

Commission Directive 2005/13/EC of 21 February 2005 amending Directive 2000/25/EC of the European Parliament and of the Council concerning the emission of gaseous and particulate pollutants by engines intended to power agricultural or forestry tractors, and amending Annex I to Directive 2003/37/EC of the European Parliament and of the Council concerning the type-approval of agricultural or forestry tractors (Text with EEA relevance) (repealed)

ANNEX III

In Annex I to Directive 2003/37/EC, Model A, section 3 'Engine', is replaced by the following:

3. ENGINE

Part 1 — General

3.1. Parent engine/engine type ⁽¹⁾ ⁽³⁾ ⁽²¹⁾

3.1.1. Make(s) (trade name of manufacturer):

3.1.2. Type and commercial description of the parent and (if applicable) of the family of engine(s) ⁽¹⁾:

.....

3.1.3. Manufacturer's type coding as marked on the engine(s) and method of affixing:

.....

3.1.3.1. Location, coding and method of affixing of the engine type identification number:

.....

3.1.3.2. Location and method of affixing of the EC component type-approval mark:

3.1.4. Name and address of manufacturer:

3.1.5. Address(es) of assembly plant(s):

3.1.6. Operating principle:

— spark/compression ignition ⁽¹⁾

— direct/indirect injection ⁽¹⁾

— two-four-stroke ⁽¹⁾

3.1.7. Fuel

Diesel/petrol/LPB/other ⁽¹⁾

Part 2 — Engine type within the family

3.2. Essential characteristics of the family's parent engine ⁽³⁾

3.2.1. Description of the compression ignition engine

3.2.1.1. Manufacturer:

3.2.1.2. Manufacturer's engine code as affixed to engines:

3.2.1.3. Cycle: four stroke/two stroke ⁽¹⁾

3.2.1.4. Bore: mm

3.2.1.5. Stroke: mm

3.2.1.6. Number and layout of cylinders:

3.2.1.7. Swept volume: cm³

3.2.1.8. Rated speed: r/min

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- 3.2.1.9. Peak-torque speed: r/min
- 3.2.1.10. Compression ratio (²):
- 3.2.1.11. Combustion system description:
- 3.2.1.12. Drawing(s) of combustion chamber and piston crown:
- 3.2.1.13. Minimum cross-sectional area of inlet and outlet ports:
- 3.2.1.14. Cooling system
- 3.2.1.14.1. Coolant
- 3.2.1.14.1.1. Nature of coolant:
- 3.2.1.14.1.2. Circulating pump(s): yes/no (¹)
- 3.2.1.14.1.3. Characteristics or make(s) and type(s) (if applicable):
- 3.2.1.14.1.4. Drive ratio(s) (if applicable):
- 3.2.1.14.2. Air
- 3.2.1.14.2.1. Blower: yes/no (¹)
- 3.2.1.14.2.2. Characteristics or make(s) and type(s) (if applicable):
- 3.2.1.14.2.3. Drive ratio(s) (if applicable):
- 3.2.1.15. Temperature permitted by the manufacturer
- 3.2.1.15.1. Liquid cooling: maximum temperature at outlet:
- 3.2.1.15.2. Air cooling: reference point:
- Maximum temperature at reference point: K
- 3.2.1.15.3. Maximum charge air temperature at the intercooler outlet (if applicable): K
- 3.2.1.15.4. Maximum exhaust temperature at the point in the exhaust pipe(s) adjacent to the outer flange(s) of the exhaust manifold(s): K
- 3.2.1.15.5. Lubricant temperature: minimum: K maximum: K
- 3.2.1.16. Pressure charger: yes/no (¹)
- 3.2.1.16.1. Make:
- 3.2.1.16.2. Type:
- 3.2.1.16.3. Description of the system (e.g. maximum charge pressure, waste-gate, if applicable):
- 3.2.1.16.4. Intercooler: yes/no (¹)
- 3.2.1.17. Intake system: maximum allowable intake depression at rated engine speed and at 100 % load: kPa
- 3.2.1.18. Exhaust system: maximum permissible exhaust back pressure at rated engine speed and at 100 % load: kPa
- 3.2.2. Additional anti-pollution devices (if any, and if not covered by another heading)
- Description and/or (¹) diagram(s):

- 3.2.3. Fuel feed
 - 3.2.3.1. Feed pump
 - Pressure ⁽²⁾ or characteristic diagram: kPa
 - 3.2.3.2. Injection system
 - 3.2.3.2.1. Pump
 - 3.2.3.2.1.1. Make(s):
 - 3.2.3.2.1.2. Type(s):
 - 3.2.3.2.1.3. Delivery: mm³ ⁽²⁾ per stroke or cycle at pump speed of: r/min (rated) and r/min (maximum torque), respectively, or characteristic diagram
State which method is used: on engine/on pump bench ⁽¹⁾
 - 3.2.3.2.1.4. Injection advance
 - 3.2.3.2.1.4.1. Injection advance curve ⁽²⁾:
3.2.3.2.1.4.2. Timing ⁽²⁾:
 - 3.2.3.2.2. Injection piping
 - 3.2.3.2.2.1. Length: mm
 - 3.2.3.2.2.2. Internal diameter: mm
 - 3.2.3.2.3. Injector(s)
 - 3.2.3.2.3.1. Make(s):
 - 3.2.3.2.3.2. Type(s):
 - 3.2.3.2.3.3. Opening pressure ⁽²⁾ or characteristic diagram:
 - 3.2.3.2.4. Governor
 - 3.2.3.2.4.1. Make(s):
 - 3.2.3.2.4.2. Type(s):
 - 3.2.3.2.4.3. Speed at which cut-off starts under full load ⁽²⁾: r/min
 - 3.2.3.2.4.4. Maximum no-load speed ⁽²⁾: r/min
 - 3.2.3.2.4.5. Idling speed ⁽²⁾: r/min
- 3.2.3.3. Cold-start system
 - 3.2.3.3.1. Make(s):
 - 3.2.3.3.2. Type(s):
 - 3.2.3.3.3. Description:
- 3.2.4. Valve timing
 - 3.2.4.1. Maximum lift and angles of opening and closing in relation to top dead centre or equivalent data:
.....
 - 3.2.4.2. Reference clearances and/or setting ranges ⁽¹⁾

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- 3.2.4.3. Variable valve timing system (if applicable and where intake and/or exhaust)
 - 3.2.4.3.1. Type: continuous or on/off
 - 3.2.4.3.2. Cam phase shift angle:
- 3.2.5. Porting configuration
 - 3.2.5.1. Position, size and numbering:
- 3.2.6. Electronic control functions

If the engine features electronically controlled functions, the information concerning their performance must be provided including:

 - 3.2.6.1. Make:
 - 3.2.6.2. Type:
 - 3.2.6.3. Part number:
 - 3.2.6.4. Location of engine electronic control unit:
 - 3.2.6.4.1. What does it sense:
 - 3.2.6.4.2. What does it control:

Part 3 — Compression-ignition engine family

- 3.3. Essential characteristics of the engine family
 - 3.3.1. List of engine types within a family
 - 3.3.1.1. Name of engine family:
 - 3.3.1.2. Specification of engine types within this family:

	Parent engine				
Engine type					
Number of cylinders					
Rated speed (r/min)					
Fuel delivery per stroke (mm ³) at rated speed					
Rated net power (kW)					
Maximum torque speed (r/min)					
Fuel delivery per stroke (mm ³) at maximum torque speed					
Maximum torque (Nm)					
Low idle speed (r/min)					
Cylinder swept volume as % of parent engine					100

Part 4 — Engine type

- 3.4. Essential characteristics of the engine type
 - 3.4.1. Description of the engine
 - 3.4.1.1. Manufacturer:
 - 3.4.1.2. Manufacturer's engine code as affixed to engines:
 - 3.4.1.3. Cycle: four stroke/two stroke⁽¹⁾
 - 3.4.1.4. Bore: mm
 - 3.4.1.5. Stroke: mm
 - 3.4.1.6. Number and arrangement of cylinders:
 - 3.4.1.7. Swept volume: cm³
 - 3.4.1.8. Rated speed: r/min
 - 3.4.1.9. Peak torque speed: r/min
 - 3.4.1.10. Compression ratio⁽²⁾:
 - 3.4.1.11. Combustion system:
 - 3.4.1.12. Drawing(s) of combustion chamber and piston crown:
 - 3.4.1.13. Minimum cross sectional area of inlet and outlet ports:
 - 3.4.1.14. Cooling system
 - 3.4.1.14.1. Coolant
 - 3.4.1.14.1.1. Nature of coolant:
 - 3.4.1.14.1.2. Circulating pump(s): yes/no⁽¹⁾
 - 3.4.1.14.1.3. Characteristics or make(s) and type(s) (if applicable):
 - 3.4.1.14.1.4. Drive ratio(s) (if applicable):
 - 3.4.1.14.2. Air
 - 3.4.1.14.2.1. Blower: yes/no⁽¹⁾
 - 3.4.1.14.2.2. Characteristics or make(s) and type(s) (if applicable):
 - 3.4.1.14.2.3. Drive ratio(s) (if applicable):
 - 3.4.1.15. Temperature permitted by the manufacturer:
 - 3.4.1.15.1. Liquid cooling: maximum temperature at outlet: K
 - 3.4.1.15.2. Air cooling: reference point:
Maximum temperature at reference point:
 - 3.4.1.15.3. Maximum charge-air temperature at the intercooler outlet (if applicable): K
 - 3.4.1.15.4. Maximum exhaust temperature at the point in the exhaust pipe(s) adjacent to the outer flange(s) of the exhaust manifold(s): K
 - 3.4.1.15.5. Lubricant temperature: minimum: K maximum: K

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- 3.4.1.16. Pressure charger: yes/no ⁽¹⁾
- 3.4.1.16.1. Make:
- 3.4.1.16.2. Type:
- 3.4.1.16.3. Description of the system (e.g. maximum charge pressure, waste-gate, if applicable):
- 3.4.1.16.4. Intercooler: yes/no ⁽¹⁾
- 3.4.1.17. Intake system: maximum allowable intake depression at rated engine speed and at 100 % load:
..... kPa
- 3.4.1.18. Exhaust system: maximum permissible exhaust back pressure at rated engine speed and at 100 % load:
..... kPa ⁽²⁾
- 3.4.2. Additional anti-pollution devices (if any, and if not covered by another heading)
- Description and/or diagram(s):
- 3.4.3. Fuel feed
- 3.4.3.1. Feed pump
- Pressure ⁽²⁾ or characteristic diagram: kPa
- 3.4.3.2. Injection system
- 3.4.3.2.1. Pump
- 3.4.3.2.1.1. Make(s):
- 3.4.3.2.1.2. Type(s):
- 3.4.3.2.1.3. Delivery: and mm³ ⁽²⁾ per stroke or cycle at pump speed of:
..... r/min (rated) and r/min (maximum torque) respectively, or
characteristic diagram
- State which method used: on engine/on pump bench ⁽¹⁾
- 3.4.3.2.1.4. Injection advance
- 3.4.3.2.1.4.1. Injection advance curve ⁽²⁾:
- 3.4.3.2.1.4.2. Timing ⁽²⁾:
- 3.4.3.2.2. Injection piping
- 3.4.3.2.2.1. Length: mm
- 3.4.3.2.2.2. Internal diameter: mm
- 3.4.3.2.3. Injector(s)
- 3.4.3.2.3.1. Make(s):
- 3.4.3.2.3.2. Type(s):
- 3.4.3.2.3.3. Opening pressure ⁽²⁾ or characteristic diagram ⁽¹⁾:

- 3.4.3.2.4. Governor(s)
 - 3.4.3.2.4.1. Make(s):
 - 3.4.3.2.4.2. Type(s):
 - 3.4.3.2.4.3. Speed at which cut-off starts under full load ⁽²⁾: r/min
 - 3.4.3.2.4.4. Maximum no-load speed ⁽²⁾: r/min
 - 3.4.3.2.4.5. Idling speed ⁽²⁾: r/min
- 3.4.4. Cold-start system
 - 3.4.4.1. Make(s):
 - 3.4.4.2. Type(s):
 - 3.4.4.3. Description:
- 3.4.5. Valve timing
 - 3.4.5.1. Maximum lift and opening and closing angles in relation to top dead centre or equivalent data:
 - 3.4.5.2. Reference clearances and/or setting ranges ⁽¹⁾:
 - 3.4.5.3. Variable valve timing system (if applicable and where intake and/or exhaust)
 - 3.4.5.3.1. Type: continuous or on/off
 - 3.4.5.3.2. Cam phase shift angle:
- 3.4.6. Porting configuration
 - 3.4.6.1. Position, size and number:
- 3.4.7. Electronic command functions

If the engine features electronically controlled functions, information concerning their performance must be provided including:

 - 3.4.7.1. Make:
 - 3.4.7.2. Type:
 - 3.4.7.3. Part number:
 - 3.4.7.4. Location of engine electronic control unit:
 - 3.4.7.4.1. What does it sense:
 - 3.4.7.4.2. What does it control: