VECTO 2.1
21.04.2015


Release Notes

VECTO 2.1

- **New AT/TC options:**

  - Limit engine rpm in torque converter operation acc. $\geq acc_{min}$

  - Shift up (C-to-L, L-to-L) if acc. $\geq acc_{min}$ and next-gear-rpm > threshold

  - rpm limit [1/min] and acc_{min} [m/s²] parameters are currently user-defined

  - C-to-C up-shift condition based on N80h engine speed (instead of N95h)

- **P_{wheel} input (SiCo test mode)**

  - P_{wheel} as cycle input

  - Overwrites power calculation

  - VECTO only calculates power train losses, engine torque/rpm and fuel consumption

AT/TC model update

"Test" tab in main form includes new parameters.
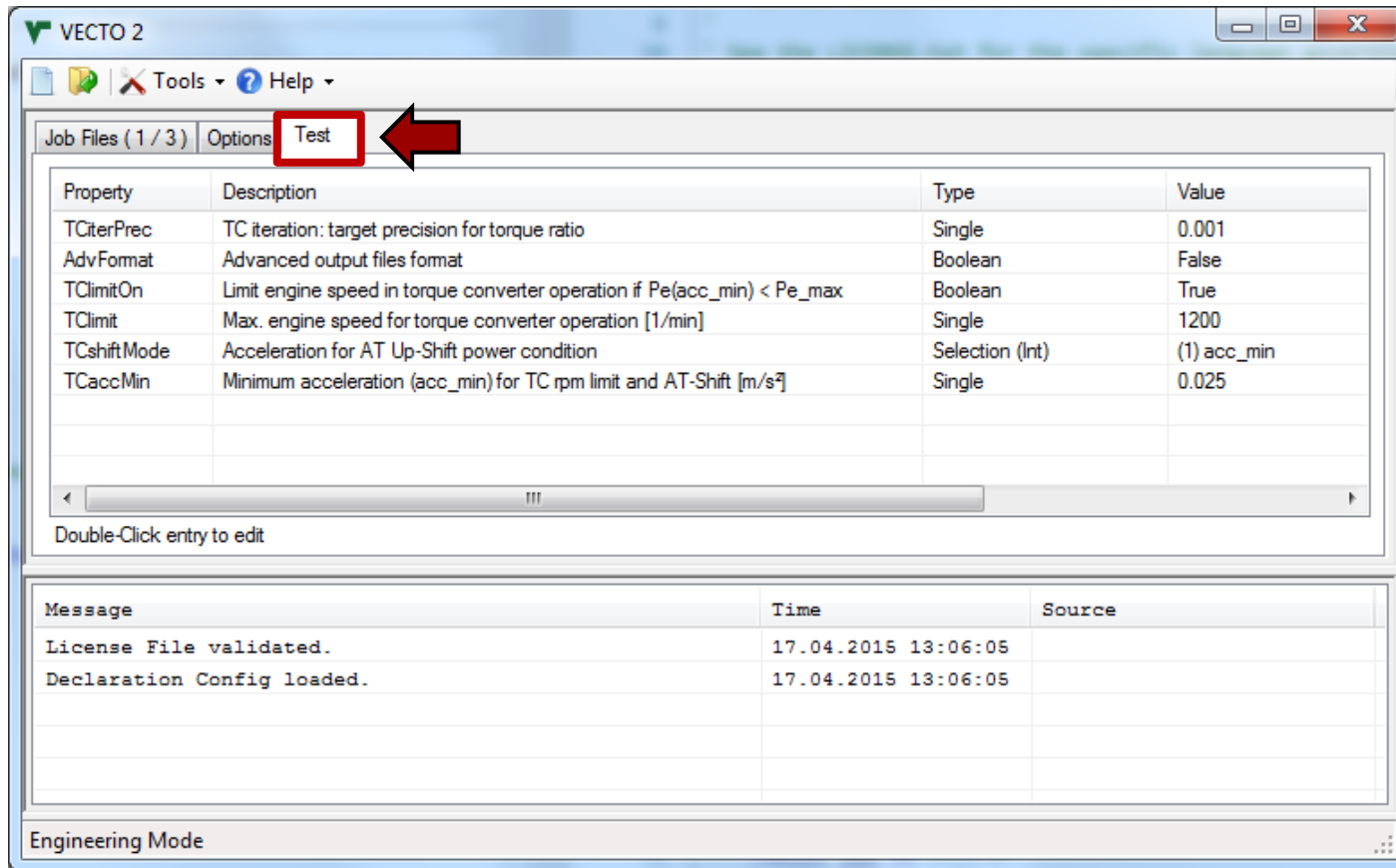
Note: This is a temporary solution until model and parameters are verified!

AT/TC model update

- **New AT/TC paramters:**

  - **TClimitOn (True / False)**

    - Enables engine rpm limit in TC operation

  - **TClimit [1/min]**

    - engine rpm limit (if TClimitOn = True)

  - **TCshiftMode (0/1)**

    - **Mode 0: acc_target** - Shift up if power demand with <u>target</u> acc. < power-max (pre-V2.1 default)

    - **Mode 1: acc_min** - Shift up if power demand with <u>min.</u> acc. < power-max

  - **TCaccMin [m/s²]**

    - Minimum acceleration for ShiftMode 1 and TClimit

Note: This is a temporary solution until model and parameters are verified!

AT/TC model update

- **Change parameters in Test tab by double-click**

- **Parameters are saved on application level (..\config\DEVconfig.txt)**
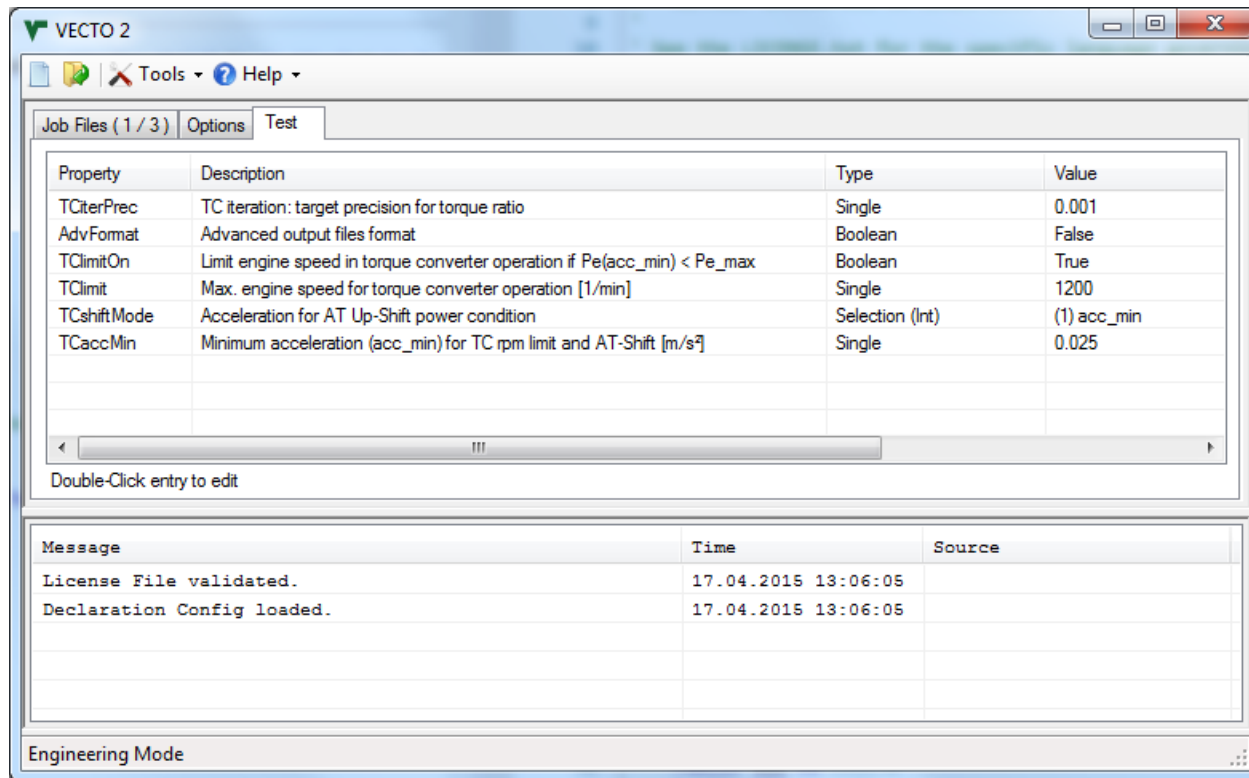
Note: This is a temporary solution until model and parameters are verified!

VECTO Release Notes

P_{wheel} Input (SiCo Mode)

- P_{wheel} can be defined in driving cycle to overwrite power calculation

- Requires **Gear** and **Engine Speed** input

- Cycle identifier: <Pwheel>

- Only time-based cycles are supported

- Distance Correction must be disabled (Options tab in main form)

Example driving cycle

<t>	<Pwheel>	<Gear>	<n>
1	0.0	0	560.0
2	0.0	0	560.0
3	14.0	1	593.2
4	51.9	1	705.5
5	60.0	2	690.0
6	85.6	2	868.4
7	92.0	3	820.0
8	112.3	3	897.6
...	...	...	...

P_{wheel} Input (SiCo Mode)

P_{wheel} Input (SiCo Mode)

- **Constant point calculation**

  - Define (at least) two identical times steps

  - (Optional) Add additional auxiliary power consumption with **<Padd>**

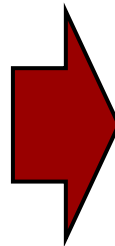 - It is suggested to define **one cycle per constant point** and use **Batch Mode**

Example: Calculation of two constant points tests

Cycle 1.vdri

<t>	<Pwheel>	<Gear>	<n>	<Padd>
1	50.0	3	980.0	3.0
2	50.0	3	980.0	3.0

Cycle 2.vdri

<t>	<Pwheel>	<Gear>	<n>	<Padd>
1	160.0	4	1020.0	3.0
2	160.0	4	1020.0	3.0

.vsum results

Cycle [-]	time [s]	Ppos [kW]	Pneg [kW]	FCh [g/h]
Cycle 1.vdri	1	57.4	0	11481.3
Cycle 2.vdri	1	172.0	0	31922.2

Full Changelog V2.1

- Limit engine rpm in torque converter operation acc. > acc_min
- Shift up (C-to-L, L-to-L) if acc. > acc_min and next-gear-rpm > threshold
- C-to-C up-shift condition based on N80h engine speed (instead of N95h)
- Pwheel-Input (SiCo Mode)
- FC [g/h] is always saved in output (in addition to [g/km]), not only in Engine Only mode
- GUI: Corrected air density unit in GUI
- Bugfix: Format error in .vmod header

VECTO 2.0.4-beta4_Test (Test Release)

- Transmission loss extrapolation Errors are now Warnings in Engineering Mode.
- Bugfix: Error in TC Iteration caused crash
- Bugfix: Minimizing Graph window caused crash
- Fixed error in cycle conversion
- Errors if full load curve is too "short"

Changelog since version 2.0.4-beta3. For full changelog see VECTO Main Form > Help > User Manual or CITnet.

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