General points to consider when performing a test on the rollers.

IMPORTANT! IMPORTANT! IMPORTANT! IMPORTANT! IMPORTANT!

Increase the pressure in the tires to the maximum permitted for the actual tire to decrease the deformation of the tire at high speeds.

Place the driving wheels on the rollers. Lower the brake plates and disconnect the compressed air supply to avoid any unintentional operation of the brake plates during the test. The brake plates are designed to hold the rollers steady when entering and leaving the roller unit. Let the car center itself by turning the wheels and by driving at low speed. Secure the car from moving sideways by strapping it to the eyebolts. Place blocks both in front of, and behind the wheels on the floor (non-drive wheels) to avoid movements lengthwise. If the driving wheels should get hold of the frame and thus pull the wheels out of the rollers during the test, it could result in damage to the transmission/tires of the vehicle and, in any case, cause damage to whatever might be in front of the car!

It is dangerous to stay in the room during the test due to the risk of fragments and/or lodged objects being thrown from the tires while they rotate at high speeds.
The operator must remain in the vehicle until the wheels have stopped rotating after the termination of the test. This will eliminate the risk for anybody getting limbs caught in the rollers, or between the rollers and the tires. The inertia is equivalent to a vehicle of 630 kg driving at 200 mph. A trapped foot is no match for such a force.

Be sure to provide sufficient cooling for the engine.

Remember to re-adjust the tire pressure after the test. All tests on the roller dynamometer must be performed by a qualified operator, and is done at his own responsibility. Dynomet does not take any responsibility for damage to the equipment, car or any person. The test is safe to perform if the equipment is handled and operated according to the procedure. Deviating from this could result in accidents. Make sure that the vehicle is operational when performing the test. I.e. the wheels must be balanced. Check the motor and transmission oils. Remember that the engines will work at its maximum output. Winter tires, studded tires, re-capped tires and tires not meant for high speeds must not be used for the test.

Quick guide Dynomet 6.66 for Windows 7-10

Connect the USB box, and start the program. After a few seconds, the display will say ‘Box Ok’, and a green light will turn on between button 3 & 4

If you have the Professional box the light between button 4 & 5, will also be green

Measure power.

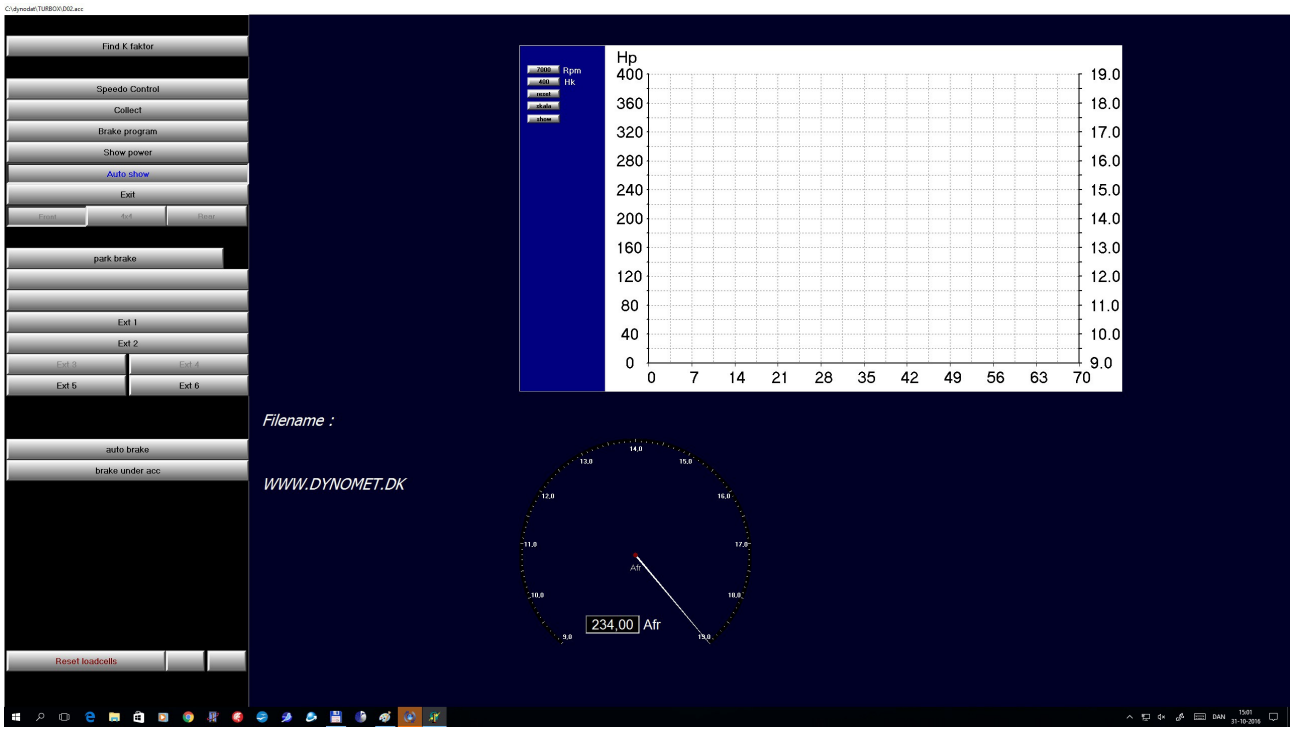
From the main menu, press yellow button 1, and put in a new filename. Don’t end the name with a number! I.e.:

Ford

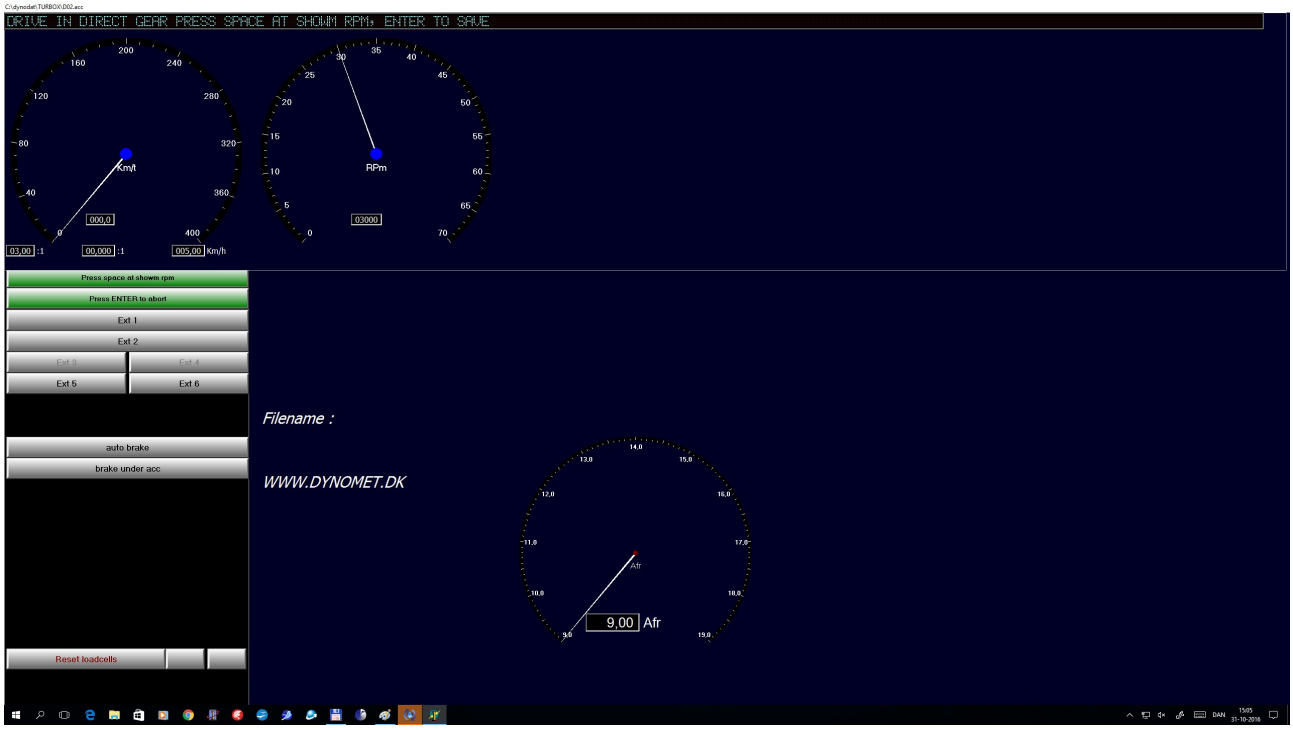
Then correct the values for air pressure, and air temperature.

Press the button with a roller set.

First you have to measure how fast the car runs at 3000rpm in the direct gear.



Press “find k-factor” until you see two green buttons. (See picture below)



,

Drive with exactly 3000rpm in the direct gear, and press SPACE. (Use mouse or keyboard)

You will see a value for the k-factor, and the recorded speed. Press ENTER to save this value

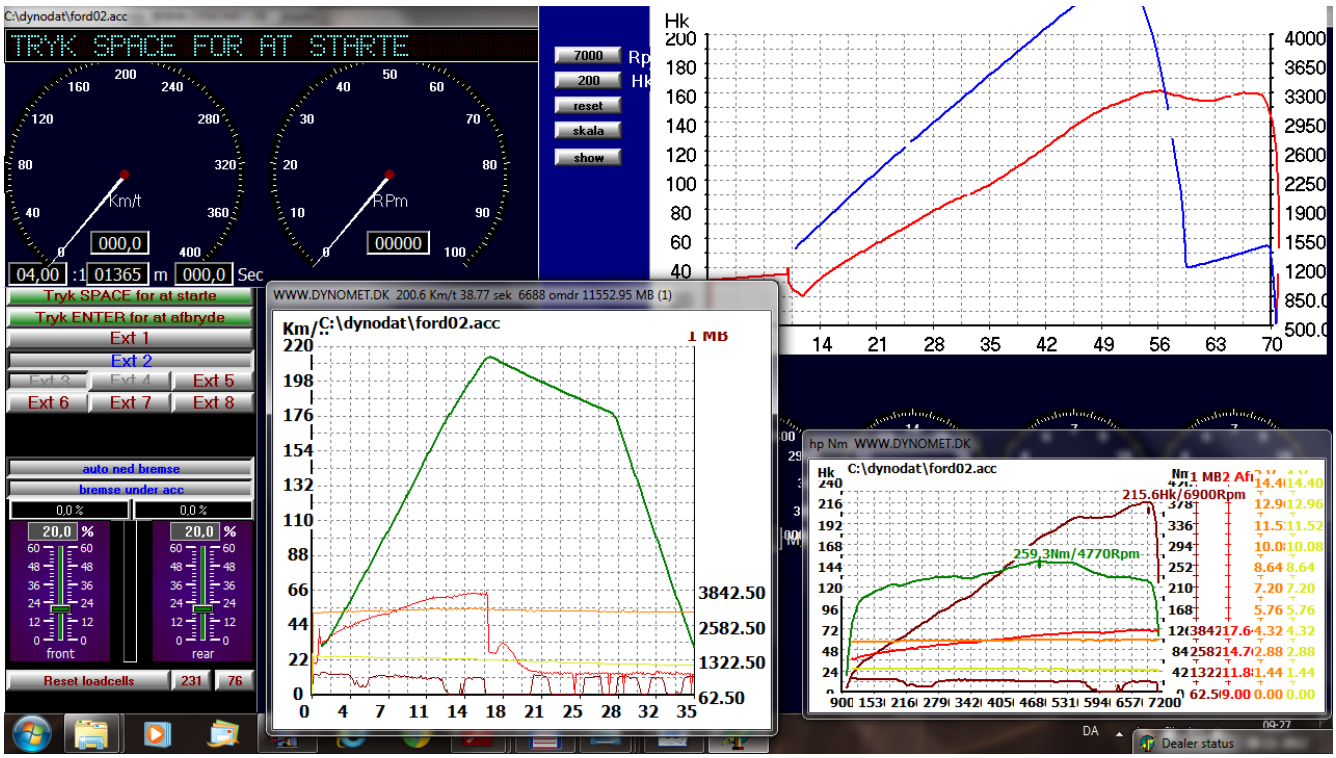
Press COLLECT DATA until two buttons are green.
Drive at low rpm in the direct gear. Press SPACE,

When the program starts counting seconds, press the accelerator to max position, and hold it here, until you have reached max Rpm. Then declutch (automatic gearbox switch to neutral) and release the accelerator. Wait until the top display, says “brake” (15 sec after de-clutch), before braking the car. If you have a roller set with electric brake, you may use “auto brake” function.

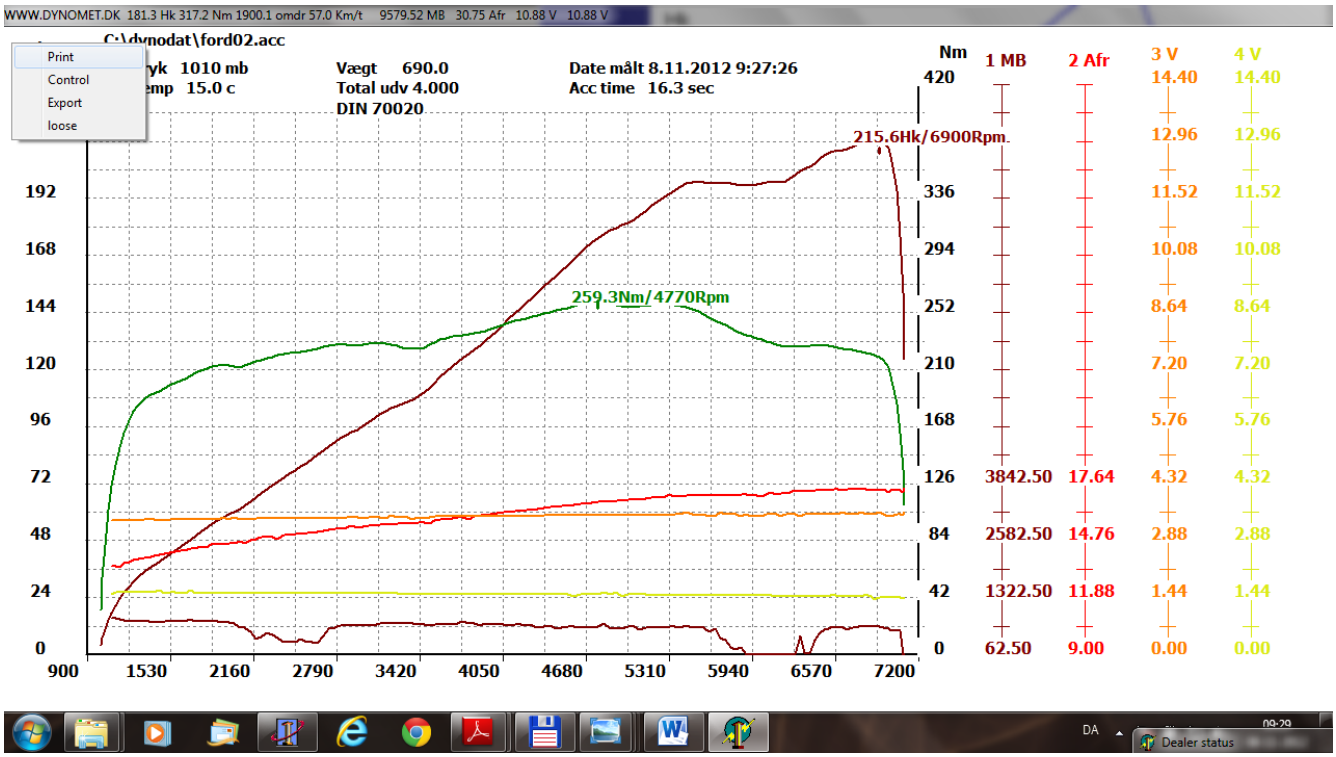
While you measure, you can see the positive power on the small screen to the right. After de-clutching, you will see the loose curve, in blue.

Press SPACE to stop the measurement (if the button AUTOSHOW is pressed, the test will stop automatically.

Now you have the power measurement on the screen.



Double click on the top banner to maximize.
Right click to see the printer menu.

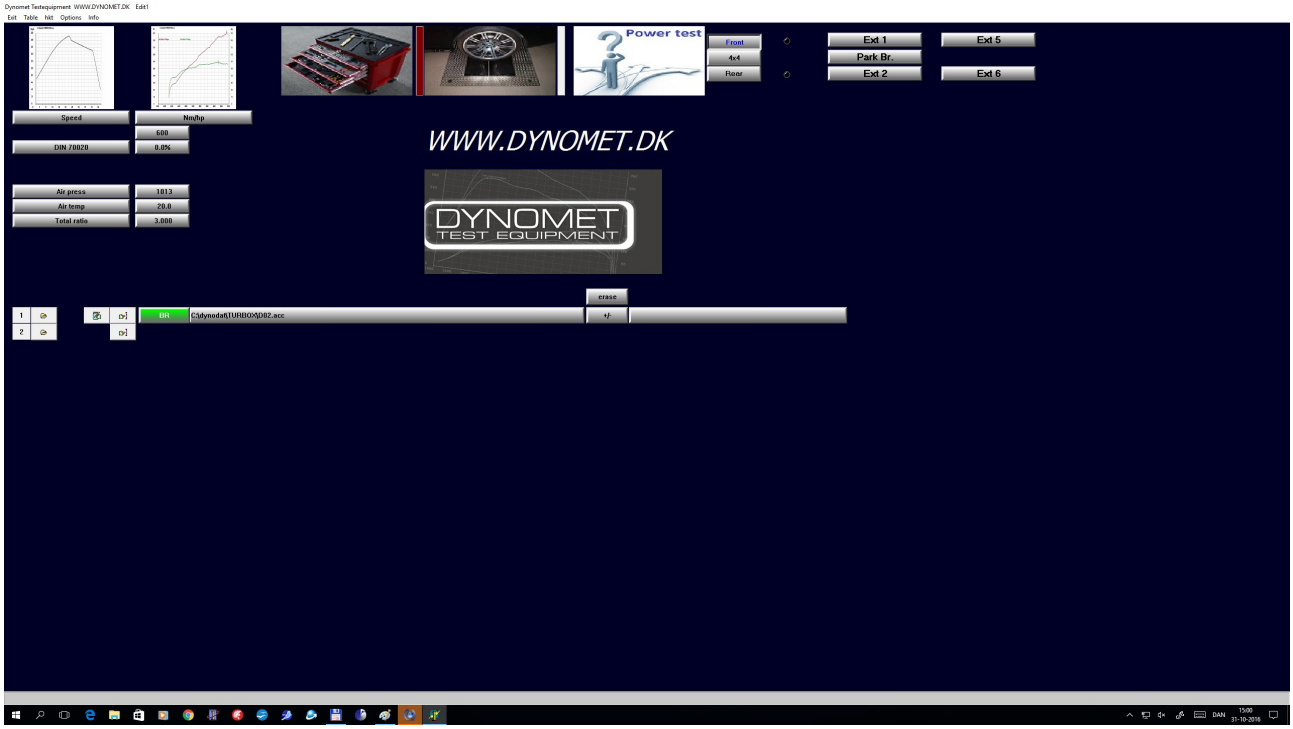


Double click on the top banner to return to a normal curve.

If you start a new measurement, the program will automatically give the measurement a new name.

Ford01, ford02, etc.

Main menu



Buttons

From left to right

Speed / time	show speed versus time Right clicking will show a table with all collected data
Power curve	Show power curve at engine. Right clicking will show power curve with loose
Tool box	Various settings
Roller set	Collect menu
“Power test”	Very simple wizard for measuring power.
Front / Rear / 4x4	Select roller set
Ext 1 -6	Optional relays, blowers, etc

From the top

Din 70020	Select environment correction. Switch between DIN / EØF
Air press	Adjust air pressure
Air temp	Adjust air temperature
Ratio	Adjust ratio (K factor)

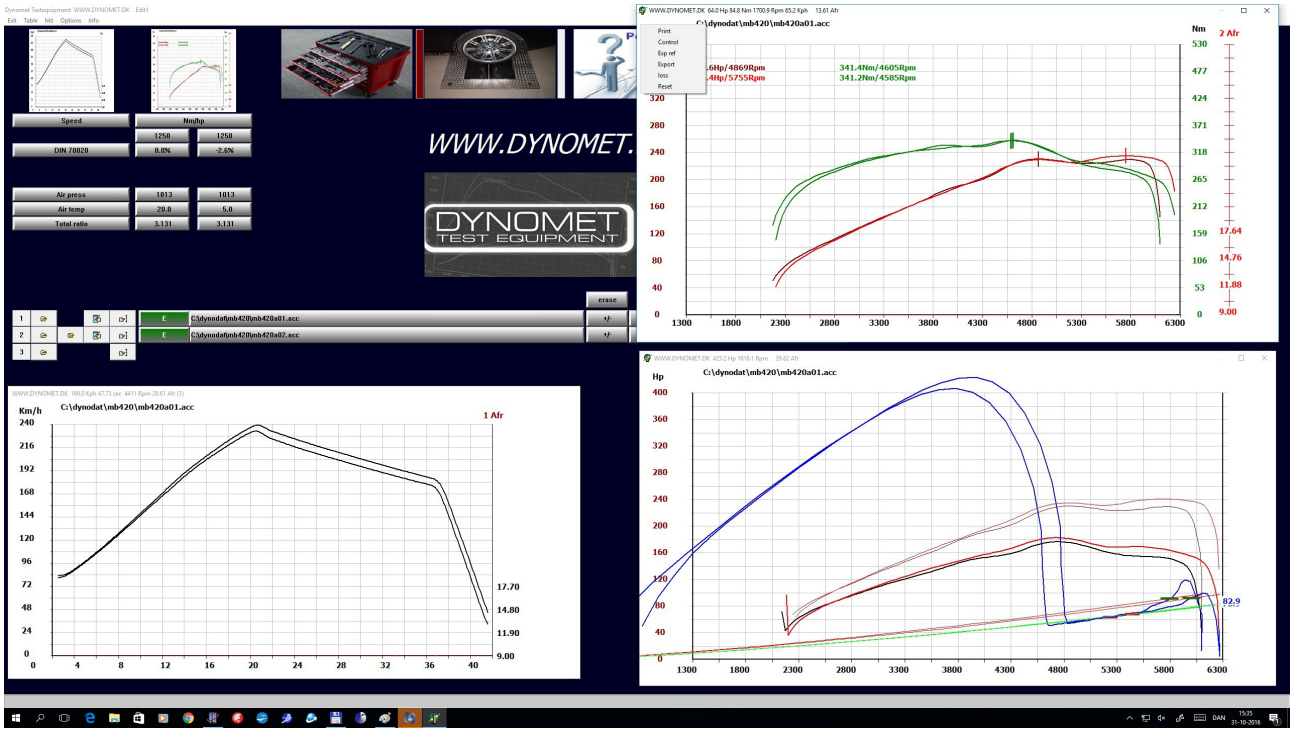
From the left

1	Curve number
Envelope	Open curve 1
Note	Open note editor
Finger	search function
BR	Indicator BR = Brake, B = Bench, X4=4x4 measurement
Name	Filename measurement
+/-	increment / decrement file number. + shifts FORD01 to FORD02 - shifts FORD02 to FORD01

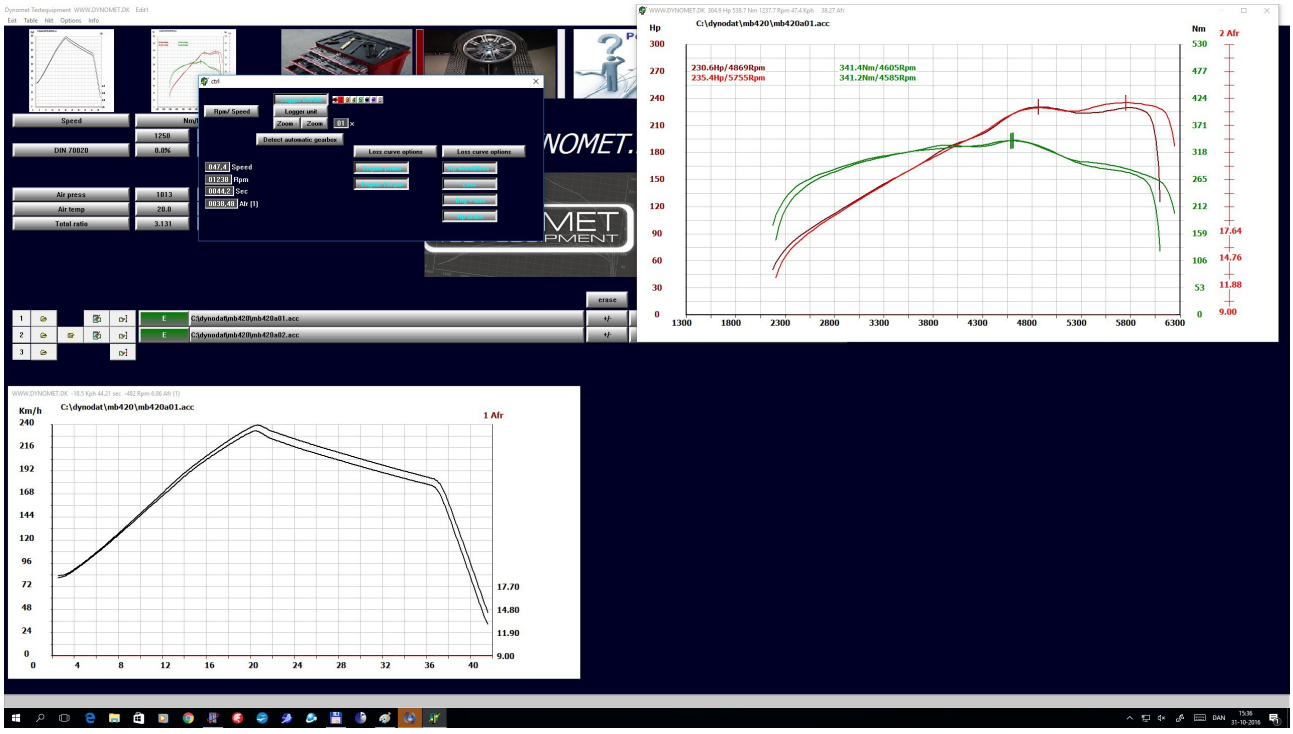
Comparison of your measurements:

From the main menu you can open up to 4 measurements, these will be shown together.

If you right click on the power curve, you can choose “control”



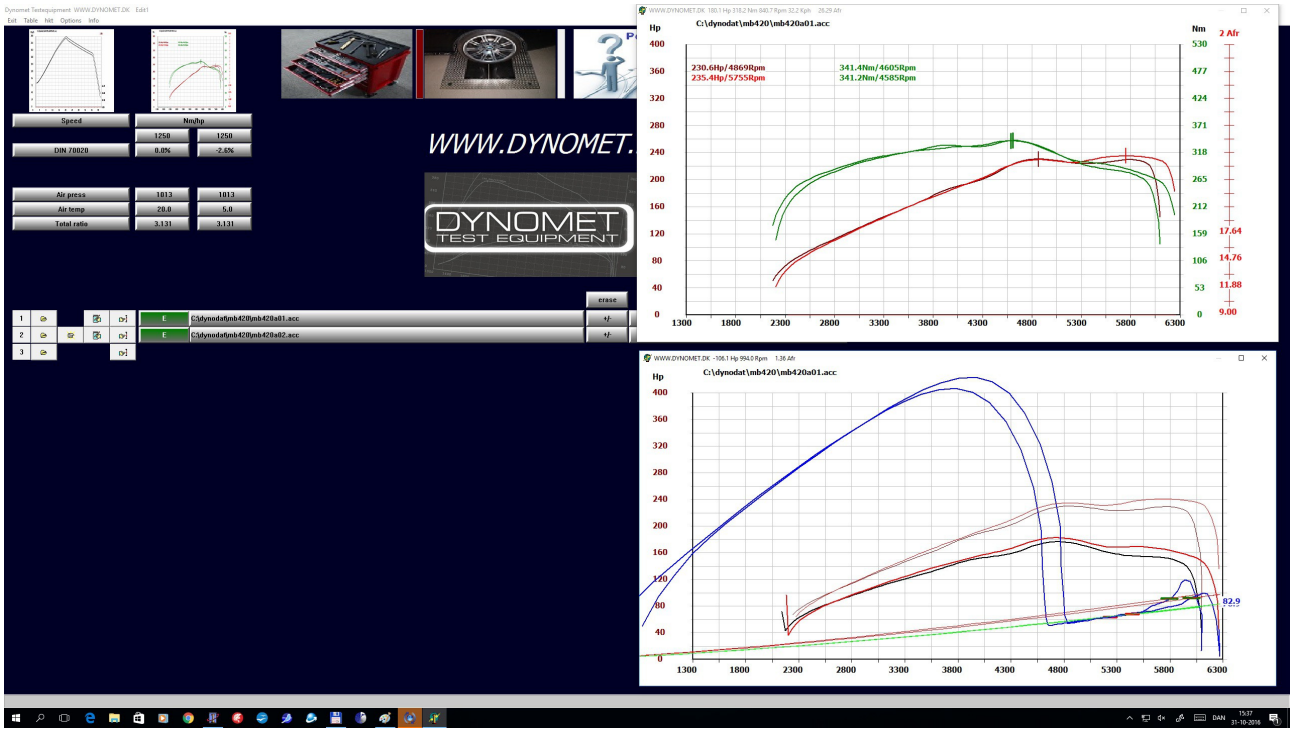
Using the control box you can change filtering, turn logger channels on/ off etc.
Press “mark top” to change the marks for max power / nm



Right click on the power button (number 2), this will show the loose curve.

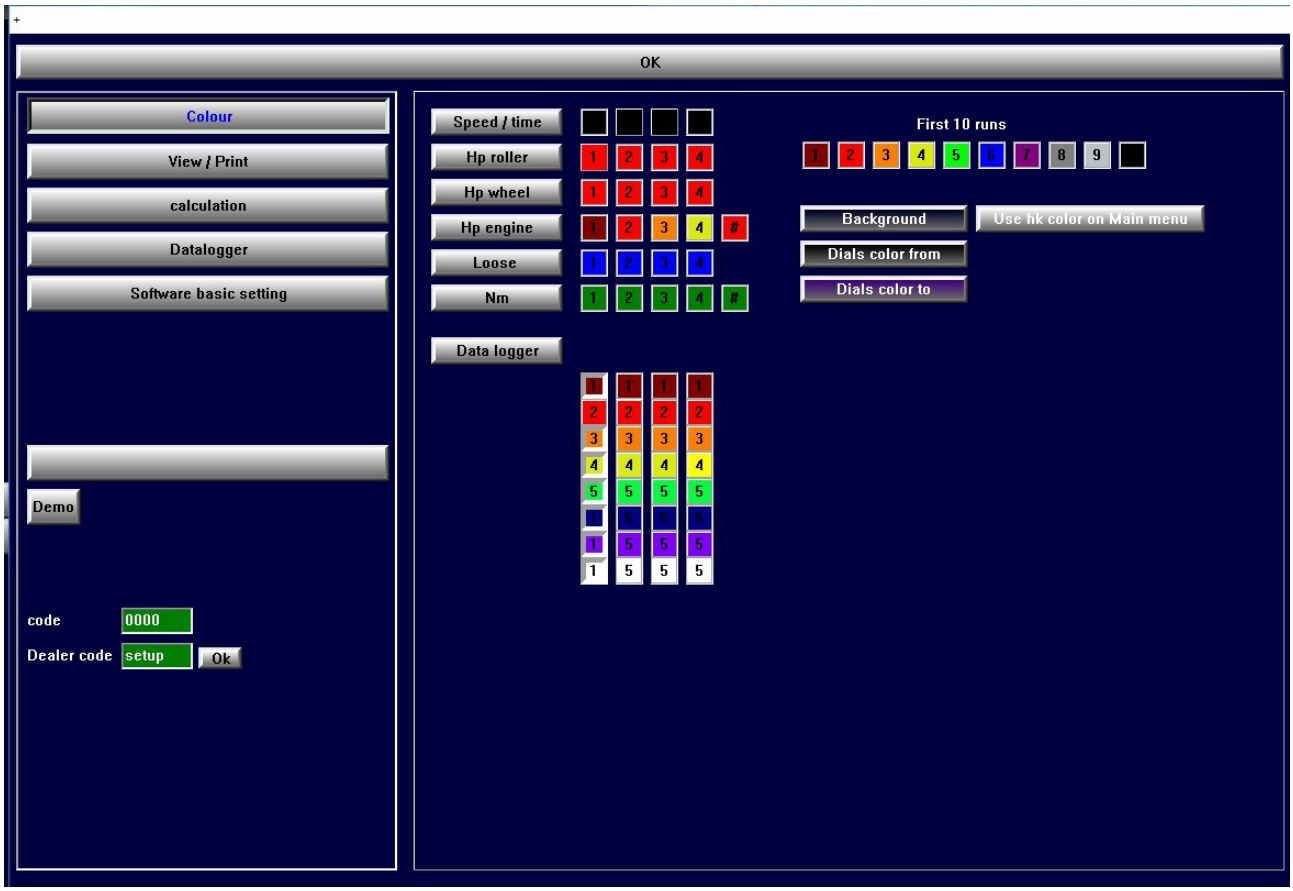
The blue line is the measured loose, the green line is the loose curve calculated by the program. If the green line doesn't follow the blue line, the measurement is wrong.

On this example, you see that the transmission is automatic (big loose at high rpm), because of the "find automatic gearbox", the program use the green line, and you will see the correct engine power.



Settings, from the main menu, press button with a toolbox

Color setup, just click on the color you want to change.



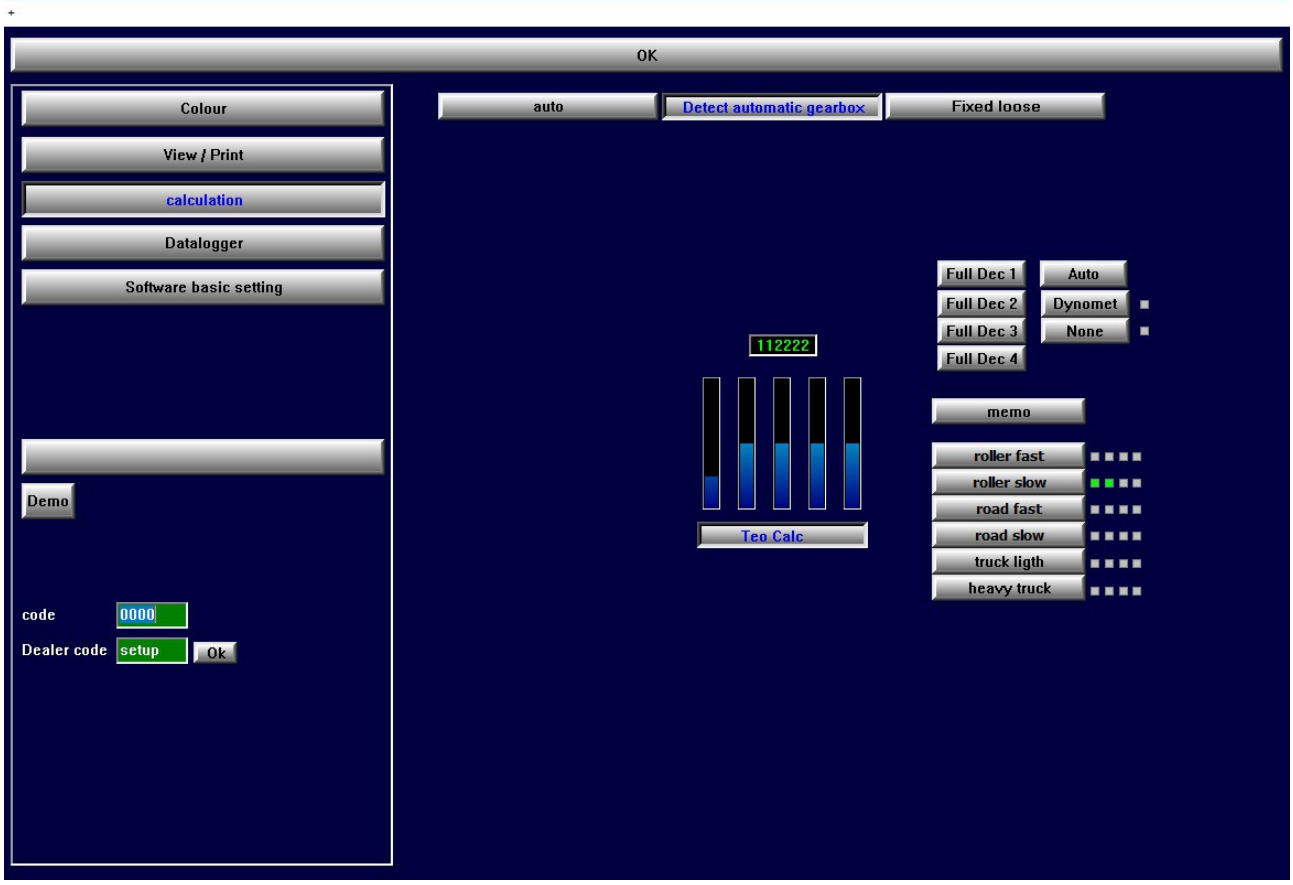
Show / printer

You can adjust the line thickness, and preferred units.

If you have a logo, you can choose to print it with the power curve.

Dbl click on the picture, and choose your file

Calculations



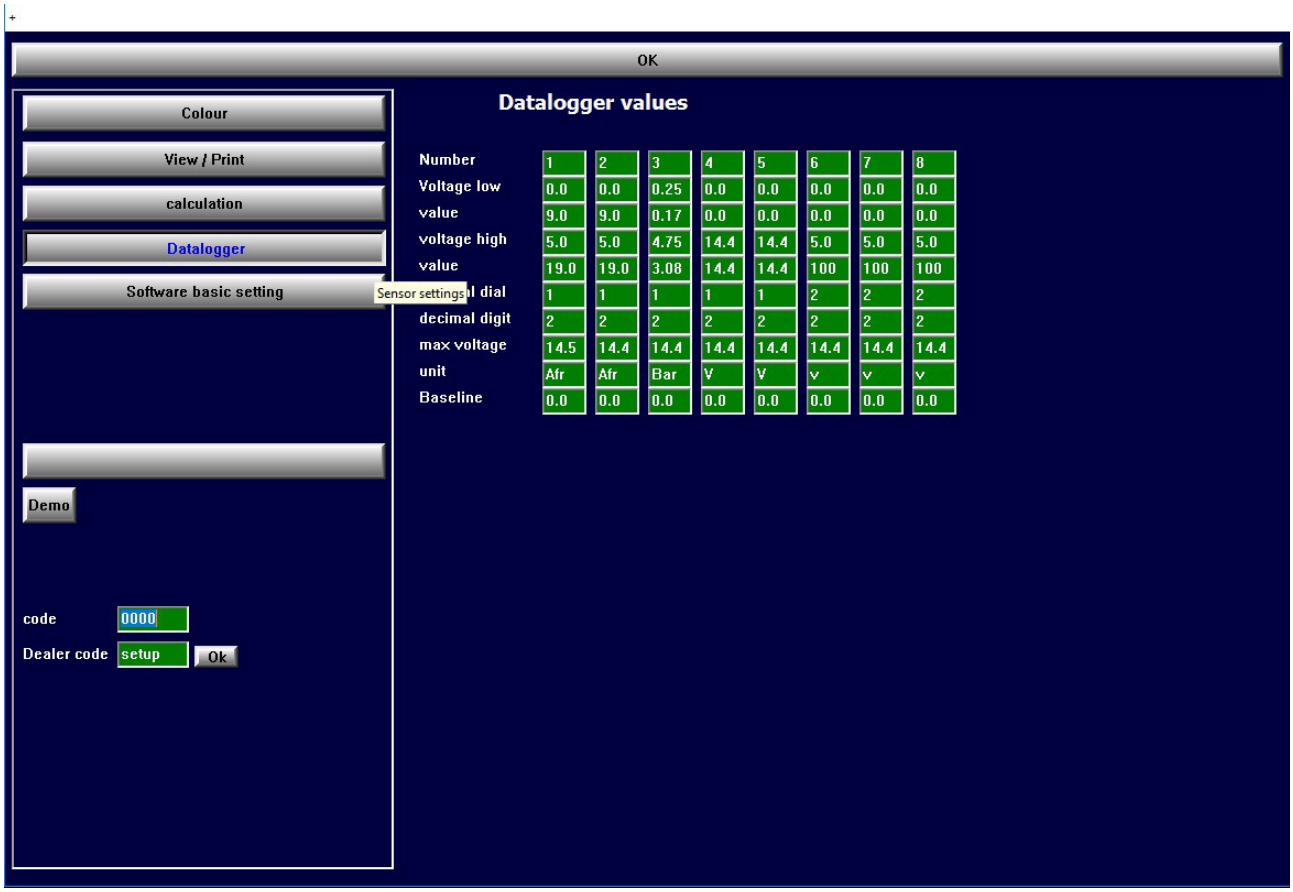
Filter settings; normally you can use “auto”

High value gives you smooth curve.

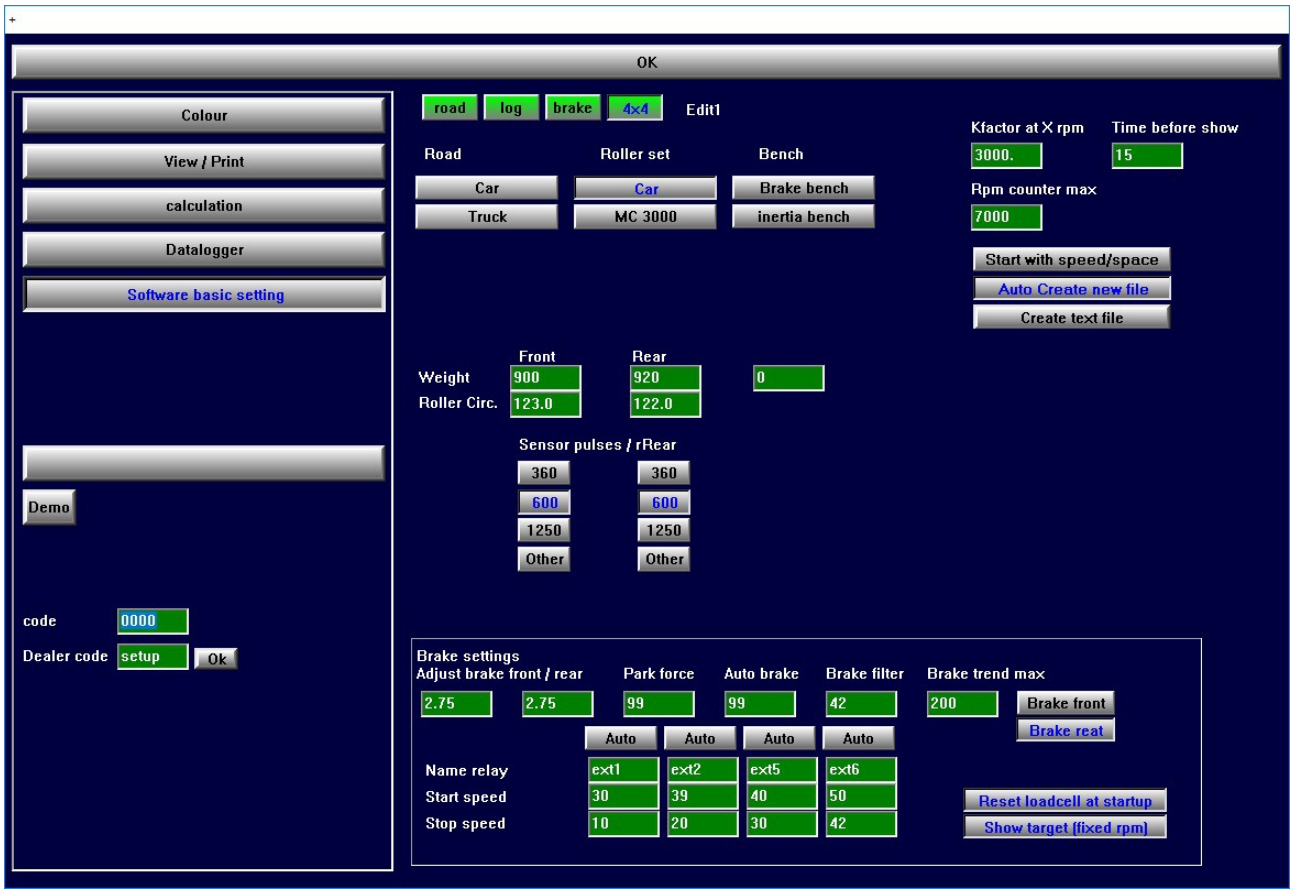
If you press “full dec”, you will use the measured loose (blue curve) instead of calculated loose (green curve)
Of course this will require a full deceleration, not only 15 seconds

Change settings with the mouse, use left and right click.

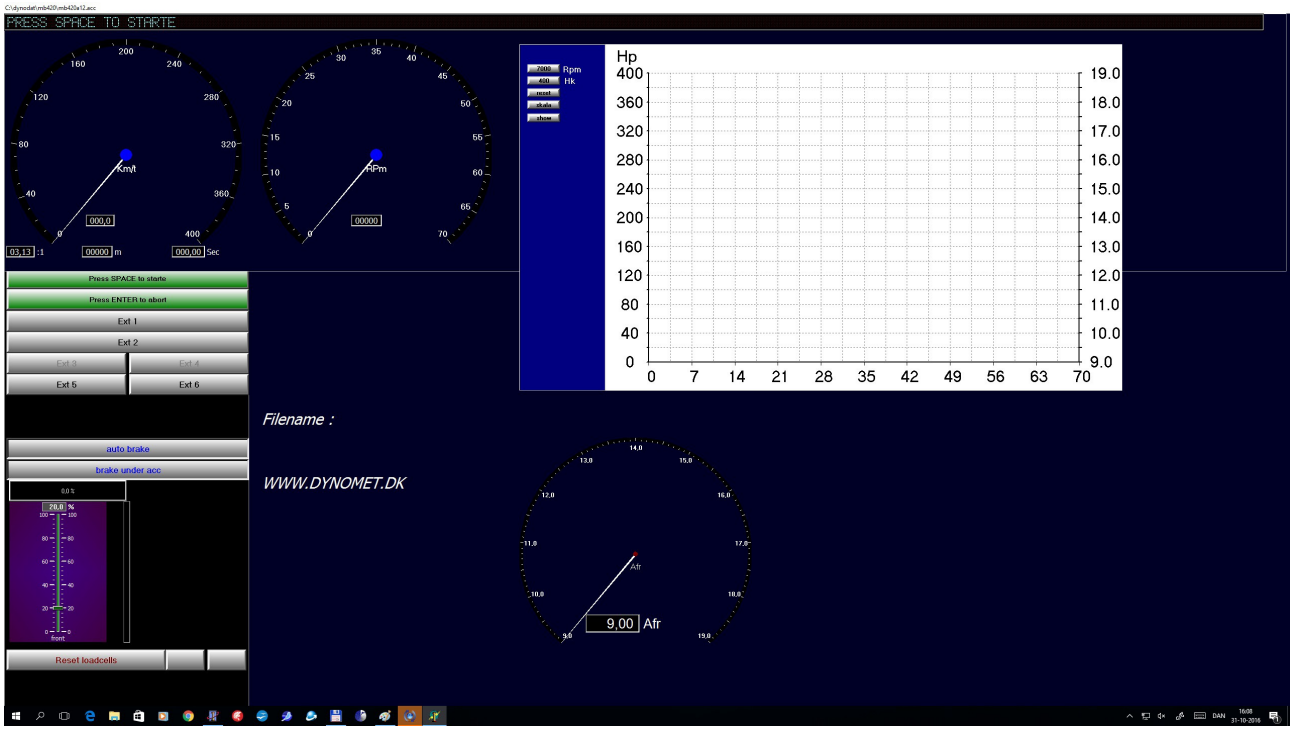
Data logger (Need dealer status)



Basic settings (need dealer status)



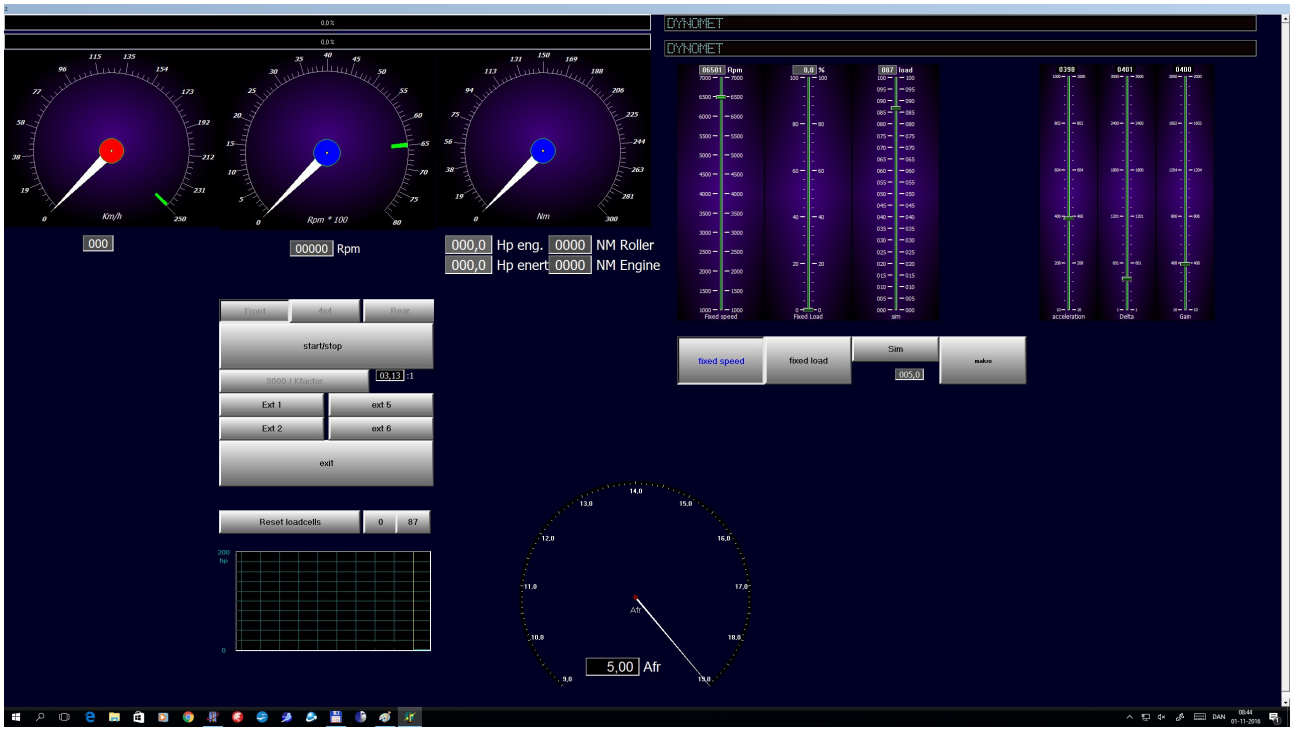
Record menu, other buttons



Find K factor	combines speed / rpm. Will ask you to drive 3000 rpm in the gear you want to use when measuring power. If you measure a 4x4, you will see 3 extra buttons, F / R / (F+R)/2. These will determine which axle speed is being used
Speedo control	Speedometer test
Collect	Start collecting data, used for power test, acc test etc.
Brake program	Start the brake program
Show power	Will show you power curve after a test
Auto show	Will automatically stop the power test, and show the power
Exit	Return to main menu
Park brake	Start the electric brake, used when leaving the roller set, will automatically switch off after 100sec
Ext 1	Switch on / off relay 1
Ext 2	Switch on / off relay 2 (will automatically switch on at speeds over 30km/h
Ext 5-8	Switch on / off relay 5-8 (if installed)

Auto brake	Will automatically break the rollers after a power test.
Brake under acc	Will use the brake to increase the acceleration time. Use the 2 gliders below to set the brake value. The horizontal bars will show you the power sent to the brakes. The vertical bar will show the power absorbed by the load cell.
Reset load cell	Will reset load cells. While doing this, the load cells must be unstressed. The two numbers to the right indicate the zero value. Must be between 200 and 300. If not, call your dealer.

Brake program



Dials	Shows speed, Rpm and NM on rollers, the dials below shows speed on the rear axle and NM on the rear axle.

Buttons:

Front / 4x4 / Rear	Selects which axle is being used.
Start / Stop	Start or stop the brake
K factor	Will adjust the K factor; drive 3000rpm in the gear you want to use when breaking
Park brake (ext. 1)	Switch on / off relay 1
Blower (ext. 2)	Switch on / off relay 2 (will automatically switch on at speeds over 30km/h
Exit	Leave the brake program
Reset load cell	Will reset the load cells. When done, the load cells must be unstressed. The two numbers to the right indicate the zero value. Must be between 200 and 300. If not call your dealer.

Fixed speed	Will maintain the speed chosen. (The glider above)
Fixed load	Sets a constant load to the load cell (the glider above)
Sim	Simulate wind resistance, use the glider above to adjusts.