Extract taken from: Alternative fuel system certification > CNG inspection > Fuel system components

2-5 Fuel system components

Reasons for rejection

Mandatory equipment

1. An item listed in Table 2-5-1 is missing.

2. An installation to AS/NZS 2739: 2003 does not have a refuelling information plate which includes the next cylinder retest date or does not have this information on the compliance plate in the engine bay.

3. An installation to NZS 5422: 1987, Part 2 does not have a permanent label near the service isolation valve with the wording CNG SERVICE SHUT-OFF VALVE or similar and a clear indication of the CLOSED and OPEN positions.

Condition

4. A component is not in good working condition.

5. The refuelling connection is dirty.

6. The refuelling connection dust plug or cap is:

    a) missing, or

    b) not securely attached, or

    c) not held captive by a strap or similar device where it would be practicable to do so.

Performance

7. A manual valve cannot be operated without the use of tools.

8. The automatic fuel shut-off device allows CNG to flow to the engine when it is not running (Note 2).

9. The starter motor can be operated when the refuelling interlock device micro-switch is operated (Note 3).

Note 1 Definitions:

Non-return valve means a valve which permits fuel flow in only one direction.

Automatic fuel shut-off device means a provision for shutting off the fuel supply unless certain essential conditions exist.

Refuelling interlock device means a system used to control the delivery pressure of gaseous fuel to the engine.

Note 2

Automatic fuel shut-off devices can normally be heard operating. They can be made to operate in a number of ways:

a) Electrically operated valves may be operated by cutting the power supply to them. Turning the fuel selector knob to a

non-CNG fuel (petrol or diesel) will cut the power supply.

b) Valves will open when the ignition is turned on, and will then close if the engine is not cranked.

c) Vacuum-operated valves can be activated by disconnecting the appropriate hose.

Note 3

The interlock device micro-switch can usually be operated with a finger.

Table 2-5-1. Mandatory equipment for a CNG fuel supply system (Note 1)

• Fuel cylinder(s) • Cylinder valve(s) • Refuelling non-return valve	• Refuelling connection • Service isolation valve • Fuel filter	• Fuel shut-off device (lock off) • Fuel flow regulator • Refuelling interlock device

Summary of legislation

Applicable legislation

- **Land Transport Rule: Vehicle Standards Compliance 2002**
- **Land Transport Rule: Vehicle Equipment 2004**
- AS/NZS 2739: 2003, section 6.9.

Mandatory equipment

1. The fuel supply system must include the items in Table 2-5-1.

2. Installations to NS/NZS 2739: 2003 must have a refuelling information plate which includes the next cylinder retest date. (This may be combined with the compliance plate on vehicles with the refuelling connection in the engine bay.)

3. Installations to NZS 5422: 1987, Part 2 must have a permanent label near the service isolation valve with the wording CNG SERVICE SHUT-OFF VALVE or similar and a clear indication of the CLOSED and OPEN positions.

Condition

4. All fuel system components must be in safe working condition.

5. The refuelling connection must:

    a) be free of foreign matter, and

    b) have a dust plug or cap that is:

        i. captive, where practicable, and

        ii. securely attached.

Performance

6. All manual valves must operate without the necessity for tools.

7. An automatic fuel shut-off device must operate when the engine is not running.

8. The refuelling interlock device must cut the power to the starter motor when the refuelling nozzle is engaged.