

Overall Information

Table1- Overall Information

Vehicle plate number	78515
CPK data logger number	LN: 001490, DN: 1954, Sim Number +98000000000
Bus line	Number 4 (south to north bus line)
Bus Terminals	Tehran South Bus Terminal - Park Way Bus Terminal
Total path distance	22.8 km
DPF producer company	Dinex_01 (passive system with FBC)
Installation date	22/Oct/2014
Report period	16/Jun/2015 – 31/Jun/2015 (sixteen days)
K value - DPF upstream	1.24 [1/m]
K value – DPF downstream	0.00 [1/m]

Table 2- DPF Maintenance History

Filter maintenance date	Filter core was changed on 15/Feb/2015.
Dosing status	Dosing value was reduced to 30% of its initial value on March February 15 th

Table 3- Fuel and Additive Consumption Information

Bus mileage (from DPF installation date)	40308 km
Bus mileage over the period	2032 km
Working days over the period	11 days
Stop days	5 days
Data logger working days	11 days
Working hours over the period	145 Hour 12 minutes
Average working hours per day (including stop days)	9Hour 4 minutes
Bus average speed	14 km/hr
idle speed time to all working time ration	58 %
Total Bus fuel consumption over the period	1321 lit
Fuel consumption per hour	9.09 lit/hr
Average fuel consumption	0.65 lit/km
Total Bus additive consumption over the period	0.343 lit
Average additive consumption	169 cc/km
Additive consumption to fuel ration	260 cc per 1000 lit (continuous dosing)

Engine rotational speed for this vehicle when air conditioning system is on, is approximately 784 rpm and without use of cooling system is about 544 rpm.

Temperature, Pressure and Engine Speed Overview

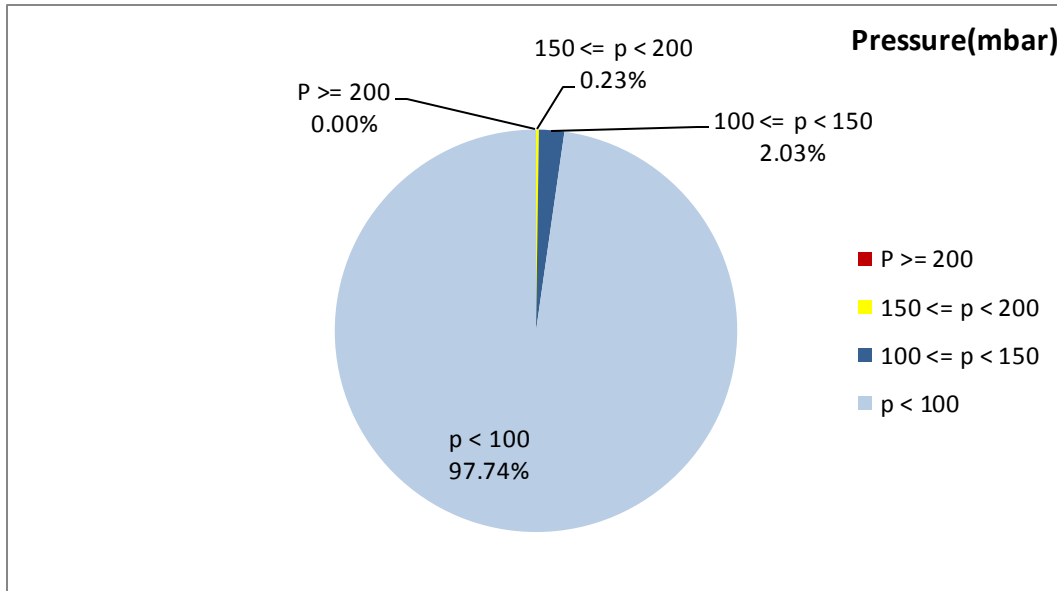


Figure 1- Pressure distribution over the working hours

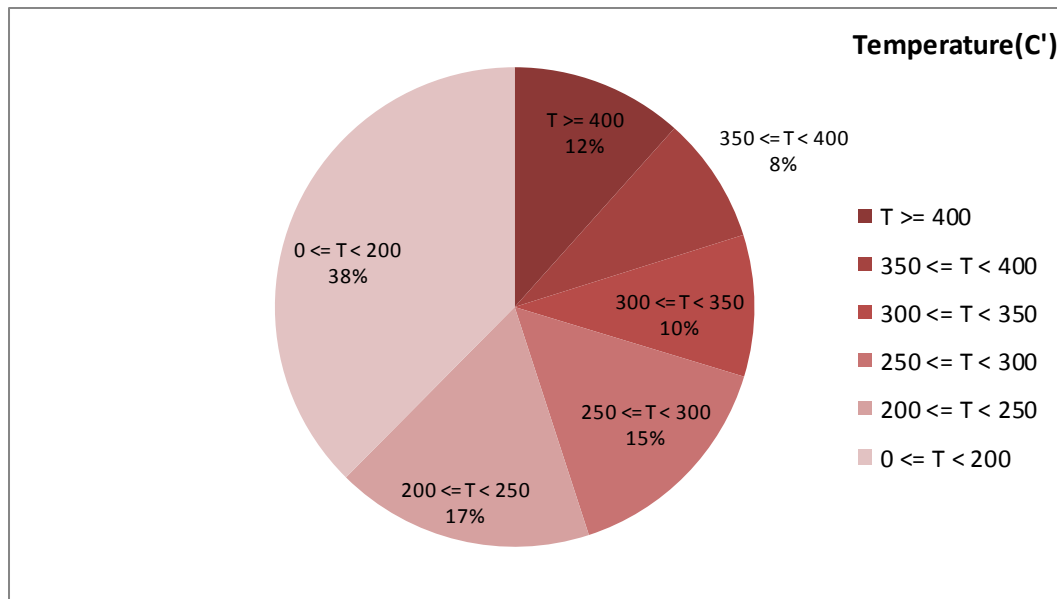


Figure 2-Temperature distribution over the working hours

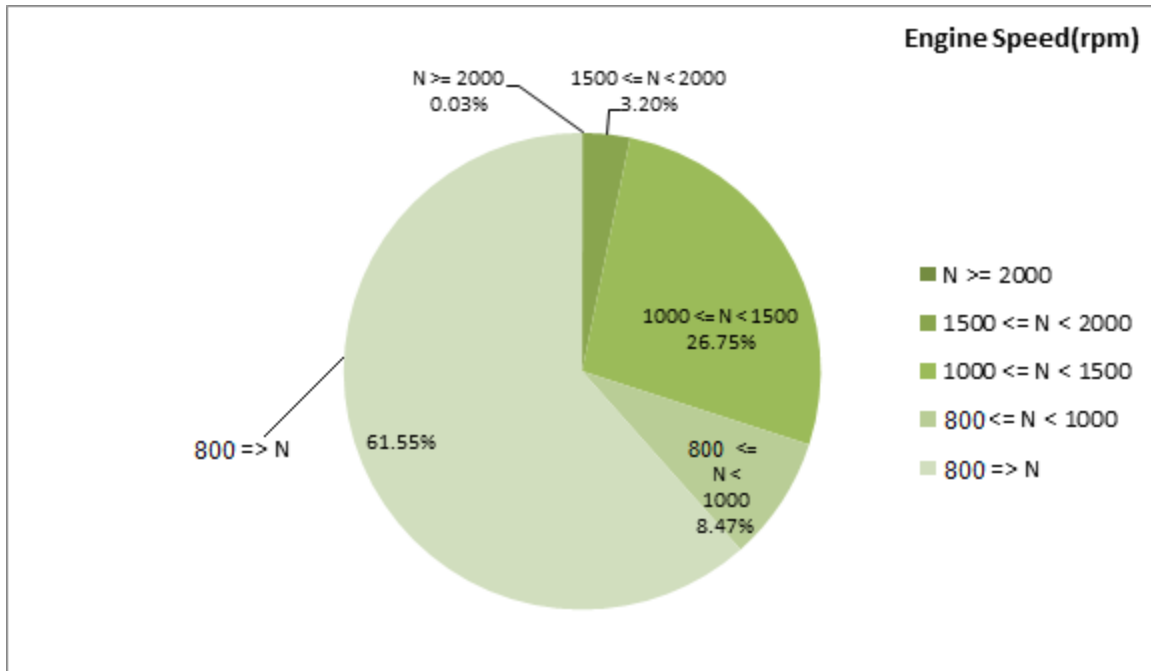


Figure 3- Engine speed distribution over the working hours

Table 4- Mean values

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
255.65	18.05	787

Table 5- Mean values without idling

Mean temperature (C)	Mean pressure(mbar)	Mean engine speed(rpm)
312.60	32.83	1058

Table 6- Max-min values

Max-min temperature(C)	Max-min pressure(mbar)	Max-min engine speed(rpm)
566-50	195-0	2128-256

Detailed Pressure Analysis

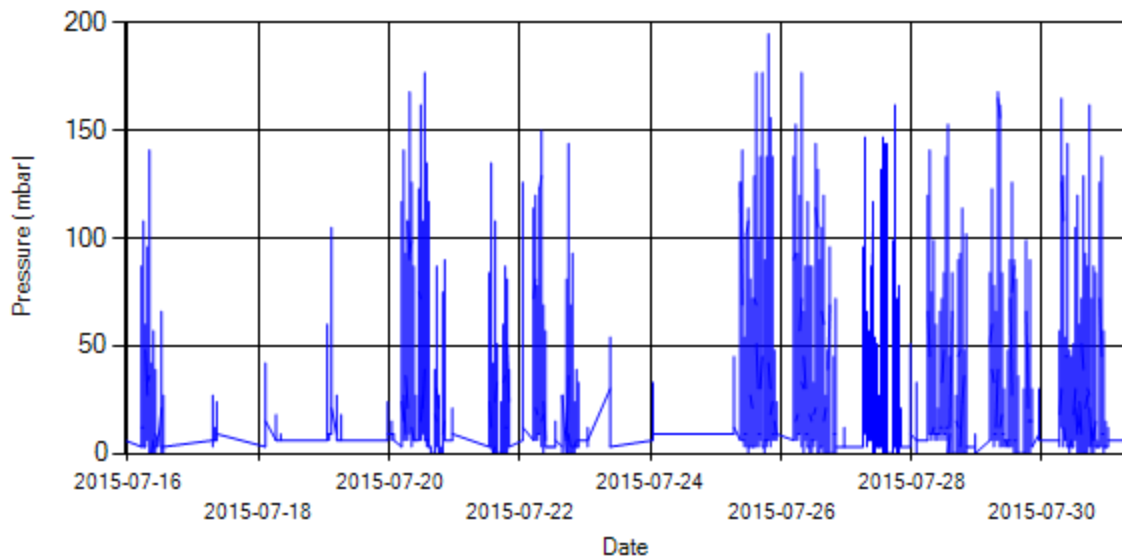


Figure 4- Pressure distribution over the period

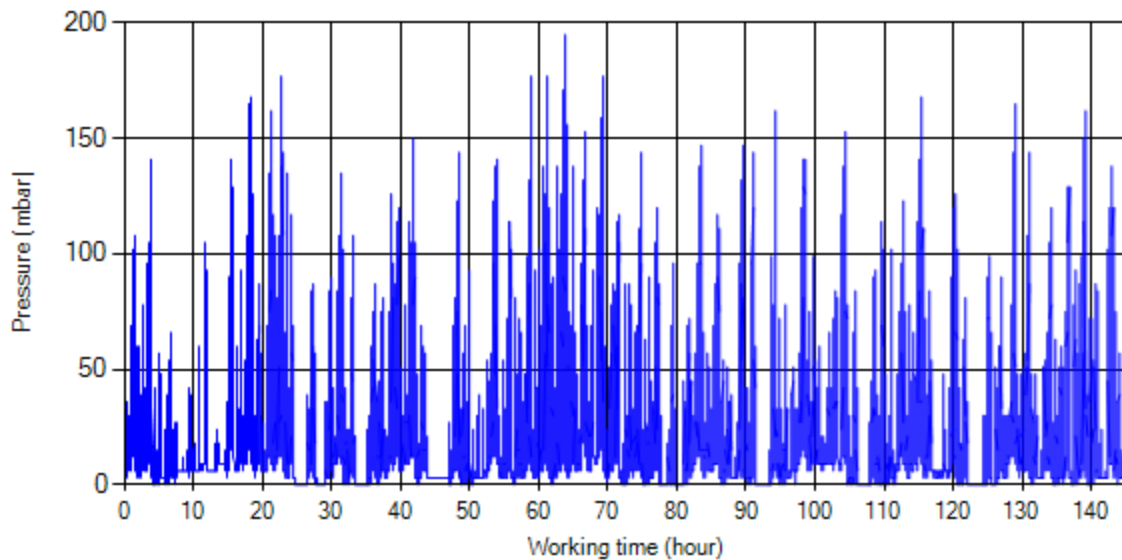


Figure 5- Pressure vs. working hours

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.

Detailed Temperature Analysis

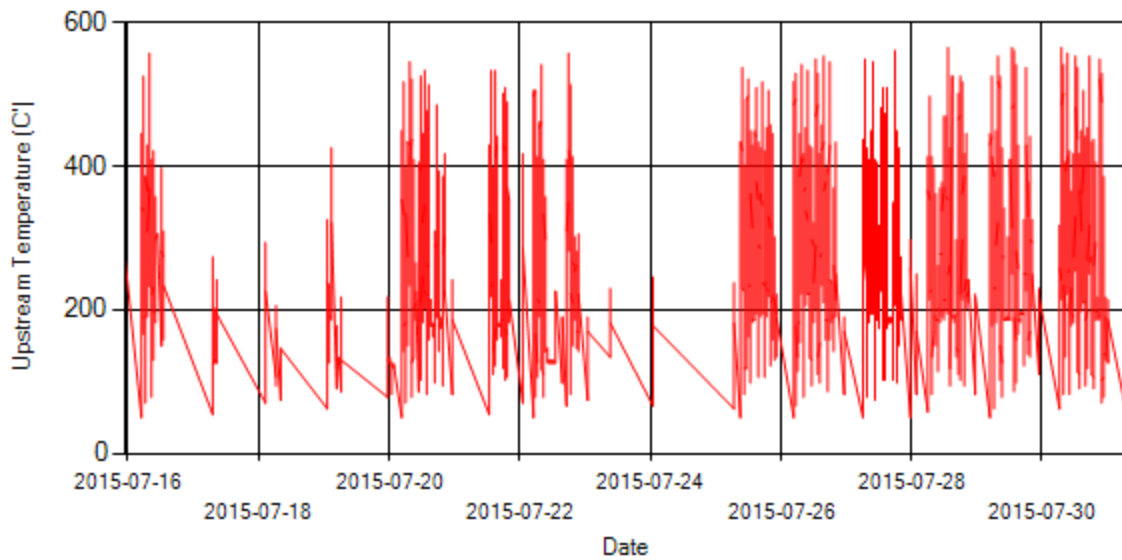


Figure 6- Temperature distribution over the period

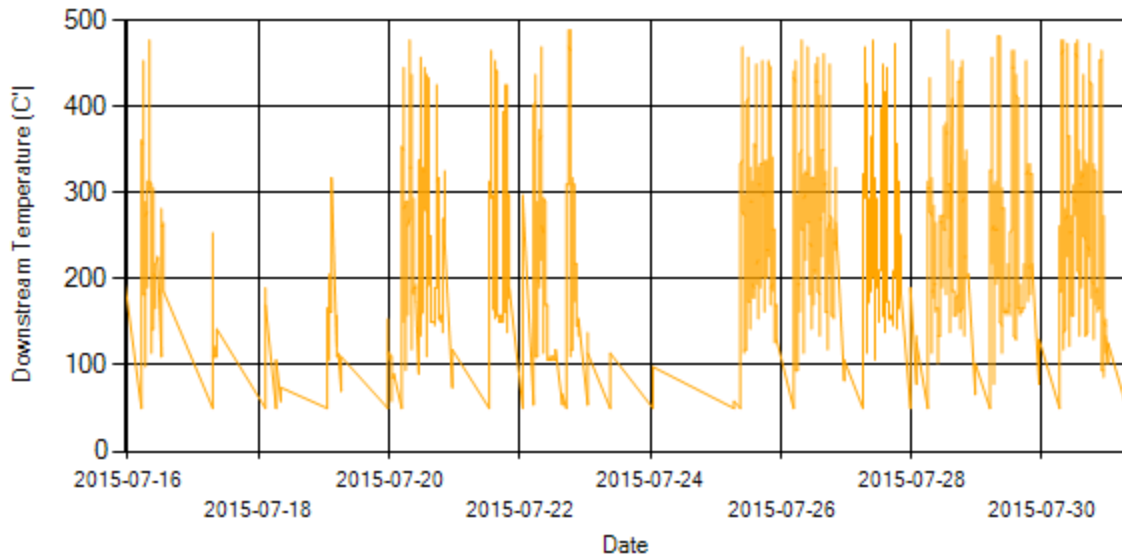


Figure 7- Temperature distribution over the period

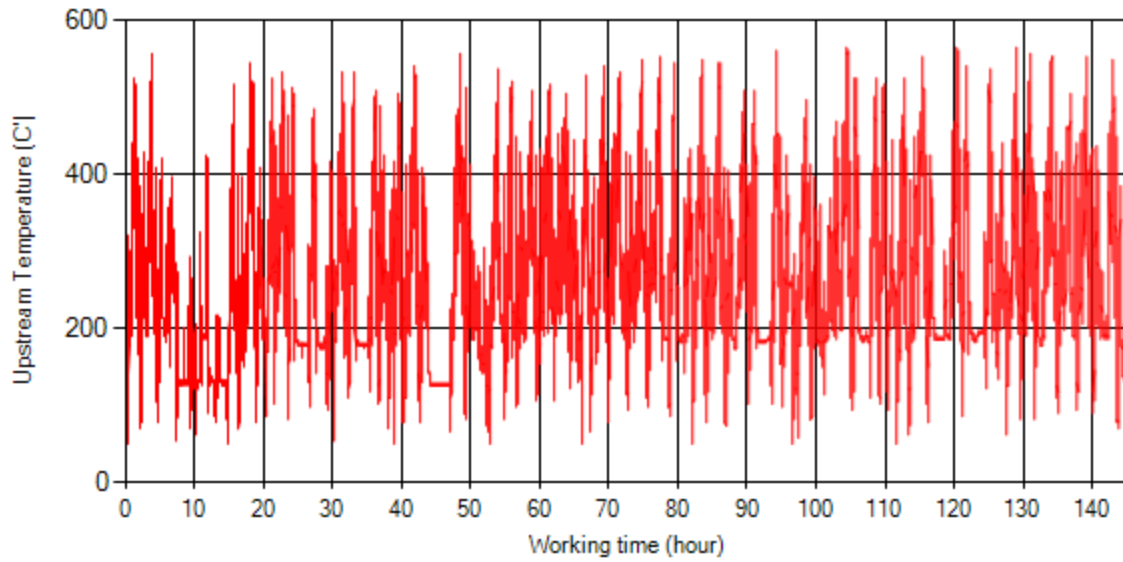


Figure 8- Temperature vs. working hours

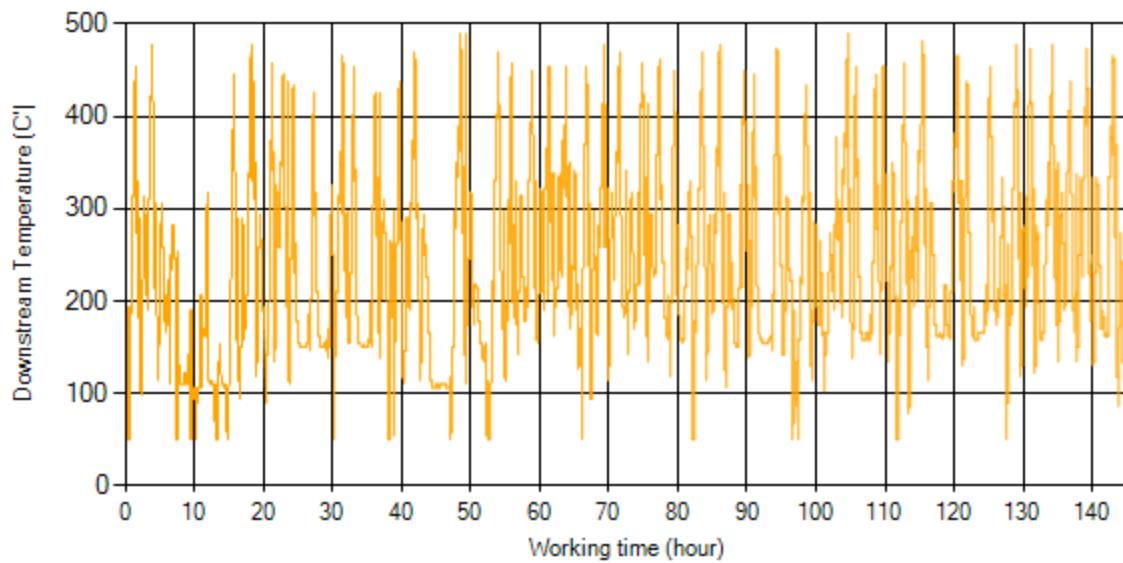


Figure 9- Temperature vs. working hours

Engine Speed Diagrams

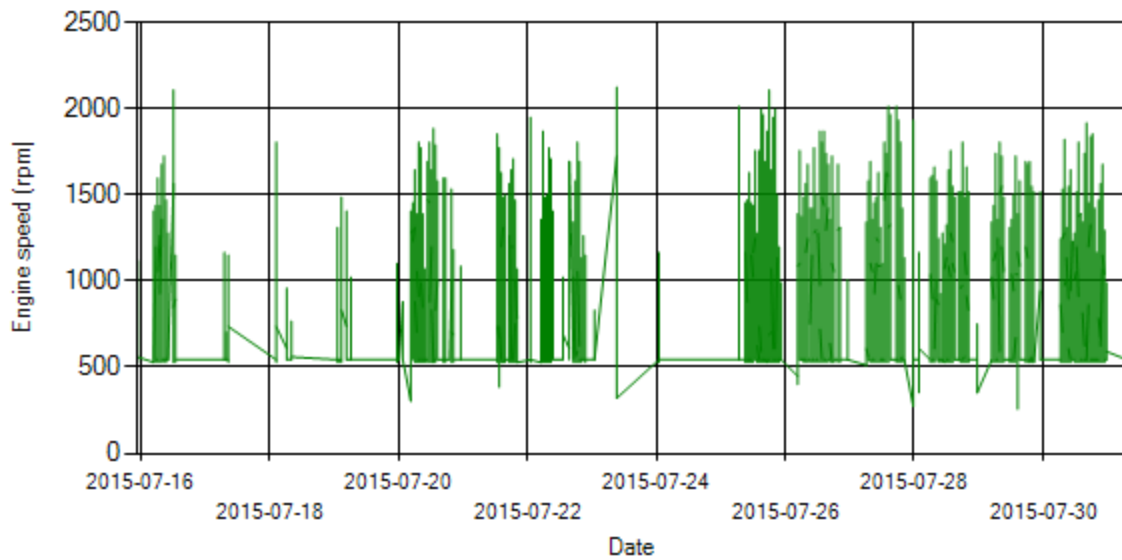


Figure 10- Engine speed distribution over the period

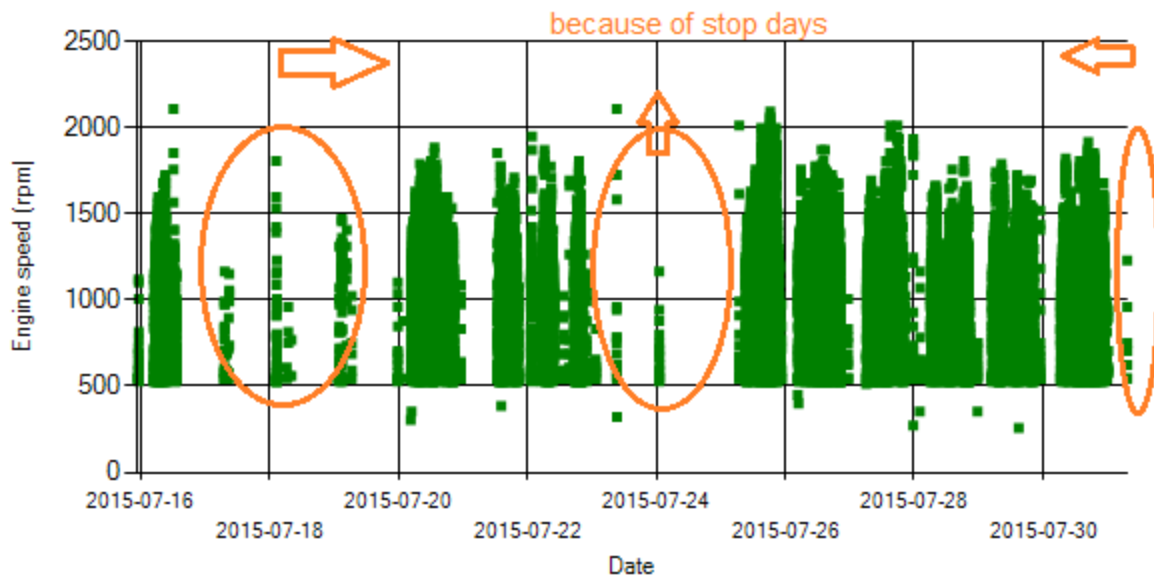


Figure 11- Engine speed diagram for calculating CPK's working days

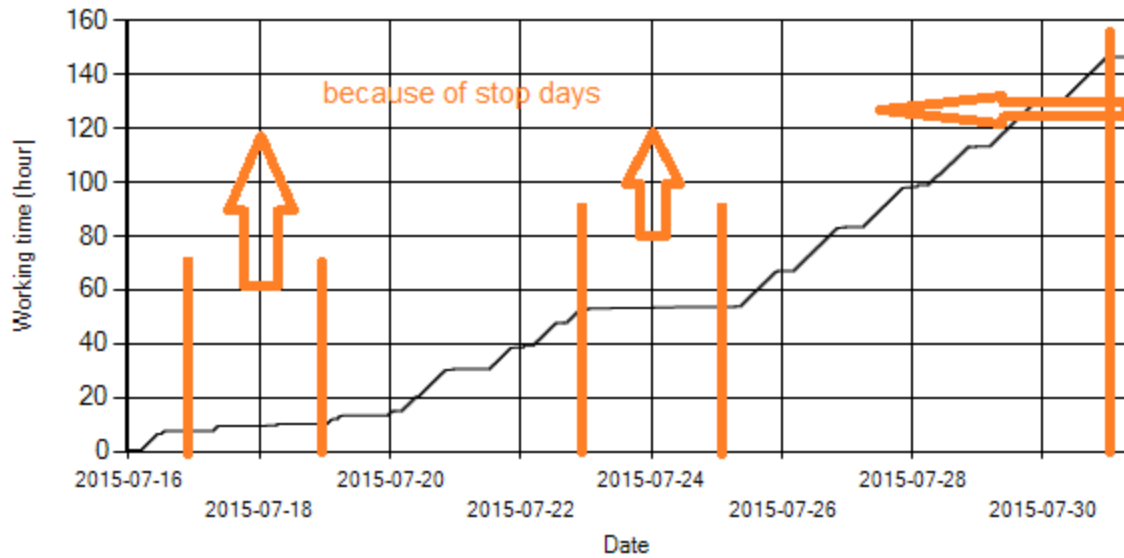


Figure 12- Time diagram for calculating CPK's working days

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

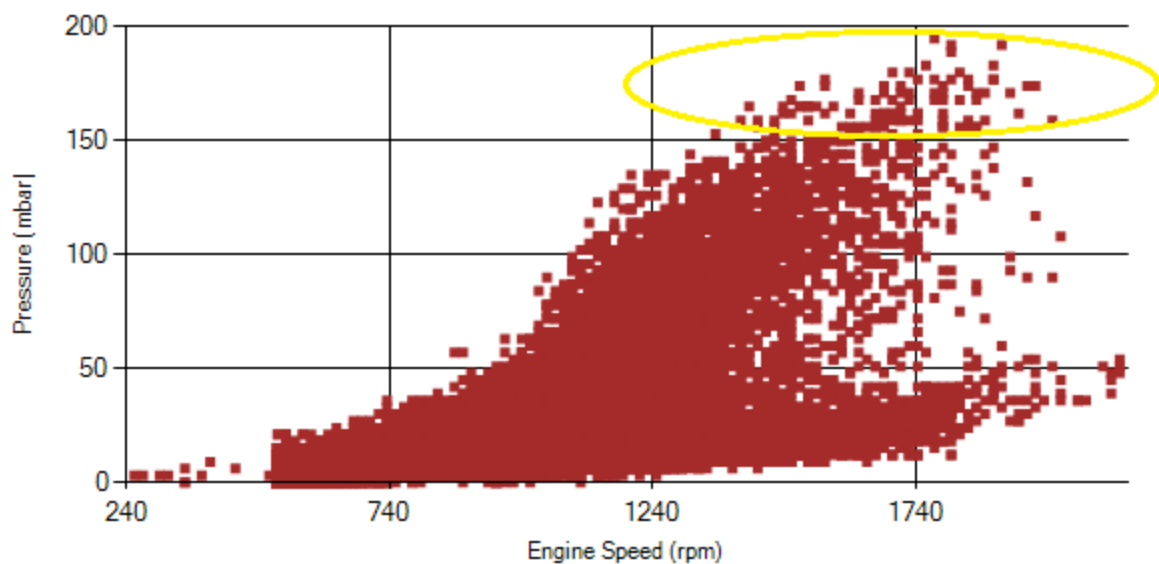


Figure 13- Pressure against engine speed

Notice: Yellow alarm ($200 > \text{pressure} > 150$) region was indicated in figure 13.

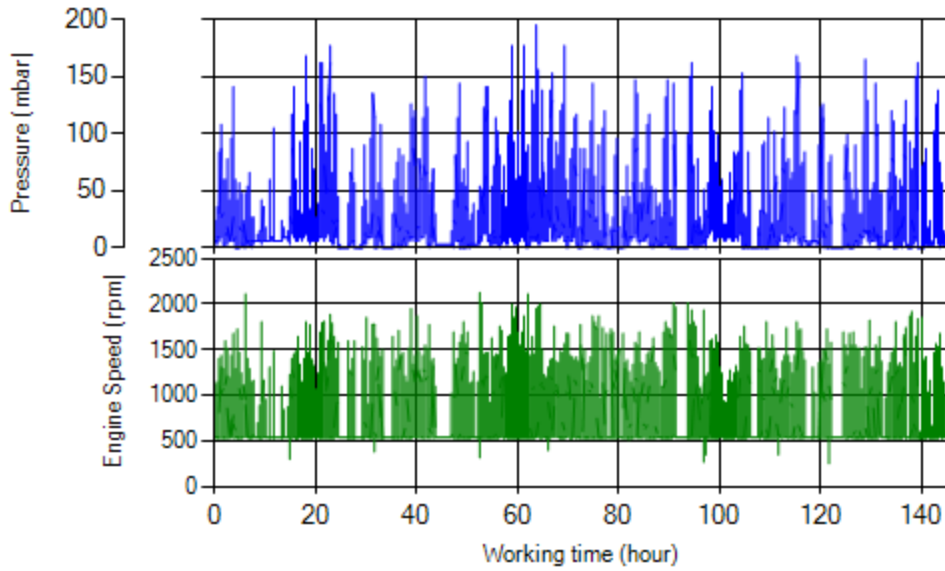


Figure 14- P,N distribution vs. working hours

Temperature-Engine Speed diagrams

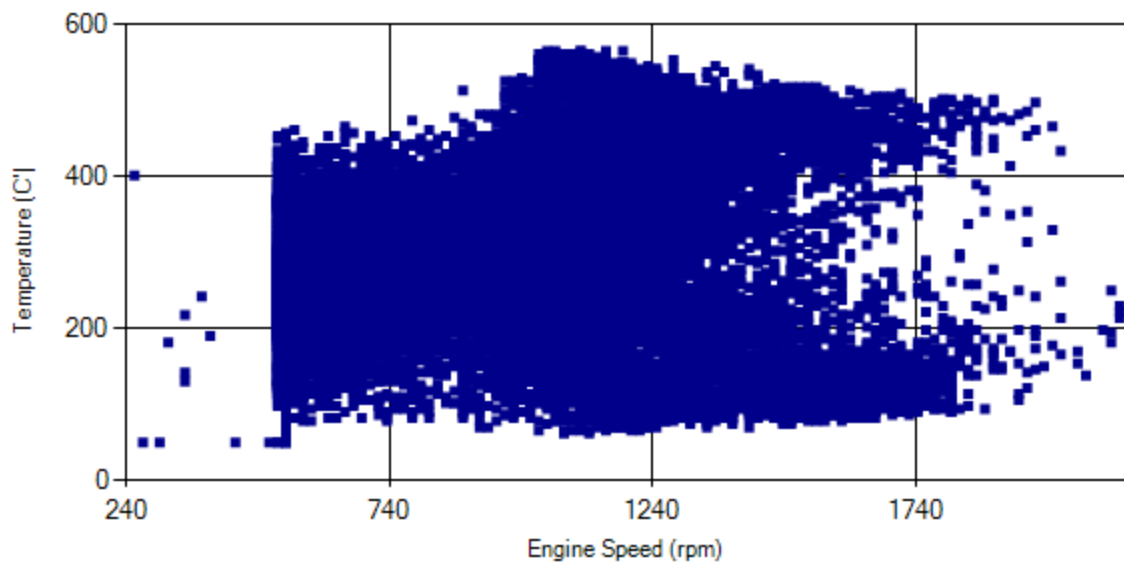


Figure 15- Temperature against engine speed

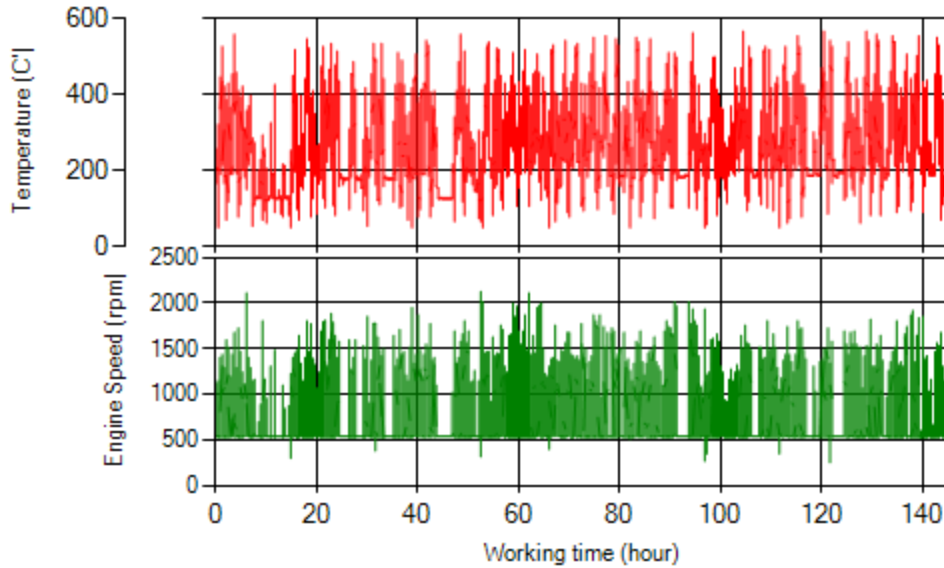


Figure 16- T, N distribution vs. working hours

Filter Operation Analysis

- As depicted in figure 1, pressure above 200 mbar can't be seen and only 0.23% above 150mbar.
- Figure 2 displays flow temperature distribution for DPF's upstream. It can be obviously observed that 12% of total working time, temperature is above 400 °C and 20% above 350°C.

Filter operation status	Excellent <input checked="" type="checkbox"/>	Good <input type="checkbox"/>
	Maintenance required <input type="checkbox"/>	Failed <input type="checkbox"/>