

- (表 1) 美國一九九四年測試用油規範
- (表 2) 美國二〇〇四年測試用油規範
- (表 3) 歐盟 1999/96/EC、98/69/EC 指令型式認證及新車抽驗測試用柴油油品規範
- (表 4) 標準引擎族命名法車型年代碼
- (表 5) 標準引擎族命名法重型引擎製造者代碼
- (表 6) 標準引擎族命名法重型引擎型式代碼
- (表 7) 標準引擎族命名法重型引擎污染控制系統代碼
- (表 8) 歐盟 98/69/EC 柴油小客車排放標準
- (表 9) 歐盟 1999/96/EC 重型柴油引擎汽車排放標準
- 歐盟 98/69/EC 柴油小客車排放標準
- (表 10) 歐盟 1999/96/EC 重型柴油引擎汽車排放標準
- (表 11) 輕型柴油及替代清潔燃料引擎汽車引擎族合格證明申請表

(表 1) 美國一九九四年測試用油規範

| Item | ASTM | Type 1-D | Type 2-D |
|-------------------------------|-------|--------------------------|--------------------------|
| Cetane | D613 | 40-54 | 40-48 |
| Cetane Index | D976 | 40-54 | 40-48 |
| Distillation range: | | | |
| IBP °F(°C) | D86 | 330-390 | 340-400 (171.1-204.4) |
| 10 pct. point, °F(°C) | D86 | (165.6-198.9) 370-430 | 400-460 (204.4-237.8) |
| 50 pct. point, °F(°C) | D86 | (187.8-221.1) | 470-540 (243.3-282.2) |
| 90 pct. point, °F(°C) | D86 | 410-480 (210-248.9) | 560-630 (293.3-332.2) |
| EP, °F(°C) | D86 | 460-520 | 610-690 (321.1-365.6) |
| Gravity, °API | D287 | (237.8-271.1) | 32-37 |
| Total Sulfur pct | D2622 | 500-560 | 0.03-0.05 |
| Hydrocarbon composition: | | | |
| Aromatics | | (260.0-293.3) | ¹ 27 |
| Parafins, Naphthenes, Olefins | D1319 | 40-44 | (²) |
| Flashpoint, min., °F(°C) | D1319 | 0.03-0.05 | 130 |
| | D93 | | (54.4) |
| Viscosity, centistokes | | ¹ 8 | |
| | D445 | (²) | 2.0-3.2 |
| | | 120 (48.9) | |
| | | 1.6-2.0 | |

1. Minimum
2. Remainder

(表 2) 美國二〇〇四年測試用油規範

| Item | ASTM | Type 1-D | Type 2-D |
|-------------------------------|-------|--------------------------|--------------------------|
| Cetane | D613 | 40-54 | 40-50 |
| Cetane Index | D976 | 40-54 | 40-50 |
| Distillation range: | | | |
| IBP °F(°C) | D86 | 330-390 | 340-400 (171.1-204.4) |
| 10 pct. point, °F(°C) | D86 | (165.6-198.9) 370-430 | 400-460 (204.4-237.8) |
| 50 pct. point, °F(°C) | D86 | (187.8-221.1) | 470-540 (243.3-282.2) |
| 90 pct. point, °F(°C) | D86 | 410-480 (210-248.9) | 560-630 (293.3-332.2) |
| EP, °F(°C) | D86 | 460-520 | 610-690 (321.1-365.6) |
| Gravity, °API | D287 | (237.8-271.1) | 32-37 |
| Total Sulfur pct | D2622 | 500-560 | 0.03-0.05 |
| Hydrocarbon composition: | | | |
| Aromatics | | (260.0-293.3) | |
| Parafins, Naphthenes, Olefins | D1319 | 40-44 | |
| Flashpoint, min., °F(°C) | D1319 | 0.03-0.05 | |
| | D93 | | |
| Viscosity, centistokes | | 8 | 27 |
| | D445 | (¹) | (¹) |
| | | 120 | 130 |
| | | (48.9) | (54.4) |
| | | 1.6-2.0 | 2.0-3.2 |

1. Remainder

DIESEL FUEL⁽¹⁾

| Parameter | Unit | Limits ⁽²⁾ | | Test Method | Publication |
|---|--------------------|-----------------------|---------|-----------------------|-----------------------|
| | | Minimum | Maximum | | |
| Cetane number ⁽³⁾ | | 52 | 54 | EN-ISO 5165 | 1998 ⁽⁴⁾ |
| Density at 15°C | kg/m ³ | 833 | 837 | EN-ISO 3675 | 1995 |
| Distillation: | | | | | |
| —50% point | °C | 245 | — | EN-ISO 3405 | 1998 |
| —95% point | °C | 345 | 350 | EN-ISO 3405 | 1998 |
| —final boiling point | °C | — | 370 | EN-ISO 3405 | 1998 |
| Flash point | °C | 55 | — | EN 27719 | 1993 |
| CFPP | °C | — | -5 | EN 116 | 1981 |
| Viscosity at 40°C | mm ² /s | 2.5 | 3.5 | EN-ISO 3104 | 1996 |
| Polycyclic aromatic | %m/m | 3.0 | 6.0 | IP 391 ^(*) | 1995 |
| hydrocarbons | mg/kg | — | 300 | pr. EN-ISO/DIS 14596 | 1998 ⁽⁴⁾ |
| Sulphur content ⁽⁵⁾ | | — | 1 | EN-ISO 2160 | 1995 |
| Copper corrosion | %m/m | — | 0.2 | EN-ISO 10370 | |
| Conradson carbon | %m/m | — | 0.01 | EN-ISO 6245 | 1995 |
| residue (10% DR) | %m/m | — | 0.05 | EN-ISO 12937 | 1995 |
| Ash content | mg KOH/g | — | 0.02 | ASTM D 974-95 | 1998 ⁽⁴⁾ |
| Water content | mg/ml | — | 0.025 | EN-ISO 12205 | 1996 |
| Neutralisation (strong acid) number | | | | | |
| Oxidation stability ⁽⁶⁾ | | | | | |
| (*)New and better method for polycyclic aromatics under development | %m/m | — | — | EN 12916 | [1997] ⁽⁴⁾ |

(1) If it is required to calculate the thermal efficiency of an engine or vehicle, the calorific value of the fuel can be calculated from:

Specific energy (calorific value) (net) in MJ/kg = $(46,423 - 8,792d^2 + 3,170d) (1 - (x+y+s)) + 9,420s - 2,499x$ where,

d = the density at 15°C

x = the proportion by mass of water (% divided by 100)

y = the proportion by mass of ash (% divided by 100)

s = the proportion by mass of sulphur (% divided by 100)

(2) The values quoted in the specification are true values. In establishment of their limit values the terms of ISO 4259, Petroleum products – Determination and application of precision data in relation to methods of test, have been applied and in fixing a minimum value, a minimum difference of 2R above zero has been taken into account; in fixing a maximum and minimum value, the minimum difference is 4R (R = reproducibility). Notwithstanding this measure, which is necessary for statistical reasons, the manufacturer of a fuel should nevertheless aim at a zero value where the stipulated maximum value is 2\$ and at the mean value in the case of quotations of maximum and minimum limits. Should it be necessary to clarify the question as to whether a fuel meets the requirements of the specification, the terms of ISO 4259 should be applied.

(3) The range for cetane number is not in accordance with the requirement of a minimum range of 4R. However, in the case of dispute between fuel supplier and fuel user, the terms in ISO 4259 can be used to resolve such disputes provided replicate measurements, of sufficient number to achieve the necessary precision, are made in preference to single determinations.

(4) The month of publication will be completed in due course.

(5) The actual sulphur content of the fuel used for the test shall be reported. In addition, the sulphur content of the reference fuel used to approve a vehicle or engine against the limit values set out in row B of the Table in section 6.2.1. of Annex I to this Directive shall have a maximum sulphur content of 50 ppm. The Commission will as soon as possible, but no later than 31 December 1999, bring forward a modification to this Annex reflecting the market average for fuel sulphur content in respect of the fuel defined in Annex IV to Directive 98/70/EC.

(6) Even though oxidation stability is controlled, it is likely that shelf life will be limited. Advice should be sought from the supplier as to storage conditions and life.

(表 4) 標準引擎族命名法車型年代碼

| <u>年份</u> | <u>代碼</u> | <u>年份</u> | <u>代碼</u> |
|-----------|-----------|-----------|-----------|
| 1997 | V | 2005 | 5 |
| 1998 | W | 2006 | 6 |
| 1999 | X | 2007 | 7 |
| 2000 | Y | 2008 | 8 |
| 2001 | 1 | 2009 | 9 |
| 2002 | 2 | 2010 | A |
| 2003 | 3 | 2011 | B |
| 2004 | 4 | 2012 | C |

| <u>代碼</u> | <u>製 造 者</u> |
|-----------|----------------------------------|
| BB | Bluebird Body Co. |
| CP | Caterpillar Inc. |
| CR | Chrysler motor Corporation |
| CE | Cummins Engines Company, Inc. |
| DF | DAF Truck B. V. |
| JD | Deere & Company |
| DD | Detroit Diesel Corporation |
| MB | Mercedes-Benz Aktiengesellschaft |
| FM | Ford Motor Company |
| GM | General Motors Corporation |
| HE | Hercules Engines Inc. |
| HM | Hino Motors, Ltd. |
| SZ | Isuzu Motors Limited. |
| VE | IVECO B. V. |
| DZ | Klocker-Humboldt-Deutz AG |
| MK | Mack Truck, INc. |
| MN | MAN Nutzfahrzeuge Gmbh |
| MM | Mitsubishi Motor Corporation |
| MC | Mazda Corporation |
| NV | Navistar International Company |
| ND | Nissan Diesel Co., Ltd. |
| RE | Renault Vehicles Industriels |
| SA | Saab-Scania |
| VT | Volvo White Truck Division |
| WB | Winnebago |
| PK | Perkins Engine Company |
| PC | Peugeot Citroen Motors |
| TY | TOYOTA Motor Co. |

代碼引擎型式(表 6)
標準引擎族命名法重型引擎型式代碼

- B 噴油式火花點燃引擎
(Spark ignition fuel injected)
- C 渦輪增壓式火花點燃引擎
(Spark ignition turbo-charged)
- D 壓燃引擎
(Compression ignition)
- E 渦輪增壓式壓燃引擎
(Compression ignition turbo-charged)
- F 裝置後冷卻器或中間冷卻器之渦輪增壓壓燃引擎
(Compression ignition turbo-charged and aftercooled or intercooled)
- G 甲醇為燃料之化油器式火花點燃引擎
(Methanol spark ignition carbureted)
- H 甲醇燃料之噴油式火花點燃引擎
(Methanol spark ignition fuel injected)
- J 甲醇燃料之渦輪增壓式火花點燃引擎
(Methanol spark ignition turbo-charged)
- K 甲醇燃料之壓燃引擎
(Methanol compression ignition)
- L 甲醇燃料之渦輪增壓壓燃引擎
(Methanol compression ignition turbo-charged)
- M 甲醇燃料之渦輪增壓壓燃引擎、裝置後冷卻器或中間冷卻器
(Methanol compression ignition turbo-charged and aftercooled or intercooled)

(表 7) 標準引擎族命名法重型引擎污染控制系统代碼

| 代碼 | 控制系统 |
|----|---|
| A | 引擎修正 (Engine modification) |
| B | 空氣噴射系統 (Air injection) |
| C | 廢氣再循環系統 (Exhaust gas recirculation) |
| D | 氧化式觸媒系統 (Oxidation catalyst) |
| E | 還原式觸媒系統 (Reduction catalyst) |
| F | 三元式觸媒系統 (Three-Way catalyst) |
| G | 空氣噴射+廢氣再循環系統 (Air injection + exhaust gas recirculation) |
| H | 空氣噴射+氧化觸媒系統 |
| J | 空氣噴射+還原觸媒系統 |
| K | 空氣噴射+三元觸媒系統 |
| L | 廢氣再循環+氧化觸媒系統 |
| M | 廢氣再循環+還原觸媒系統 |
| N | 廢氣再循環+三元觸媒系統 |
| P | |
| R | 空氣噴射+廢氣再循環+氧化觸媒系統 |
| S | 空氣噴射+廢氣再循環+還原觸媒系統 |
| T | 空氣噴射+廢氣再循環+三元觸媒系統 |
| Z | 其 他 |
| 代碼 | 控制系统 |
| A | 引擎修正 (Engine modification) |
| B | 空氣噴射系統 (Air injection) |
| C | 廢氣再循環系統 (Exhaust gas recirculation) |
| D | 氧化式觸媒系統 (Oxidation catalyst) |
| E | 還原式觸媒系統 (Reduction catalyst) |
| F | 三元式觸媒系統 (Three-Way catalyst) |
| G | 空氣噴射+廢氣再循環系統 (Air injection + exhaust gas recirculation) |
| H | 空氣噴射+氧化觸媒系統 |
| J | 空氣噴射+還原觸媒系統 |
| K | 空氣噴射+三元觸媒系統 |
| L | 廢氣再循環+氧化觸媒系統 |
| M | 廢氣再循環+還原觸媒系統 |
| N | 廢氣再循環+三元觸媒系統 |
| P | |
| R | 空氣噴射+廢氣再循環+氧化觸媒系統 |
| S | 空氣噴射+廢氣再循環+還原觸媒系統 |
| T | 空氣噴射+廢氣再循環+三元觸媒系統 |
| Z | 其 他 |

(表 8) 沿用車型年附加代碼

| | | | |
|-----------|-----------|-----------|------|
| 2000 年—A0 | 2010 年—B0 | 2020 年—C0 | 依此類推 |
| 2001 年—A1 | 2011 年—B1 | 2021 年—C1 | 依此類推 |
| 2002 年—A2 | 2012 年—B2 | 2022 年—C2 | 依此類推 |
| 2003 年—A3 | 2013 年—B3 | 2023 年—C3 | 依此類推 |
| 依此類推 | 依此類推 | 依此類推 | 依此類推 |

(表 9) 歐盟 98/69/EC 柴油小客車排放標準

| | | | 參考車重 (RW) (kg) | 標 準 值 | | | | | | | | |
|---|-------------------------------|-----|----------------------|--------------------------|------|--------------------------|----|--------------------------|------|---|------|--------------------------|
| | | | | CO | | HC | | NOx | | HC+NO ₂ | | PM |
| | | | | L ₁ (g/km) | | L ₂ (g/km) | | L ₃ (g/km) | | L ₂ + L ₃ (g/km) | | L ₄ (g/km) |
| Category | Class | | 汽油 | 柴油 | 汽油 | 柴油 | 汽油 | 柴油 | 汽油 | 柴油 | 柴油 | |
| A (2000) | M ⁽²⁾ | — | all | 2.3 | 0.64 | 0.20 | — | 0.15 | 0.50 | — | 0.56 | 0.05 |
| | N _i ⁽³⁾ | I | RW≤1305 | 2.3 | 0.64 | 0.20 | — | 0.15 | 0.50 | — | 0.56 | 0.05 |
| | | II | 1305<RW≤1760 | 4.17 | 0.80 | 0.25 | — | 0.18 | 0.65 | — | 0.72 | 0.07 |
| | | III | 1760<RW | 5.22 | 0.95 | 0.29 | — | 0.21 | 0.78 | — | 0.86 | 0.10 |
| B (2005) | M ⁽²⁾ | — | all | 1.0 | 0.50 | 0.10 | — | 0.08 | 0.25 | — | 0.30 | 0.025 |
| | N _i ⁽³⁾ | I | RW≤1305 | 1.0 | 0.50 | 0.10 | — | 0.08 | 0.25 | — | 0.30 | 0.025 |
| | | II | 1305<RW≤1760 | 1.81 | 0.63 | 0.13 | — | 0.10 | 0.33 | — | 0.39 | 0.04 |
| | | III | 1760<RW | 2.27 | 0.74 | 0.16 | | 0.11 | 0.39 | | 0.46 | 0.06 |
| (1) 適用壓縮點火引擎。 (2) 不包含車重大於 2,500kg 車輛。 (3) 包含車重大於 2,500kg M 類車輛。 | | | | | | | | | | | | |

表 10

輕型柴油及替代清潔燃料引擎汽車引擎族

合格證明申請表

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex A |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

一般資料

GENERAL INFORMATION

01. 車輛製造廠
Vehicle Manufacturer
02. 廠牌
Make
03. 引擎型式
Engine model
04. 車型年
Model year
05. 證明文件請核發給下述公司（公司地址）
The certificate of conformity should be made out to the following company (full address).
06. 業者連絡人之姓名，地址及電話號碼（含國內及國外連絡人）
Name address and telephone number of the person(s) the EPA shall communicate with concerning this application (inside and outside Taiwan R.O.C.)
07. 依本附錄規定之下列項目應分項陳述（並由授權負責人簽章）。
Statements (undersigned by an authorized person) in accordance with the following items of the LDV/LDT Regulation.
 - .01- 該引擎符合附錄之規定()
that the engines conform to the requirements()
 - .02- 對車主之承諾()
commitment to the car owners()
 - .03- 本署得視察測試設備()
permission for EPA to visit the test facilities
 - .04- 國內授權代理人()
authorized representative in R.O.C.()
 - .05- 已依本附錄()之規定進行測試
that the testing has been performed in accordance with the requirements
 - .06- 聲明新車抽驗依本附錄()之規定進行定量比例抽驗
(或強制稽核制度)
statement that conformance audit in accordance with the requirements would be conducted in Fixed-rate audit or SEA audit.
see page _____ in appendix A _____
08. 車輛排放空氣污染物品質管制計畫
Vehicle emission quality control project.

備註 Remark

引擎族命名參照附錄三

The engine family designation refers to Appendix 3.

每一附錄應加以標識方予受理申請。

The complete application must be submitted with separating index sheets for each annex.

有關 07 項之陳述得包含於申請函中

The statements according to item 07 may be included in the cover letter.

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex B |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

附加資料
ADDITIONAL INFORMATION

- 車輛製造廠聲明屬於本引擎族之車輛在最少公里_____公里測試時之排放數
據已經穩定化且具有代表性。
The vehicle manufacturer hereby states that the vehicle included in this
engine family are stablized and representative of design intent for
emission data testing at the minimum sum of _____ kilometers.
- 本署應將新車抽驗資料寄送給業者連絡人員之姓名地址。
Name and full address of the person to whom the EPA should send information
regarding CPA-testing.
- 附屬之車輛組成型態資料。
additional vehicle configuration information :

| 車輛組成型態 Vehicle configuration | 估計國內銷售數量 Estimated sales (units) In Taiwan R.O.C. | Maximum engine power | | |
|---------------------------------|---|----------------------|-----|--------------|
| | | kW | rpm | Meas. method |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| 總數 Total (units) | | | | |

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex C |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

本引擎族所屬之車輛組成型態

VEHICLE CONFIGURATIONS WITHIN THE ENGINE FAMILY

| 車型銷售時名稱 Vehicle models sales designation | 排放控制系統名稱 Emission control system designation | 基本引擎名稱 Basic engine designation | 變速系統名稱 Transmission System designation | 慣量 Inertia (kg) | 負載車重 Loaded Vehicle Weight | 車輛組成型態 Vehicle configuration |
|---|---|---------------------------------------|---|-----------------------|-------------------------------------|------------------------------------|
| | | | | | | |

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex D |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

基本引擎數據
BASIC ENGINE DATA

01. 基本引擎名稱
Basic engine designation _____
02. 燃燒循環(即 2 或 4 衝程/diesel)
Combustion cycle (e.g. 2 or 4-stroke/diesel) _____
03. 氣缸體型態(即 L-6, 90° V-8)
Cylinder block configuration(e.g. L-6, 90° V-8) _____
04. 氣缸數
Number of cylinders _____
05. 氣缸中心至中心尺寸(mm)
Cylinder bore center to center dimensions (mm) _____
06. 冷卻系統型式(氣冷/水冷)
Type of cooling system (air/liquid) _____
07. 進氣閥及排氣閥之位置
Location of intake and exhaust valves _____
 - .01. 每一氣缸之氣閥數目, 進氣/排氣
number of valves per cylinder, intake/exhaust _____
 - .02. 進氣閥(角度)
intake valve(s) (degrees) see page _____ in appendix D
 - .03. 排氣閥(角度)
exhaust valve(s)(degrees) see page _____ in appendix D
08. 供氣方式(自然供氣/增壓器供氣)
Method of air aspiration (natural/supercharged) _____
09. 燃油噴射方式(即: 直接或間接噴射供油)
Type of fuel injection system (e.g. DI or IDI) _____
10. 排放控制系統名稱
Emission control system designation _____

| | | | | |
|--------------|---|----------------------|--------------|-----------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex D-2 |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

基本引擎數據(續)

BASIC ENGINE DATA (cont.)

11. 氣缸孔徑(mm)
Bore(mm) _____
12. 衝程(mm)
Stroke(mm) _____
13. 排氣量(cm³)
Displacement (cm³) _____
14. 壓縮比(正常值)
Compression ratio (nominal) _____
15. 閥頭直徑(進氣/排氣) (mm)
Valve head diameter (intake/exhaust) (mm) _____
16. 進氣/排氣孔面積(mm²)
intake/exhaust port area (mm²) _____
17. 閥門正時(曲軸角度)
Valve timing (crankshaft degress)
 - .01. 開啟:進氣/排氣
opening :Intake/Exhaust _____
 - .02. 關閉:進氣/排氣
close :Intake/Exhaust _____
 - .03. 最大升程(mm)
maximum lift (mm) _____
18. 中間冷卻器 ☐ Yes ☐ No
Intercooler usage see page _____ in appendix D
19. 噴油系統描述
Description of injection system
 - .01. 噴油角度
Injection timing (degree) _____
 - .02. 噴油嘴描述及位置
Description and location of injection see page _____ in appendix D
 - .03. 噴油壓力
Injection pressure

備註

Remark

本引擎族中之基本引擎與前一基本引擎之 02~10 項目相同時，得指定參考該項之資料。

If items 02~10 are identical to a previously described basic engine within the engine family, reference can be made to that page.

每一基本引擎應個別填報。

Separate forms are required for each basic engine.

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex E |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

| | | |
|--|---|---|
| 變速系統資料 TRANSMISSION SYSTEM INFORMATION | | |
| 01. 變速系統命名 Transmission system designation | | _____ |
| 02. 齒輪箱型式(手排檔/自動排檔) Type of gear box (manual/automatic) | | _____ |
| 03. 前進檔數 Number of forward gears | | _____ |
| 04. 駕駛程式(即標準, 節約) Driving programs, if applicable (e.g. standard, economy) | | _____ |
| 05. 驅動輪(前輪, 後輪, 恆定/可切換四輪) Driven wheels (front, rear, 4WD-permanent/declutchable) | | _____ |
| 06. 輪胎尺寸 Tire sizes | | |
| .01. | 標準裝備 standard : | _____ |
| .02. | 選擇裝備 optional : | _____ |
| 07. 最後驅動比 Final drive ratio | | _____ |
| 08. 齒輪比 Gear ratios | | |
| .01. gear no 1 | | _____ |
| .02. gear no 2 | | _____ |
| .03. gear no 3 | | _____ |
| .04. gear no 4 | | _____ |
| .05. gear no 5 | | _____ |
| 09. 在 1000 rpm 引擎轉速時之車輛速度(標準輪胎) Vehicle speed at 1000 rpm engine speed (standard tires) (車速偏差不超過±8%時, 可視為同一車輛型態) (a deviation of max. ±8% is permitted for vehicles to be classified within the same vehicle configuration | gear no. 1 (km/h) gear no. 2 (km/h) gear no. 3 (km/h) gear no. 4 (km/h) gear no. 5 (km/h) | _____ _____ _____ _____ _____ |

備註 Remark

車輛之基本引擎、排放控制系統及變速裝置皆相同時稱為同一車輛組成型態。變速裝置尚需考量所有齒輪之總齒輪比, 即以車輛引擎在每分鐘一千轉時之車輛速度公差應在±8% 內來表示。車輛具有不同之負載車重時, 當其慣性質量相同才視為屬於同一車輛組成型態。

The vehicles equipped same basic engine, emission control device and transmission device would be designated to same vehicle configuration. It includes total gear ratio for all gear for transmission device, that is vehicle speed tolerance would be within ±8% at engine 1000 rpm. When vehicles are designed for different loaded vehicle weight, only those which are designed for same inertia mass could be designated to same vehicle configuration.

負載重量: 車輛在預備行駛狀態沒有乘員或載重, 但包含所有標準裝備及選擇性裝置, 且包含燃料箱裝滿燃料, 再加上 136 公斤。

Loaded vehicle weight: The vehicle weight which vehicle is in ready-driving situation, equipped all standard and optional equipment, inclusive full amount fuel in fuel tank, plus 136 kg.

慣性重量: 在車體動力計上設定之重量

Inertia mass: The mass which is set in chassis dynamometer for FTP75 (LA-4) test procedure.

每一變速系統應個別填報。

Separate forms are required for each transmission system

| | | | | |
|--------------|---|----------------------|--------------|-----------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex F-1 |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

排放控制系統說明

DESCRIPTION OF THE EMISSION CONTROL SYSTEM

01. 燃料及空氣供應系統

Fuel and air supply system

. 01. 廠牌及型式名稱

Make and type designation _____

. 02. 構造及操作方法

Configuration and method of operation

see page _____ in appendix F _____

. 03. 燃料計量系統，瞬間富油系統，惰轉停止構造、
啟動及暖車富油系統及熱車惰轉補償系統，進
氣歧管及進氣溫度控制系統

Fuel metering system, transient
enrichment system, idle stop
configuration, starting and
warm up enrichment system and
hot idle compensation system,
inlet manifold and air inlet
temperature control system, as
applicable

see page _____ in appendix F _____

. 04. 校正

Calibration

02. 電子系統(無此裝置可不提出)

Electrical system and other
devices off the engine

. 01. 廠牌及型式名稱

Make and type designation _____

. 02. 構造及操作方式

Configuration and method of
operation

see page _____ in appendix F _____

. 03. 校正

Calibrations

see page _____ in appendix F _____

備註

Remark

每一排放控制系統應個別填報。

Separate forms are required for each emission control system.

| | | | | |
|--------------|---|----------------------|--------------|-----------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex F-2 |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

排放控制系統說明(續)

DESCRIPTION OF THE EMISSION CONTROL SYSTEM(cont.)

03. 排放控制裝置

Emission control devices

.01. 指出廢氣排放控制系統所包含之裝置

Indicate the devices included in the
exhaust emission control system

- ☐ 濾煙器或粒狀物捕集器
Particulate Filter or
Particulate Trap
- ☐ 濾煙器再生裝置
Regeneration system for
particulate filter
- ☐ 排氣再循環系統
Exhaust gas recirculation
- ☐ 熱反應器
Thermal reactor
- ☐ 觸媒轉化器
Catalytic converter
- ☐ 二次空氣供給泵
Air injection, Air pump
- ☐ 二次空氣控制閥
Air injection, Puls air
- ☐ 減速裝置
deceleration device
- ☐ 黑煙限制器
Smoke Puff Limit
- ☐ 電子控制
Electronic Control
- ☐ 引擎修改
Engine Modification

.02. 構造及操作方式

Configuration and method of operation

每一件之排放相關數據

Relevant emission related data

shall be given for component

see page ____ in appendix F____

.03. 校正

Calibrations

see page ____ in appendix F____

| | | | | |
|--------------|---|----------------------|--------------|-----------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex F-3 |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

排放控制系統說明(續)

DESCRIPTION OF THE EMISSION CONTROL SYSTEM (cont.)

04. 潤滑系統

Lubrication system

.01. 廠牌及型式名稱

Make and type designation _____

.02. 構造及操作方式

Configuration and method of operation

每一零件之排放相關數據

Relevant emission related data

Shall be given for component

see page _____ in appendix F_____

.03. 校正

Calibrations

see page _____ in appendix F_____

05. 冷卻系統

Cooling system

.01. 廠牌及型式名稱

Make and type designation _____

.02. 構造及操作方式

Configuration and method of operation see page _____ in appendix F_____

.03. 校正

Calibrations

see page _____ in appendix F_____

| | | | | |
|--------------|---|----------------------|--------------|----------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附 錄 Annex G |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

車上零件位置

LOCATION OF COMPONENTS IN THE VEHICLE

01. 排放控制系統名稱
Emission control system designation
02. 車輛組成型態
Vehicle configuration(s)
03. 以相片或其他方式顯示排放控制零件於車上之位置
Photograph or equivalent showing the location
of the emission control components in the vehicle

該相片之顯著位置應註明引擎組成型態名稱及排放控制系統項目。
該零件應以文字或數字作記號且已記載於零件辨識清冊上。
The photograph shall have a heading stating which
Vehicle configuration(s) and emission control system
it describes. The components shall be marked by using
a number or letter that shall be found in the part
identification list.

如電子控制箱等無法裝置於引擎室之零件，其位置亦應指明。
The location of components such as e.g. an electronic control
box, which might not be located in the engine compartment,
must also be indicated

see page _____ in appendix G _____

04. 真空管路配置示意圖
Schematic drawing of the vacuum hose routings and/or equivalent.

該資料應顯著註明車輛組成型態名稱及排放控制系統項目。
The information shall have a heading stating which
vehicle configuration(s) and emission control
system it describes.

see page _____ in appendix G _____

05. 零件辨識清冊（量產零件）。於附錄 F 上所載之排氣相關零
件與零件上名稱及辨識號碼相同。
Part identification list (production units). Each
emission related component described in annex F
must be identified with the name and the identification
code that can be found on the component.

該項資料應依 03 項之規定包含數字或文字，且每一零
件之位置皆能由相片辨認。

The information shall also include the numbers
or letters, required according to item 03.,
whereby the location of each components can be
identified on the photograph.

see page _____ in appendix G _____

備註

Remark

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex H |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

可調整參數及建議之設定

ADJUSTABLE PARAMETERS AND RECOMMENDED SETTINGS

01. 車輛組成型態
Vehicle configuration(s) _____
02. 列出與污染排氣有關且實際可調之參數(包括那些不易接近之參數)
A list of emission related parameter which are
physically capable of being adjusted (including
those for which access is difficult) see page _____ in appendix H _____
03. 容易接近且可調整參數之建議設定值及其公差
Recommended setting with tolerances for normally
accessible adjustable parameters see page _____ in appendix H _____
04. 由於防止改裝裝置不易接近之可調參數其生產設定公差範圍
Production settings with tolerances for
parameters for which access is difficult
due to tamper-proof devices. see page _____ in appendix H _____
05. 說明為限制或防止隨意接近與排氣污染相關可調參數所採行之措施
Description configuration and method of
operation of the actions taken to limit
or inhibit access of certain emission
related adjustable parameters see page _____ in appendix H _____

| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex I |
|--------------|---|----------------------|--------------|---------------|
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

提供車主之排放相關手冊

EMISSION RELATED INSTRUCTIONS TO THE VEHICLE OWNER

01. 車輛組成型態
Vehicle configuration(s) _____
02. 啟動指引
Starting instructions see page _____ in appendix I _____
03. 搭配使用變速裝置
Use of transmission class see page _____ in appendix I _____
04. 建議使用燃料種類
Recommended fuel _____
05. 建議引擎工作溫度
Recommended engine temperature _____
06. 其他與排放有關之操作手冊以確保排放控制系統之有效使用。
Other emission related operational instructions
necessary for ensuring correct operation of the
emission control system see page _____ in appendix II _____
07. 與排放有關之維護手冊（包含交車前準備動作及保養期限）
以確保使用時能符合排放標準。
Emission related maintenance instructions
(including pre-delivery activities and
service intervals) necessary to ensured
in-use compliance see page _____ in appendix I _____
08. 依本附錄()之規定提供車主之保證影本。
Copy of the commitment to the
vehicle owners according to the
requirements() see page _____ in appendix I _____
09. 依本附錄()規定欲附貼在引擎上之中文標識照片或影本。
Copy or photograph of the Chinese label
adhesive to the engine according to
the requirement ()
10. 中文版之車主使用手冊影本，該資料可稍後再提供給本
署，但在國內市場銷售前必須先提送本署。
Copy of the owners handbook in Chinese
(This information may be supplied at
a later date but it must be supplied
to the EPA before the vehicles are
offered for sale on the Taiwan market) see page _____ in appendix I _____

備註 Remark

項目 09 之標識之記載項目應容易辨識該車裝有那些排放控制裝置。

Item 09, the label should preferably include information whereby the correct combination of emission control devices on a certain vehicle can be identified.

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex J |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

劣化係數
DETERIORATION FACTORS

01. 車輛組成型態
Vehicle configuration (s) _____

02. 廢氣排放測試
Exhaust emission test

| | | |
|----|-----|--|
| DF | CO | |
| | HC | |
| | NOx | |
| | PM | |

採用方式 method used

- a. 實際劣化係數：
依據作業附錄()執行 ☐
- b. 法定劣化係數：
依據作業附錄()執行 ☐

03. 以技術觀點來評估訂定劣化係數時所採用之方式(僅用於方式 a)

Technical account for the evaluation of
the method used to determine DF factors
(only applicable for method a)

see page _____ in appendix J_____

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex K |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

動力計設定
DANAMOMETER SETTING

01. 80 km/h 路阻(於 85-75 km/h 之滑行測試時間)
road resistance at 80 km/h(coast-down time 85-75 km/h)

| 方法 Method | 路 阻(N) Road resistance (N) | 動力計設定 Dynamometer setting | | 車輛組成型態(及車型) Vehicle configuration (and vehicle model) |
|--------------|-------------------------------|------------------------------|-------------------------------|--|
| | | 慣 量 Inertia (kg) | 滑行時間 Coast-down time(s) | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

採用方式：

Methods：

- 滑行間之駕駛阻力變化
Driving resistance variation during coast-down
- 定速扭矩測試法
Torque measurement method at constant speed
- 替代方法—採用列表數值，但須本署同意(日期 _____)
Alternative method-table values
According to EPA agreement (date _____)
- 經本署同意之其他方法(日期 _____)
Other method approved by the EPA (date _____)

Remarks

If a chassis dynamometer with a non-fixed loadcurve is used, the coast-down times and the power or force settings at 100, 80, 60, 40 and 20 km/h, shall be report. If the data for the road resistance and braking force or power refers to another speed than the above mentioned this must be clearly point out. This should also be done if the coast-down times(s) is (are)not measured between 85-75 km/h.

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex L |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

測試數據摘要
TEST DATA SUMMARY

01. 排放數據
Emission data

| 車輛組成型態及測試引擎 名稱 Vehicle configuration and type of test engine | 排放測試結果 Emission test results Including DF | | | |
|---|---|------------|-------------|------------|
| | CO g/km | HC g/km | NOx g/km | PM g/km |
| | | | | |
| 劣化係數 | | | | |
| 最終值 | | | | |
| 標準值 | 2.11 | 0.155 | 0.625 | 0.05 |

02. 耐久測試數據 Durability data

| 測試車輛號碼 Test vehicle I.D. number | 車輛組成型態 Vehicle configuration | 劣化係數量測值 Measured deterioration factors | | | |
|---------------------------------------|------------------------------------|---|----|-----|----|
| | | CO | HC | NOx | PM |
| | | | | | |

備註 Remarks

1) 依下列法規之規定說明測試車輛之選擇

E1=依本附錄()規定選擇測試車輛

E2=依本附錄()規定選擇測試車輛

Specify the test vehicle selection according to the following codes :

E1=emission test vehicle selected according to item()of the LDV/LDT
Regulation.

E2=emission test vehicle selected according to item ()of the LDV/LDT
Regulation.

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex M |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

排放測試報告
EMISSION TEST REPORT

01. 測試數據(提送專業檢驗機構之測試報告)
Test data

依本附錄()規定所選擇之測試車輛之測試報告應包含下列資料
For each emission test vehicle, selected in accordance with item of the HDE/HDT Regulation, the manufacturer shall present a test report containing the following information:

- 測試編號及測試日期
test number and test data
- 測試車輛辨識(車輛組成型態、測試車輛編號、車體號碼、引擎號碼、里程時數)。
Test vehicle identification (vehicle configuration, test vehicle no., chassis no., engine number, odometer reading)
- 引擎中排放相關零件之設定
engine setting of emission related components
- 里程累積
Milage Accumulation Data and milage acumulated of the milage
Accumulated performed each time
- 維修及保養紀錄
Maintenance & Repair All maintenance
- 測試車輛診斷紀錄
Diagnostic Test Record Issues of Vehicle Test
- 預先調整方式
pre-conditioning method
- 油品規範
fuel specification
- 測試條件(動力吸收特性、動力計設定、引擎性能)
test conditions (characteristics of power absorbed by the engine driven equipment, dynamometer settings, engine performances etc.)
- 測試周圍之環境(大氣壓力、溫度等)
ambient conditions (atmospheric pressure, temperature etc.)
- 氣狀污染物測試結果
test results of gaseous mass emissions
- 粒狀污染物測試結果
test results of particulate emissions
- 耐久測試描述
durability test description (if applicable)
- 耐久測試結果
durability test result (if applicable)

備註 Remark

使用與測試方法規定不同之變檔型式時應事先通知本署

The use of other gear shifting patterns than specified test procedure must be approved in advance by the EPA.

| | | | | |
|--------------|---|----------------------|--------------|---------------|
| 行政院環境 保護署 | 輕型柴油汽車引擎族 排氣合格證明申請表 A 式 APPLICATION FORM A | 引擎族 Engine family | Page | 附錄 Annex N |
| | | | No. of pages | Date |
| | | | Rev. no. | Date of rev. |

修正項目目錄
REVISION INDEX

| 修正編號 Revision number | 修正日期 Revision date | 附件／頁數 Annex/Page(s) affected | 說明修正內容 Description of revision |
|-------------------------|-----------------------|------------------------------------|-----------------------------------|
| | | | |