South Australia

Road Traffic (Vehicle Standards) Variation Rules 2010

under the *Road Traffic Act 1961*

Contents

Part 1—Preliminary

1—Short title

These rules may be cited as the *Road Traffic (Vehicle Standards) Variation Rules 2010*.

2—Commencement

These rules will come into operation on 1 March 2011.

3—Variation provisions

In these rules, a provision under a heading referring to the variation of specified rules varies the rules so specified.

Part 2—Variation of *Road Traffic (Vehicle Standards) Rules 1999*

4—Variation of rule 39—Diesel engines

Rule 39—delete "compression ignition engine (commonly known as a diesel engine)" and substitute:

diesel engine

5—Insertion of rule 147A

After rule 147 insert:

147A—Exhaust emissions—diesel-powered vehicles

(1)   When a registered motor vehicle (other than a motor bike or motor trike) powered by a diesel engine is subjected to a DT80 test—

    (a)   the vehicle must not emit oxides of nitrogen (NO_x) at a rate (measured in grams of NO_x emitted per kilometre travelled per tonne of the vehicle's test mass) greater than that specified for the vehicle according to its GVM and age in the following table:

Vehicle's GVM (t)	Rate of NO_x emissions (g/km/t)	
	Vehicle manufactured in December 1995 or earlier	*Vehicle manufactured in January 1996 or later*
not greater than 3.5	1.5	1.5
more than 3.5 but not greater than 12	2.0	2.0
more than 12 but not greater than 25	2.0	1.5
more than 25	1.5	1.2

    and

    (b)   the vehicle must not emit particulate matter (PM) at a rate (measured in grams of PM emitted per kilometre travelled per tonne of the vehicle's test mass) greater than that specified for the vehicle according to its GVM and age in the following table:

Vehicle's GVM (t)	Rate of PM emissions (g/km/t)	
	Vehicle manufactured in December 1995 or earlier	*Vehicle manufactured in January 1996 or later*
not greater than 3.5	0.23	0.23
more than 3.5 but not greater than 12	0.23	0.15
more than 12 but not greater than 25	0.08	0.05
more than 25	0.07	0.03

    and

    (c)   the opacity of the exhaust gas emitted by the vehicle must not be greater than 25% (averaged over the test).

(2)   For the purposes of this rule—

    (a)   the *test mass* of a vehicle is—

        (i)   if the vehicle is a prime mover—half the sum of the unladen mass of the vehicle and its GCM; or

        (ii)   in any other case—half the sum of the unladen mass of the vehicle and its GVM; and

    (b)   the *unladen mass* of a vehicle is the mass of the vehicle without any load other than the fuel, oil, tools or prescribed equipment carried (either habitually or intermittently) on the vehicle; and

    (c)   if the mass of a vehicle has been specified by an Australian Authority, that mass may be used as the unladen mass of the vehicle for the purposes of determining the test mass unless there is reason to believe that it is not an accurate record of the unladen mass of the vehicle at the time of the test.

(3)   In this rule—

DT80 test means a test carried out in accordance with the procedure set out in Schedule 1 at a test facility that is recognised, or meets the requirements for recognition, by the Australian Taxation Office for the purposes of the fuel tax credit system under the *Fuel Tax Act 2006* of the Commonwealth;

registered means registered on the register of motor vehicles under the *Motor Vehicles Act 1959*.

6—Insertion of Schedule 1

After Part 14 insert:

Schedule 1—DT80 test procedure

(rule 147A)

1   Secure the vehicle on the dynamometer.

2   Set the dynamometer to simulate the correct load and inertia for the vehicle.

3   Start sampling.

4   Idle for 60 seconds.

5   Accelerate rapidly to 80 km/hr under simulated inertia using wide open throttle, making gear changes as required for smooth acceleration.

6   Decelerate by removing all pressure from the accelerator pedal, disengaging the gears and gently applying brakes to bring the vehicle to a standstill.

7   Idle for 10 seconds.

8   Accelerate rapidly to 80 km/hr under simulated inertia, using wide open throttle, making gear changes as required for smooth acceleration.

9   Decelerate by removing all pressure from the accelerator pedal, disengaging the gears and gently applying brakes to bring the vehicle to a standstill.

10   Idle for 10 seconds.

11   Accelerate rapidly to 80 km/hr under simulated inertia using wide open throttle, making gear changes as required for smooth acceleration.

12   Maintain speed at 80 km/hr for 60 seconds, then stop sampling. Bring the vehicle to rest.

Note—Explanation of the test procedure—

This test has been designed to evaluate vehicle emissions during typical 'real-world' operating modes and conditions. There are 3 simple modes:

•   3 idle periods

•   acceleration to 80 km/h 3 times

•   maintain speed at 80 km/h.

The graph below indicates the modes of operation. The actual test will result in a graph that has more variation than the indicative graph below, because of the need to change gears when accelerating. Modes B – D and E – G and H – I have no specific time interval. All the specified time periods have an error margin of ± 1 second.

The vehicle is accelerated rapidly to 80 km/h 3 times by applying wide-open throttle.

The driver selects the most appropriate gear change points for the vehicle being tested to achieve the correct speed.

The vehicle's test mass for road load and inertia settings must be equal to the mass of the vehicle when operating with ½ its nominal payload, that is—

•   in the case of a prime mover: (GCM + unladen mass) ÷2; and

•   in any other case: (GVM + unladen mass) ÷2.

The vehicle's rolling resistance (based on tyre and bearing losses, frontal area and drag coefficient) must also be calculated and continuously factored into the dynamometer tractive effort calculations to ensure correct loading.

Empirical algorithms, based on the vehicle's test mass, GVM or other known parameters, may be used to automatically calculate realistic coefficients for these variables.

A simplified indicative graph produced by a test follows.
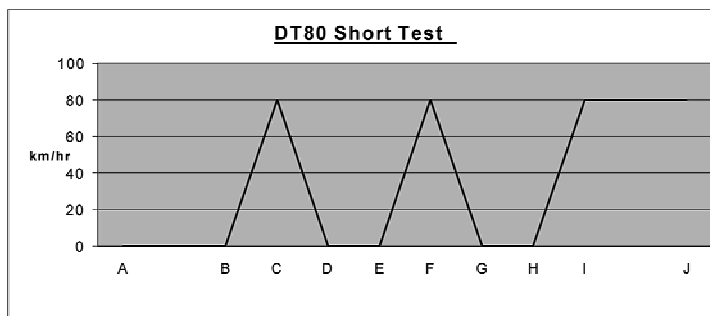
7—Variation of Dictionary

(1) Dictionary—after the definition of *daytime* insert:

> *diesel engine* means a compression ignition engine commonly known as a diesel engine;

(2) Dictionary—after the definition of *front fog light* insert:

> *GCM* of a vehicle means the greatest possible sum of the maximum loaded mass of the vehicle and of any vehicles that may lawfully be towed by it at any one time—
>
> > (a) as specified by the vehicle's manufacturer; or
> >
> > (b) as specified by an Australian Authority if—
> >
> > > (i) the manufacturer has not specified the sum of the maximum loaded mass; or
> > >
> > > (ii) the manufacturer cannot be identified; or
> > >
> > > (iii) the vehicle has been modified to the extent that the manufacturer's specification is no longer appropriate;

(3) Dictionary—after the definition of *low-beam* insert:

> *manufactured*—a vehicle will be taken to have been manufactured in the month shown on its vehicle identification plate (within the meaning of Part 3A of the Act) as its month of manufacture;

Note—

As required by section 10AA(2) of the *Subordinate Legislation Act 1978*, the Minister has certified that, in the Minister's opinion, it is necessary or appropriate that these rules come into operation as set out in these rules.

Made by the Governor

with the advice and consent of the Executive Council
on 2 December 2010

No 244 of 2010

MTR10/002