

ANNEX III

INPUT INFORMATION RELATING TO THE CHARACTERISTIC OF THE VEHICLE

1. Introduction

This Annex describes the list of parameters to be provided by the vehicle manufacturer as input to the simulation tool. The applicable XML schema as well as example data are available at the dedicated electronic distribution platform.

2. Definitions

(1) ‘Parameter ID’: Unique identifier as used in ‘Vehicle Energy Consumption calculation Tool’ for a specific input parameter or set of input data

(2) ‘Type’: Data type of the parameter

string	sequence of characters in ISO8859-1 encoding
...	
token	sequence of characters in ISO8859-1 encoding, no leading/trailing whitespace
...	
date ...	date and time in UTC time in the format: YYYY-MM-DDTHH:MM:SSZ with italic letters denoting <i>fixed characters</i> e.g. ‘2002-05-30T09:30:10Z’
integer	value with an integral data type, no leading zeros, e.g. ‘1800’
...	
double, X ...	fractional number with exactly X digits after the decimal sign (‘.’) and no leading zeros e.g. for ‘double, 2’: ‘2345.67’; for ‘double, 4’: ‘45.6780’

(3) ‘Unit’ ... physical unit of the parameter

(4) ‘corrected actual mass of the vehicle’ shall mean the mass as specified under the ‘actual mass of the vehicle’ in accordance with Commission Regulation (EC) No 1230/2012⁽¹⁾ with an exception for the tank(s) which shall be filled to at least 50 % of its or their capacity/ies, without superstructure and corrected by the additional weight of the non-installed standard equipment as specified in point 4.3 and the mass of a standard body, standard semi-trailer or standard trailer to simulate the complete vehicle or complete vehicle-(semi-)trailer combination.

All parts that are mounted on and above the main frame are regarded as superstructure parts if they are only installed for facilitating a superstructure, independent of the necessary parts for in running order conditions.

3. Set of input parameters

TABLE 1

Input parameters ‘Vehicle/General’

Parameter name	Parameter ID	Type	Unit	Description/Reference
Manufacturer	P235	token	[-]	
ManufacturerAddress	P252	token	[-]	

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Model	P236	token	[-]	
VIN	P238	token	[-]	
Date	P239	dateTime	[-]	Date and time when the component-hash is created
LegislativeClass	P251	string	[-]	Allowed values: 'N3'
VehicleCategory	P036	string	[-]	Allowed values: 'Rigid Truck', 'Tractor'
AxleConfiguration	P037	string	[-]	Allowed values: '4×2', '6×2', '6×4', '8×4'
CurbMassChassis	P038	int	[kg]	
GrossVehicleMass	P041	int	[kg]	
IdlingSpeed	P198	int	[1/min]	
RetarderType	P052	string	[-]	Allowed values: 'None', 'Losses included in Gearbox', 'Engine Retarder', 'Transmission Input Retarder', 'Transmission Output Retarder'
RetarderRatio	P053	double, 3	[-]	
AngledriveType	P180	string	[-]	Allowed values: 'None', 'Losses included in Gearbox', 'Separate Angledrive'
PTOShaftsGearWheels	P247	string	[-]	Allowed values: 'none', 'only the drive shaft of the PTO', 'drive shaft and/or up to 2 gear wheels', 'drive shaft and/or more than 2 gear wheels', 'only one engaged'

				gearwheel above oil level'
PTOtherElements	P248	string	[-]	Allowed values: 'none', 'shift claw, synchronizer, sliding gearwheel', 'multi-disc clutch', 'multi-disc clutch, oil pump'
CertificationNumber	P249	token	[-]	
CertificationNumber	P250	token	[-]	
CertificationNumber	P251	token	[-]	
CertificationNumber	P252	token	[-]	
CertificationNumber	P253	token	[-]	
CertificationNumber	P254	token	[-]	
CertificationNumber	P255	token	[-]	
CertificationNumber	P256	token	[-]	
CertificationNumber	P257	token	[-]	
CertificationNumber	P258	token	[-]	

TABLE 2

Input parameters 'Vehicle/AxleConfiguration' per wheel axle

Parameter name	Parameter ID	Type	Unit	Description/Reference
TwinTyres	P045	boolean	[-]	
AxleType	P154	string	[-]	Allowed values: 'VehicleNonDriven', 'VehicleDriven'
Steered	P195	boolean		

TABLE 3

Input parameters 'Vehicle/Auxiliaries'

Parameter name	Parameter ID	Type	Unit	Description/Reference
Fan/Technology	P181	string	[-]	Allowed values: 'Crankshaft mounted - Electronically controlled visco clutch', 'Crankshaft mounted - Bimetallic'

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				<p>controlled visco clutch’, ‘Crankshaft mounted - Discrete step clutch’, ‘Crankshaft mounted - On/off clutch’, ‘Belt driven or driven via transm. - Electronically controlled visco clutch’, ‘Belt driven or driven via transm. - Bimetallic controlled visco clutch’, ‘Belt driven or driven via transm. - Discrete step clutch’, ‘Belt driven or driven via transm. - On/off clutch’, ‘Hydraulic driven - Variable displacement pump’, ‘Hydraulic driven - Constant displacement pump’, ‘Electrically driven - Electronically controlled’</p>
SteeringPump/ Technology	P182	string	[-]	<p>Allowed values: ‘Fixed displacement’, ‘Fixed displacement with elec. control’, ‘Dual displacement’, ‘Variable displacement mech. controlled’, ‘Variable</p>

				displacement elec. controlled’, ‘Electric’ Separate entry for each steered wheel axle required
ElectricSystem/ Technology	P183	string	[-]	Allowed values: ‘Standard technology’, ‘Standard technology - LED headlights, all’
PneumaticSystem/ Technology	P184	string	[-]	Allowed values: ‘Small’, ‘Small + ESS’, ‘Small + visco clutch’, ‘Small + mech. clutch’, ‘Small + ESS + AMS’, ‘Small + visco clutch + AMS’, ‘Small + mech. clutch + AMS’, ‘Medium Supply 1- stage’, ‘Medium Supply 1-stage + ESS’, ‘Medium Supply 1-stage + visco clutch’, ‘Medium Supply 1-stage + mech. clutch’, ‘Medium Supply 1-stage + ESS + AMS’, ‘Medium Supply 1-stage + visco clutch + AMS’, ‘Medium Supply 1-stage + mech. clutch + AMS’, ‘Medium Supply 2- stage’, ‘Medium Supply 2-stage + ESS’, ‘Medium Supply 2-stage + visco clutch’, ‘Medium Supply 2-stage

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				+ mech. clutch', 'Medium Supply 2-stage + ESS + AMS', 'Medium Supply 2-stage + visco clutch + AMS', 'Medium Supply 2-stage + mech. clutch + AMS', 'Large Supply', 'Large Supply + ESS', 'Large Supply + visco clutch', 'Large Supply + mech. clutch', 'Large Supply + ESS + AMS', 'Large Supply + visco clutch + AMS', 'Large Supply + mech. clutch + AMS'; 'Vacuum pump'
HVAC/ Technology	P185	string	[-]	Allowed values: 'Default'

TABLE 4

Input parameters 'Vehicle/EngineTorqueLimits' per gear (optional)

Parameter name	Parameter ID	Type	Unit	Description/ Reference
Gear	P196	integer	[-]	only gear numbers need to be specified where vehicle related engine torque limits according to point 6 are applicable
MaxTorque	P197	integer	[Nm]	

4. Vehicle mass

- 4.1 The vehicle mass used as input for the simulation tool shall be the corrected actual mass of the vehicle.

This corrected actual mass shall be based on vehicles equipped in such a way that they are compliant to all regulatory acts of Annex IV and Annex XI to Directive 2007/46/EC applicable to the particular vehicle class.

4.2 If not all the standard equipment is installed, the manufacturer shall add the weight of the following construction elements to the corrected actual mass of the vehicle:

- (a) Front under-run protection in accordance with Regulation (EC) No 661/2009 of the European Parliament and of the Council⁽²⁾
- (b) Rear under-run protection in accordance with Regulation (EC) No 661/2009 of the European Parliament and of the Council
- (c) Lateral protection in accordance with Regulation (EC) No 661/2009 of the European Parliament and of the Council
- (d) Fifth wheel in accordance with Regulation (EC) No 661/2009 of the European Parliament and of the Council

4.3 The weight of the construction elements referred to in point 4.2 shall be the following:
For vehicles of groups 1, 2 and 3

- (a) 45 kg
Front under-ride protection
- (b) 40 kg
Rear under-ride protection
- (c) $8,5 \text{ kg/m} \times \text{wheel base [m]} - 2,5 \text{ kg}$
Lateral protection
- (d) 210 kg
Fifth wheel

For vehicles of groups 4, 5, 9 to 12 and 16

- (a) 50 kg
Front under-ride protection
- (b) 45 kg
Rear under-ride protection
- (c) $14 \text{ kg/m} \times \text{wheel base [m]} - 17 \text{ kg}$
Lateral protection
- (d) 210 kg
Fifth wheel

5. Hydraulically and mechanically driven axles

In case of vehicles equipped with:

- (a) a hydraulically driven axles, the axle shall be treated as a non-drivable one and the manufacturer shall not take it into consideration for establishing an axle configuration of a vehicle;
- (b) a mechanically driven axles, the axle shall be treated as a drivable one and the manufacturer shall take it into consideration for establishing an axle configuration of a vehicle;

6. Gear dependent engine torque limits set by vehicle control

For the highest 50 % of the gears (e.g. for gears 7 to 12 of a 12 gear transmission) the vehicle manufacturer may declare a gear dependent maximum engine torque limit which is not higher than 95 % of the maximum engine torque.

7. Vehicle specific engine idling speed

- 7.1. The engine idling speed has to be declared in VECTO for each individual vehicle. This declared vehicle engine idling shall be equal or higher than specified in the engine input data approval.

- (1) Commission Regulation (EU) No 1230/2012 of 12 December 2012 implementing Regulation (EC) No 661/2009 of the European Parliament and of the Council with regard to type-approval requirements for masses and dimensions of motor vehicles and their trailers and amending Directive 2007/46/EC of the European Parliament and of the Council ([OJ L 353, 21.12.2012, p. 31](#)).
- (2) Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefor ([OJ L 200 31.7.2009, p. 1](#))