

CHAPTER 2 : ESSENTIAL CHARACTERISTICS OF THE VEHICLE AND ENGINE AND INFORMATION CONCERNING THE CONDUCT OF TESTS

- 1.0 Description of the Vehicle -----
- 1.1 Trade name or mark of the vehicle -----
- 1.2 Vehicle type -----
- 1.3 Manufacturer's name and address -----
- 1.4 Unladen mass of vehicle(kN) -----
- 1.4.1 Reference mass of vehicle -----
- 1.4.2 Gross Vehicle Weight -----
- 1.5 Gear box -----
- 1.5.1 Manual or automatic -----
(If it is automatic give all pertinent technical data)
- 1.5.2 Number of gears -----
- 1.5.3 Transmission ratio : -----
- 1.5.3.1 First Gear -----
- 1.5.3.2 Second Gear -----
- 1.5.3.3 Third Gear -----
- 1.5.3.4 Fourth Gear -----
- 1.5.3.5 Over Drive -----
- 1.5.3.6 Gear Shifting Pattern -----
- 1.6 Final drive ratio -----
- 1.7 Tyres -----
- 1.7.1 Dimensions -----
- 1.7.2 Dynamic rolling circumference -----

1.7.3	Type	-----
1.7.4	Ply Rating	-----
1.7.5	Tyre Pressure :	-----
	Front	-----
	Rear	-----
1.8	Wheel drive :	-----
	Front	-----
	Rear	-----
1.9	Vehicle performance (declared by manufacturer)	-----
1.9.1	Vehicle max. speed	-----km/h
1.9.2	Acceleration max.	-----m/sec ²
2.0	Description of engine_	-----
2.1	Make :	-----
2.2	Type :	-----
2.3	Working principle :	-----
	four-stroke/two-stroke :	-----
2.4	Bore :	-----mm
2.5	Stroke :	-----mm
2.6	Number and layout of cylinders and firing order	-----
2.7	Cylinder capacity :	-----cm ³
2.8	Compression ratio (Specify the tolerance)	-----
2.9	Drawings of combustion chamber and piston crown	-----
2.10	Minimum cross-sectional area of inlet and outlet ports	-----
2.11	Cooling System : liquid / air cooling-	-----

2.11.1	Characteristics of liquid-cooling system-	-----
2.11.1.1	Nature of liquid Circulating pump : Yes/No	-----
2.11.1.2	Characteristics of make(s) and type(s)	-----
2.11.1.3	Drive ratio	-----
2.11.1.4	Thermostat: setting	-----
2.11.1.5	Radiator :drawing(s) or make(s) and type(s)	-----
2.11.1.6	Relief valve : pressure setting	-----
2.11.1.7	Fan : Characteristics or make(s)and type(s)	-----
2.11.1.8	Fan drive system Drive ratio :	-----
2.11.1.9	Fan cowl :	-----
2.11.2	Characteristics of air-cooling system-	-----
2.11.2.1	Blower :characteristics or make(s)and type(s)	-----
2.11.2.2	Drive ratio(s) :	-----
2.11.2.3	Air ducting (standard production):	-----
2.11.2.4	Temperature regulating system : yes/no / Brief description	-----
2.11.3	Temperature permitted by the manufacturer	-----
2.11.3.1	Liquid cooling :max.temperature at engine outlet	-----
2.11.3.2	Air cooling:Reference point	-----
2.11.3.3	Max.temperature at reference point	-----
2.11.3.4	Max.outlet temperature of the inlet intercooler	-----
2.11.3.5	Max. exhaust temperature at the point in the exhaust pipe(s) adjacent in outlet flange(s) of the exhaust manifolds.	-----
2.11.3.6	Fuel temperature :	-----min-----max.

2.11.3.7 Lubricant temperature: -----min -----max.

2.12 Supercharger : yes/no (Description of the system) -----

2.13 Intake System : -----

2.13.1 Intake manifold : Description -----

2.13.2 Air filter : Make: Type: -----

2.13.3 Intake silencer: Make: Type: -----

2.14 Device for recycling crank-case gases : -----

Description and diagrams -----

3.0 Additional anti-pollution devices
(if any, and if not covered by another heading) -----

Description and diagrams -----

4.0 Air intake and fuel feed- -----

4.1 Description and diagrams of inlet pipes and their
accessories (dash pot, heating device,
additional air intakes, etc.) -----

4.1.1 Maximum permitted depression of air intake at
characteristic place. -----kPa
(Specify location of measurement)
(Specify the tolerance) (Specify range if applicable)

4.2 Fuel feed

4.2.1 Feed pump
Pressure or characteristic diagram -----
(Specify the tolerance)

4.2.2 Injection System -----

System description -----

Working principle : Intake manifold/direct injection/
Injection prechamber / swirl chamber. -----

4.2.2.1 Pump -----

4.2.2.1.1 Make(s) -----

- 4.2.2.1.2 Type(s) -----
- 4.2.2.1.3 Delivery : -----mm³ /
stroke at a pump speed of -----rpm at full.
- Injection or characteristic diagram
(Specify the tolerance) -----
- 4.2.2.1.4 Calibration procedure : On engine/
On pump bench -----
- 4.2.2.1.5 If boost control is supplied, state the
characteristic fuel delivery and boost pressure
versus engine speed. -----
- 4.2.2.1.6 Injection timing -----
- 4.2.2.1.7 Injection advance curve -----
- 4.2.2.1.8 Injection advance
(Specify the tolerance) -----
- 4.2.2.2 Injectors : -----
- 4.2.2.2.1 Make : -----
- 4.2.2.2.2 Type : -----
- 4.2.2.2.3 Opening Pressure
or characteristic diagram
(Specify the tolerance) -----MPa
- 4.2.2.3 Injection Piping -----
- 4.2.2.3.1 Length -----
- 4.2.2.3.2 Internal diameter -----
- 4.2.2.4 Governor -----
- 4.2.2.4.1 Make(s) : -----
- 4.2.2.4.2 Type(s) : -----
- 4.2.2.4.3 Cut off point under load -----rpm
- 4.2.2.4.4 Max. speed without load -----rpm
- 4.2.2.4.5 Idle speed -----rpm

4.2.2.5 Cold start device	-----
4.2.2.5.1 Make (s) :	-----
4.2.2.5.2 Type (s) :	-----
4.2.2.5.3 System description	-----
4.2.2.6 Starting aid	-----
4.2.2.6.1 Make :	-----
4.2.2.6.2 Type :	-----
4.2.2.6.3 System description	-----
5.0 Valve timing or equivalent data:	-----
5.1 Maximum lift of valves, angles of opening and closing, or timing details of alternative distribution systems, in relation to top dead center (Specify the tolerance and range)	-----
5.2 Reference and/or setting ranges	-----
6.0 Exhaust System	-----
6.1 Description of exhaust equipment if the test is made with the complete equipment provided by the engine or vehicle manufacturer	-----
6.2 Specify the back pressure at maximum net power and the location of measurement (Specify the tolerance and range)	-----kPa
6.3 Indicate the effect volume of the exhaust (Specify the tolerance and range)	-----cm ³
7.0 Lubrication system	-----
7.1 Description of systems	-----
7.1.1 Position of lubricant reservoir	-----
7.1.2 Feed system (pump, injection into intake, mixing with fuel, etc.)	-----
7.2 Lubricating pump	-----

7.2.1	Make :	-----
7.2.2	Type :	-----
7.3	Mixture with fuel	-----
7.3.1	Percentage	-----
7.4	_Oil cooler : yes/no	-----
7.4.1	Drawing(s) or make(s) and type(s)	-----
8.0	Electrical equipment	-----
	(Generator/alternator : characteristics or make(s) and	
9.0	Other engine driven auxiliaries	-----
	(Enumeration and brief description if necessary)	-----
10.0	Transmission	-----
10.1	State movement of inertia of combined flywheel and transmission at condition when no gear is engaged (Specify the range if applicable)	-----
11.0	Engine performance (declared by the manufacturer)	
11.1	Idling speed : (Specify the tolerance)	-----rpm
11.2	Maximum rated speed : (Specify the tolerance)	-----rpm
11.3	Minimum rated speed : (Specify the tolerance)	-----rpm
11.4	Max.net torque of engine on bench : (Specify the tolerance)	-----Nm at rpm
11.5	Max.net power of engine on bench : Indicate power absorbed by fan (Specify the tolerance)	-----kW at rpm -----kW
11.6	Test on bench Declared powers at the points of measurement referred to in Chapter 3 shall be stated in Table 1.	-----

Declared speeds and powers of the engine/vehicle
(strike out what does not apply) submitted for approval

Table I
(Speeds to be agreed with the testing agency)

Measurement Points *	Engine Speed : n (rpm)	Power : P ** kW	Vehicle Speed and gear position
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----
-----	-----	-----	-----

(NOTE : STRIKE OUT WHAT IS NOT APPLICABLE)

* See Chapter 3 of Part IV

** Net power according to Chapter 6 of Part IV