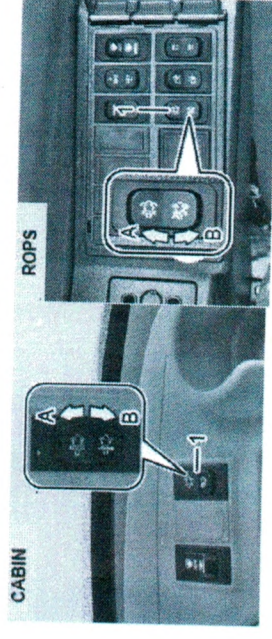


2015 KIOTI TRACTOR DEALER MEETING

### Key points for Manual Regen:

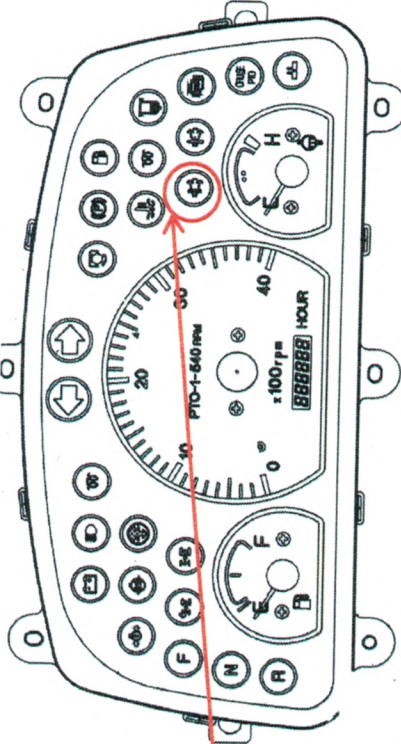
*Perform the following procedure when the regeneration warning lamp comes on:*

- Park the tractor on level ground, open surroundings, and well ventilated
- Start the engine and run at idle speed for 3 to 4 minutes; coolant temp needs to be 20°C (68°F) or higher
- Press and lock the parking brake
- Do not depress the clutch pedal (NX HST: Place range lever in "N")
- Press regeneration button (A) and hold for 2 seconds
- The regen underway lamp blinks after the regen warning lamp turns off
- Regen will last approximately 40 minutes and will be in 3 stages:
  1. Warm up mode; 12 minutes at 1,500 rpm
  2. Regen mode; 25 minutes at 2,600 rpm
  3. Cool down mode; 3 minutes at 1,600 rpm

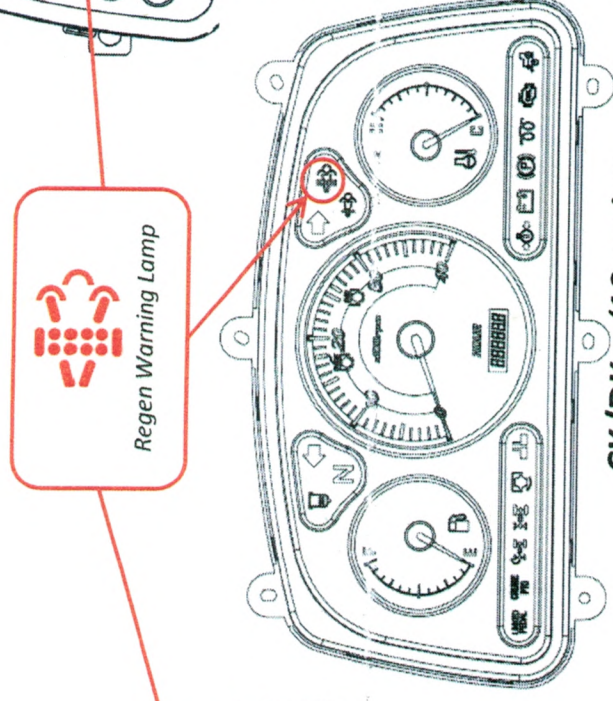


RX series – 6620/7320

NX series – 45/50/55/6010



\* Light will be amber in color on RX models only



CK/DK – '10 series

