Overall Information

Table1- Overall Information

Vehicle plate number	85423
CPK data logger number	LN: 001505, DN: 2001, Sim Number +989218469621
Bus line	Number 4 (south to north bus line)
Bus Terminals	South Bus Terminal - Park Way Bus Tehran Terminal
Total path distance	22.8 km
DPF producer company	HJS_02 (active system with FBC – electrical heater)
Installation date	19/Feb/2015
Report period	01/Sep/2015- 15/Sep/2015 (fifteen days)
K value - DPF upstream	1.78 [1/m]
K value – DPF downstream	0.02 [1/m]

Table 2- DPF Maintenance History

Filter maintenance date	DPF has been working from installation date until now without any cleaning.
Dosing status	Dosing value has been kept constant from installation date until now.

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Table 3- Fuel and Additive Consumption Information

Bus mileage (from DPF installation date)	33957 km
Bus mileage over the period	2140 km
Working days over the period	11 days
Stop days	4 days
Data logger working days	11 days
Working hours over the period	157 hours 23 minutes
Average working hours per day (including stop days)	10 hours 29 minutes
Bus average speed	13.6 km/hr
idle speed time to all working time ration	52.4 %
Total Bus fuel consumption over the period	1306 lit
Fuel consumption per hour	8.3 lit/hr
Average fuel consumption	0.61 lit/km
Total Bus additive consumption over the period	0.650 lit
Average additive consumption	305 cc/km
Additive consumption to fuel ration	500 cc per 1000 lit (batch dosing with tank level)

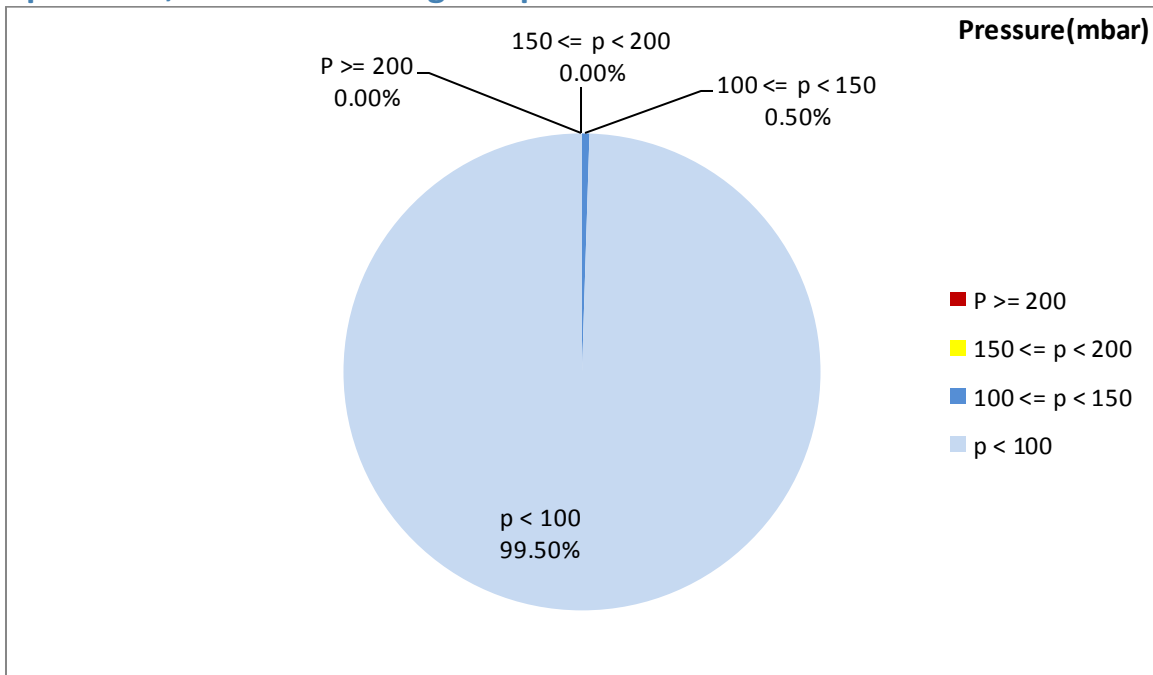## Temperature, Pressure and Engine Speed Overview

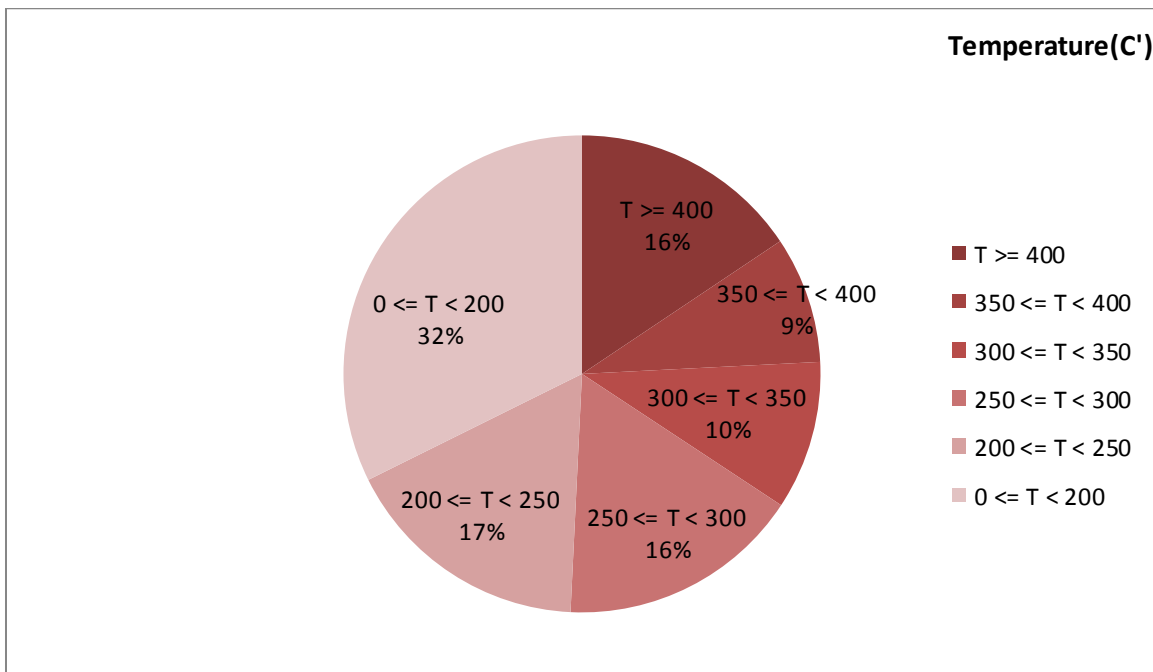*Figure 1- Pressure distribution over the working hours*

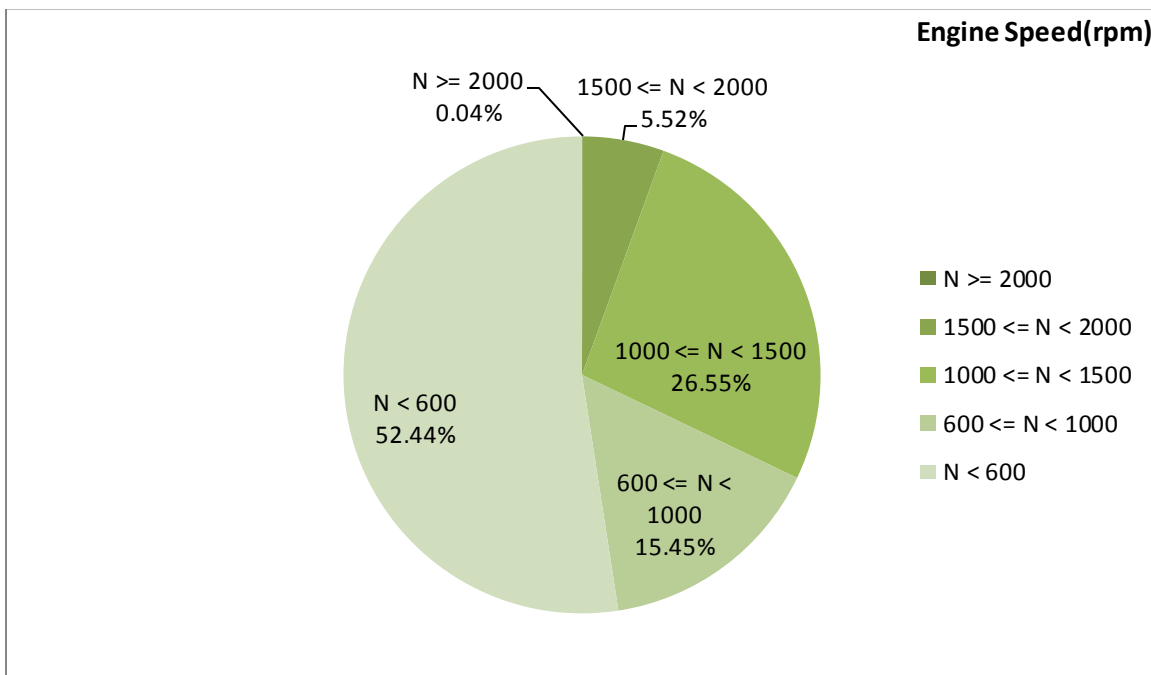*Figure 2-Temperature distribution over the working hours*

Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
273.09	12.3	826

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
341.27	24.42	1135

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
674-50	135-0	2112-256

Detailed Pressure Analysis
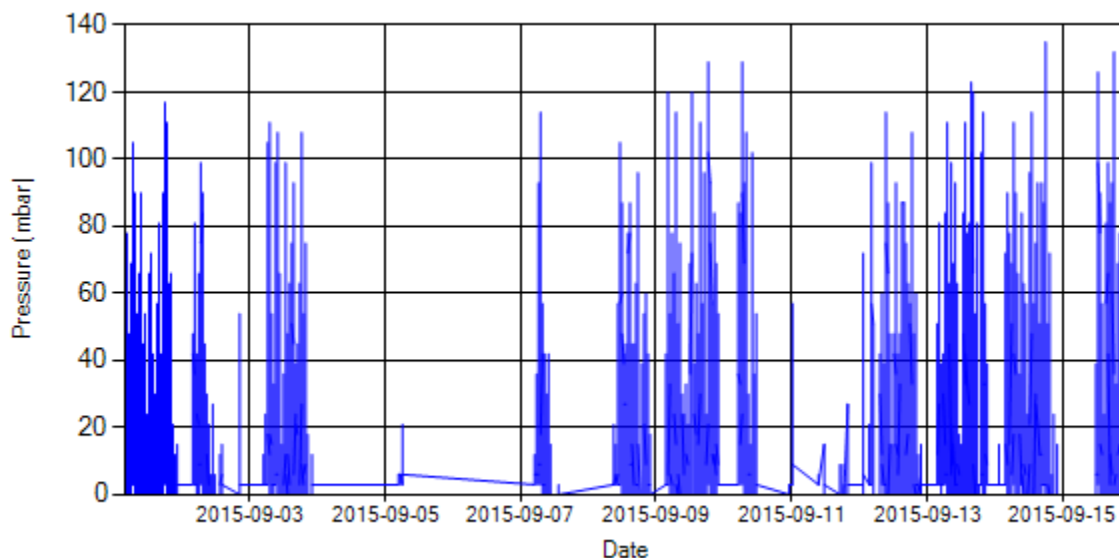
Figure 4- Pressure distribution over the period
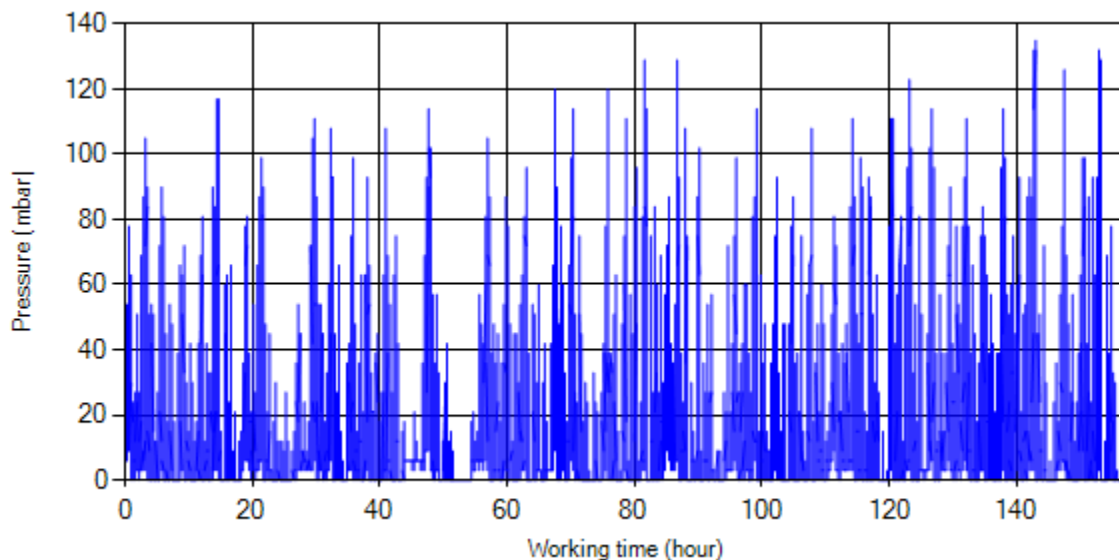
Figure 5- Pressure vs. working hours

Notice: backpressure distribution was shown into two diagrams. As obvious in figure 5, stop-working periods were eliminated and pressure was displayed along working hours.

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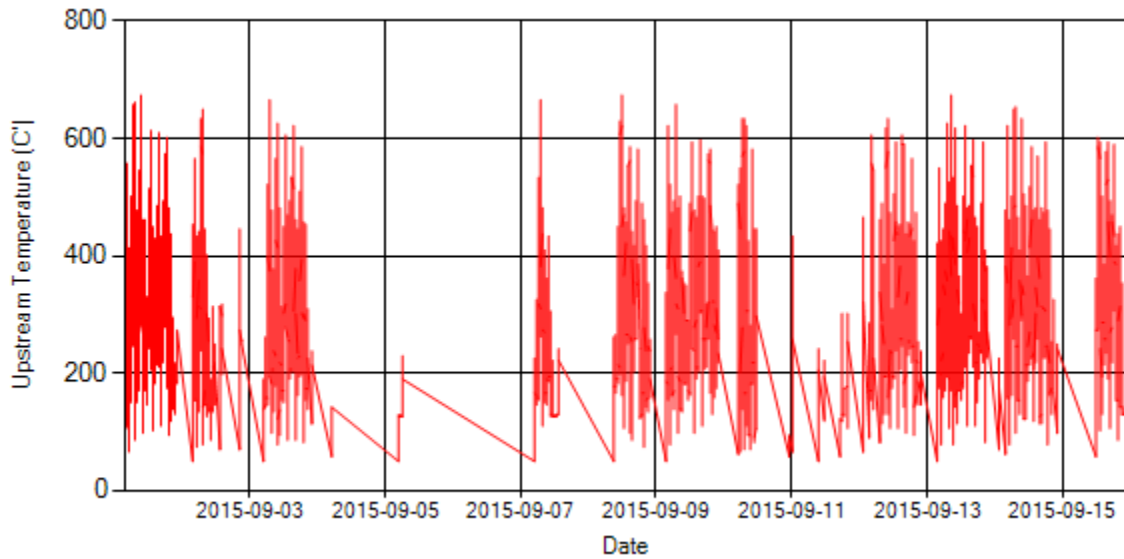
Detailed Temperature Analysis
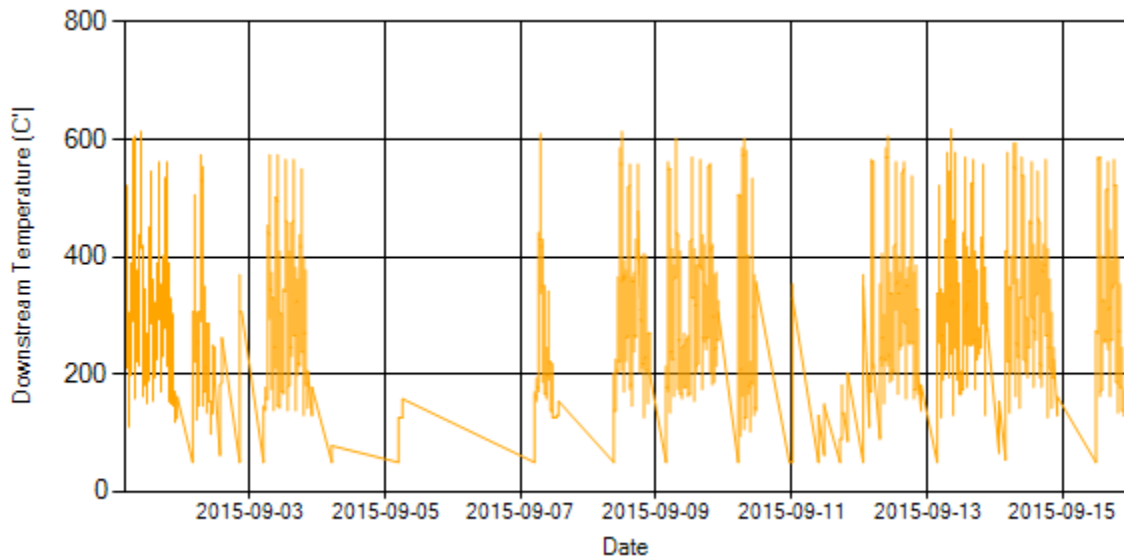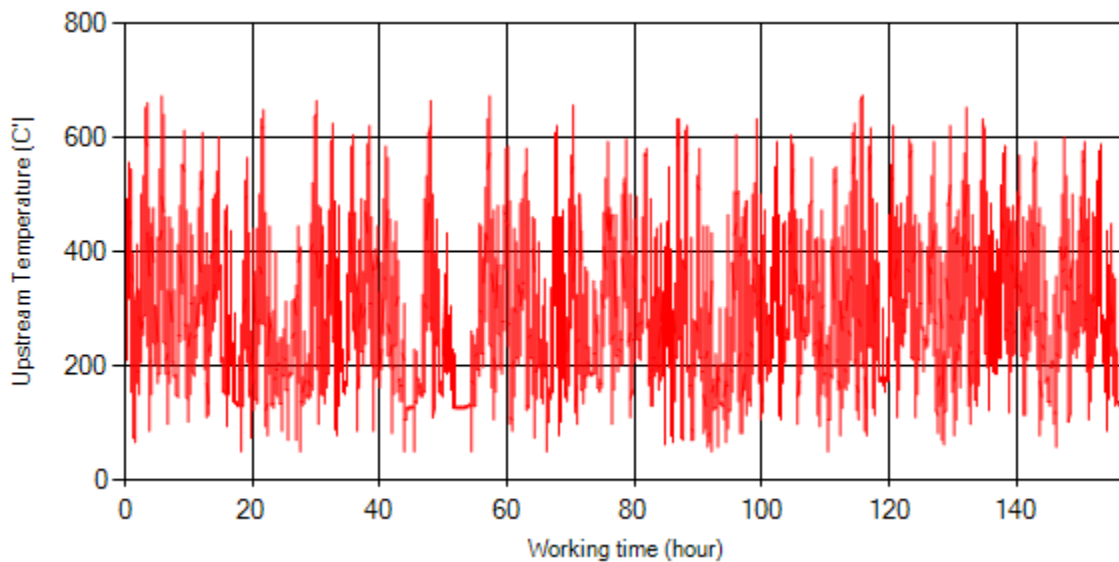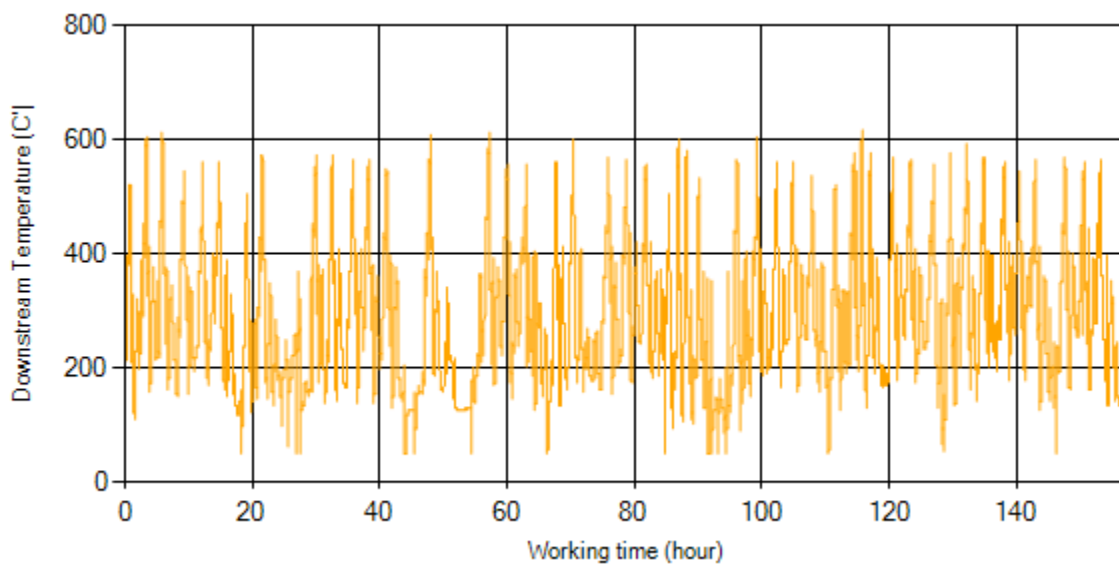

Figure 6- Temperature distribution over the period

Figure 7- Temperature distribution over the period

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Figure 8- Temperature vs. working hours

Figure 9- Temperature vs. working hours
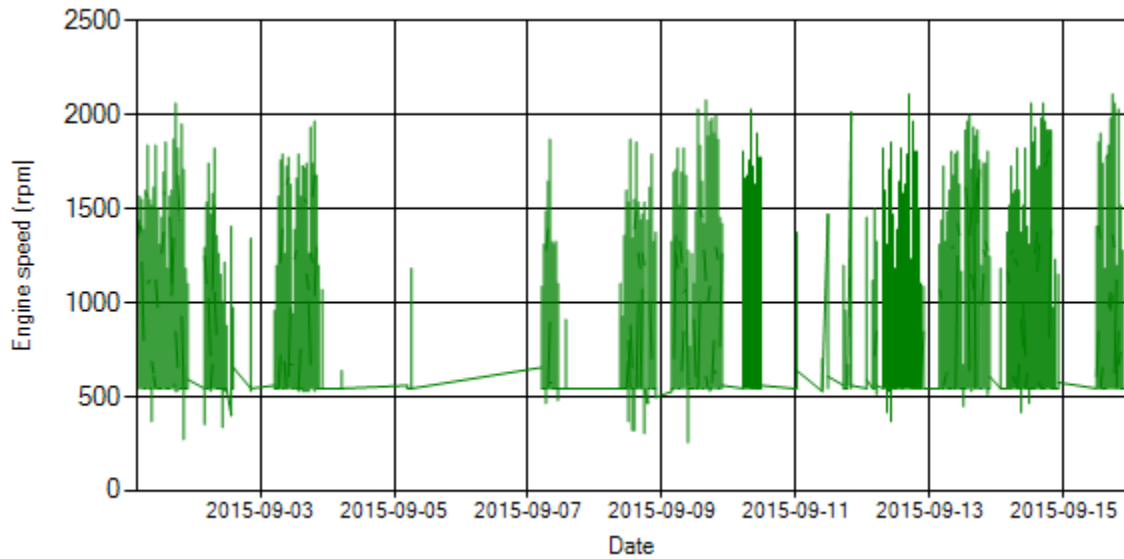
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Engine Speed Diagrams
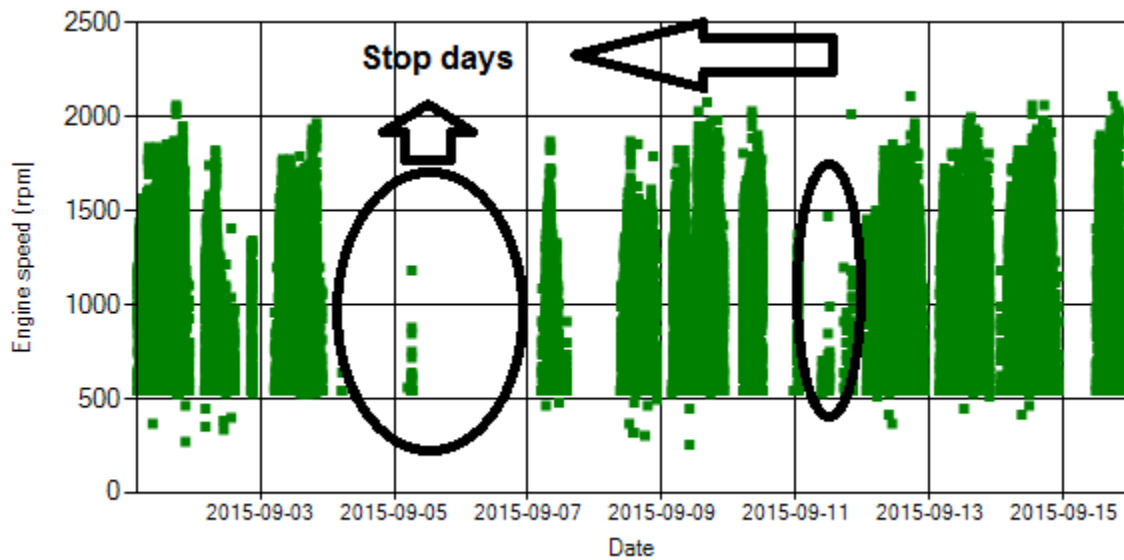

Figure 10- Engine speed distribution over the period

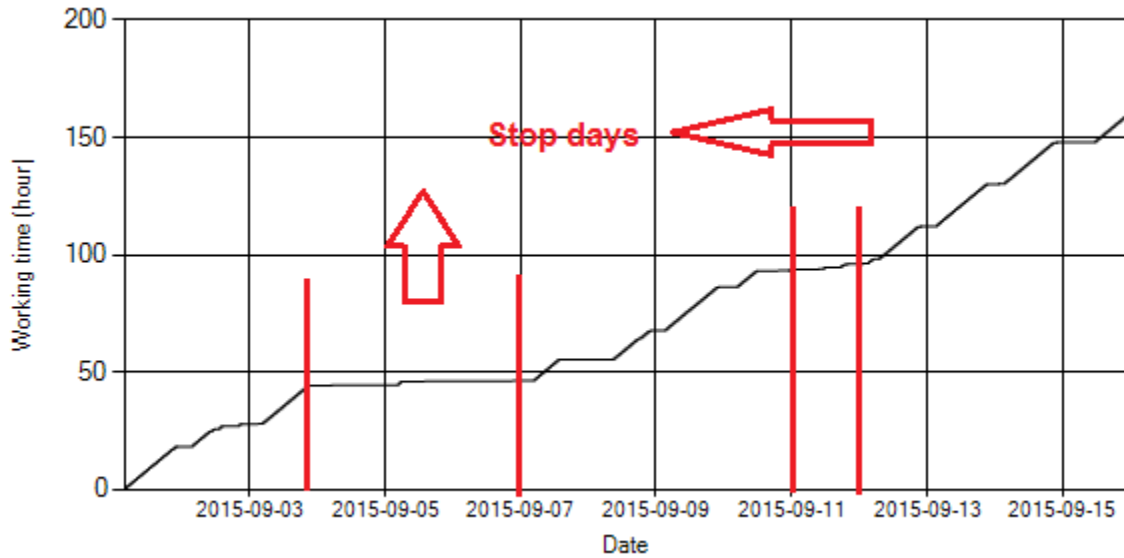*Figure 11- Engine speed diagram for calculating CPK's working days*

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Figure 12- Time diagram for calculating CPK's working days

Notice: Data logger sampling time can be calculated from Figure 12. The lines parallel with Date axis show days without data logger data.
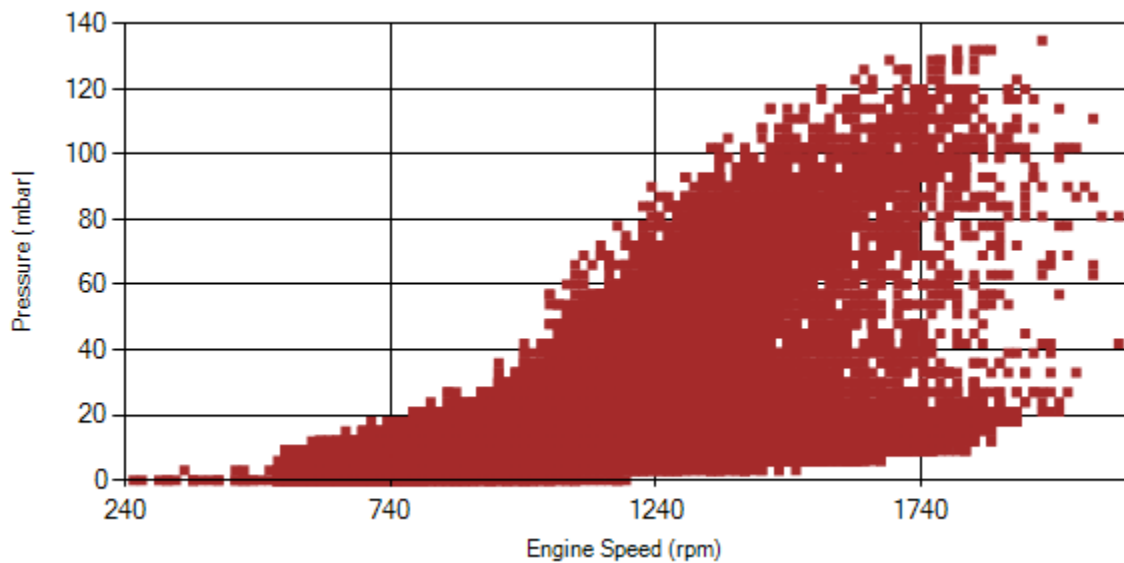
Pressure-Engine Speed diagrams
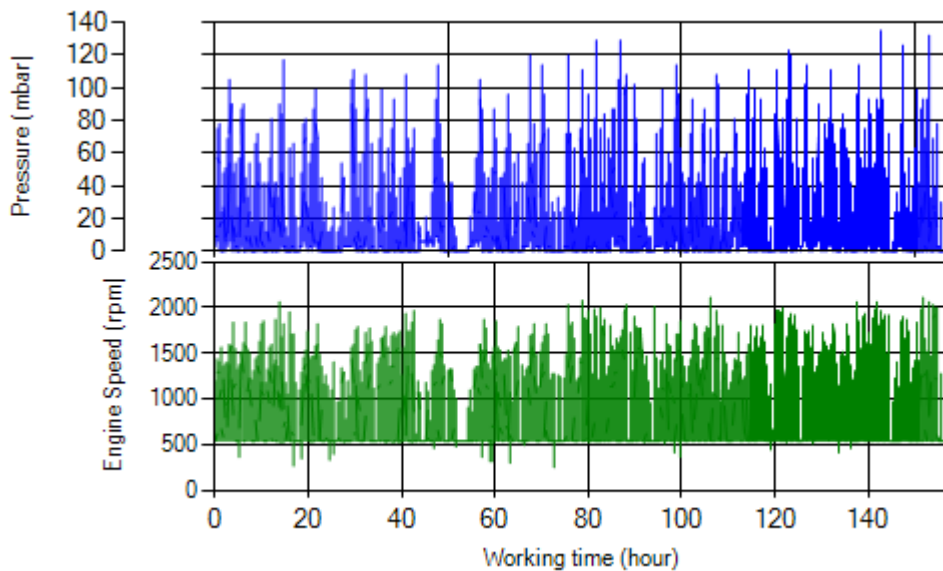

Figure 13- Pressure against engine speed

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Figure 14- P, N distribution vs. working hours

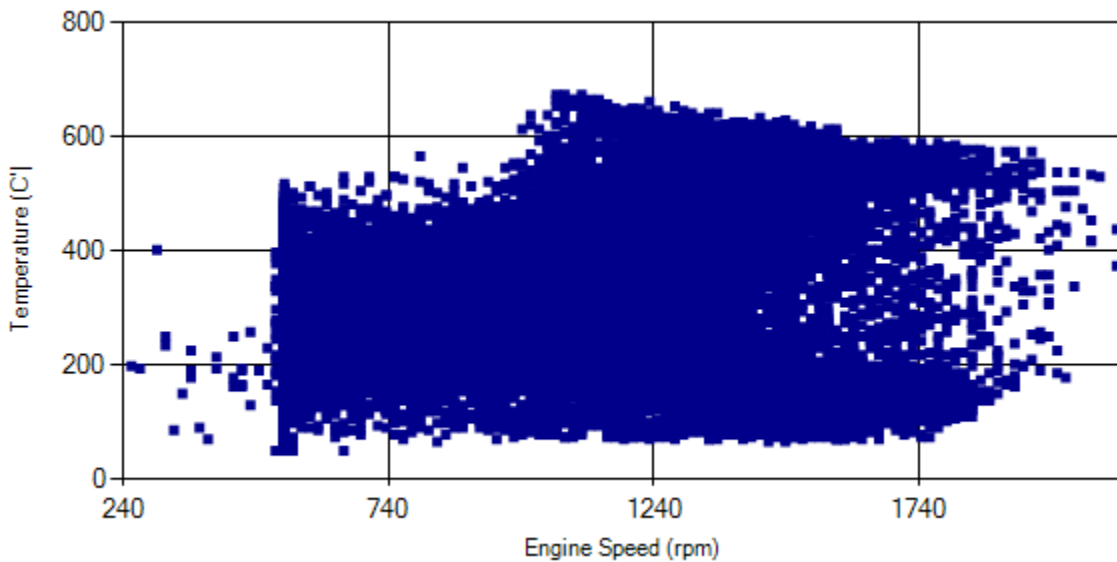## Temperature-Engine Speed diagrams

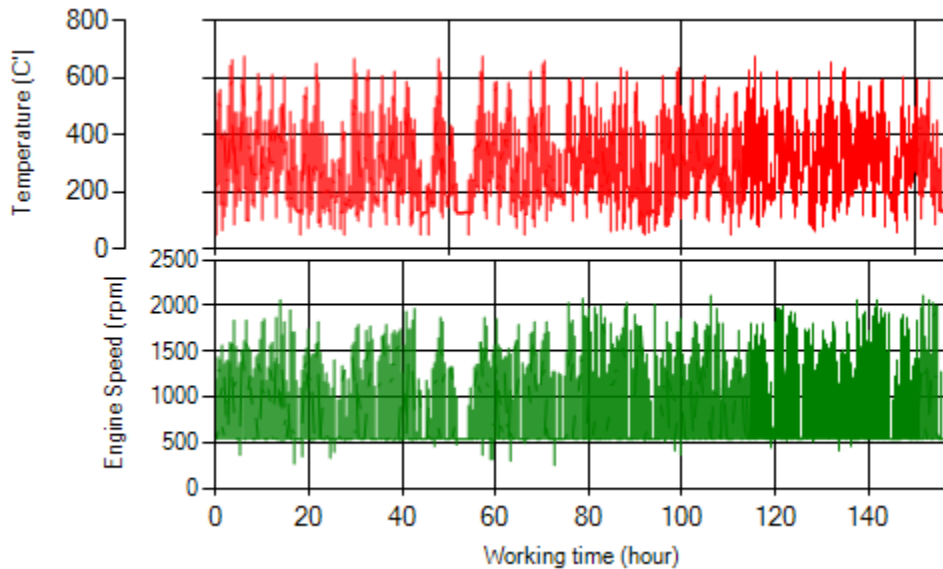*Figure 15- Temperature against engine speed*

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Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in figure 1, pressure above 150 mbar wasn't observed during this period.
- Figure 2 displays flow temperature distribution for DPF's upstream. It can be obviously observed that 16% of total working-time temperature is above 400 ℃ and 25% above 350℃.
- This vehicle operates in line 4, so due to path characteristic of this line, engine operates in high speed.

Filter operation status	Excellent ■ Good ☐ Maintenance required ☐ Failed☐