

# CIRCULAR 81/02-2-1

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## SELECTION OF TEST VEHICLES

### INTRODUCTION

1. This circular should be read in conjunction with circular 0-2-11 "*General Procedures for Selection of Vehicles and Components for ADR Compliance Testing*" containing requirements applicable to all ADRs. This circular replaces all previously issued fleet selection circulars for ADR 81/--.
2. The intention of the criteria in this circular is to reduce the number of vehicle specifications required to be tested. This circular details the criteria to be considered in selecting the variants of a vehicle model to be tested. The Administrator will usually accept tests conducted in accordance with the criteria as having demonstrated compliance for all variants in the model range. Additional tests may be required for combinations of characteristics not anticipated in this circular.

The Administrator will consider requests for further reductions in the number of tests on receipt of documented evidence that the fuel consumption of the untested vehicles would not result in a fuel consumption value that is more than 4% higher than that of the tested vehicle. That documented evidence may be simulated or calculated consumption results for the untested vehicle with any such simulations or calculations being traceable to similar comparisons between tested vehicles

3. It remains the responsibility of the vehicle manufacturer to ensure that every vehicle to which an identification plate is affixed complies with ADR 81/02 as applicable.

### SELECTION REQUIREMENTS

4. The Administrator will accept a test on one vehicle as representative of another for the purposes of the determining the fuel consumption, if when compared with the untested vehicles, the test vehicle shall have:

4.1 the same type of device or system that converts stored energy into mechanical energy (e.g., internal combustion engine, hybrid internal combustion engine / electric motor, fuel cell, etc.);

4.2 where the vehicle is equipped with a device for storage of electrical energy, the same strategy or method of charging and accessing the energy storage device (e.g. OVC, NOVC etc.);

4.3 an engine belonging to the same *engine family*;

*Note: Engine Family as defined in the criteria in clause 4.2 of Circular 79/01-2-1, excepting clauses 4.2.17, 4.2.18 & 4.2.20.*

4.4 The engine capacity of the untested vehicle is within +/- 15% of the capacity of the tested vehicle;

4.5 the same general body shape above the wheel centres as the tested vehicle or, if the untested vehicle does not have the same general body shape above the wheel centres as the tested vehicle, has a dynamometer road power absorption value no more than 10% greater than the tested vehicle;

4.6 the same or greater number of driven axles or, if the untested vehicle has a greater number of driven axles than the tested vehicle, has a dynamometer road power absorption value no more than 10% greater than the tested vehicle;

4.7 a mass so that it belongs to an Equivalent Test Inertia Mass category the same or any amount higher;

4.8 a transmission that:

4.8.1 transmits power using the same mechanical design and layout (e.g. Fluid coupling/torque converter with or without lock-up, simple or compound gear train with clutch, CVT etc.);

4.8.2 is controlled by the driver in the same fashion (e.g. manual with clutch, automatic with manual selection, clutchless manual etc.);

4.8.3 if automatic, has the same system and strategy for shifting/controlling the engine/road speed ratio;

*Note: Where a vehicle is equipped with a device that allows a driver to select or control the shift points or behaviour of the transmission, the manufacturer must test the selected vehicle with the device in the position which the vehicle is intended to be in during normal road use (as stated in the owner's manual).*

4.9 no lesser number of transmission ratios and for each transmission ratio on the tested vehicle  $E \leq 0.08$  where:

$$E = (V2 - V1) / V1$$

and V1 and V2 are respectively the speed at 1,000 rpm of the tested and untested vehicles using the transmission ratio.

## **ALTERNATIVE STANDARDS**

5. An untested vehicle variant which is listed in an appropriate Economic Commission for Europe (ECE) approval document (to one of the ECE regulations listed as an alternative standard in the ADR) may be certified without the selection criteria in the circular being applied. All variants to be covered in the application must be included on the Fleet Selection (SF) form. If all variants listed on the SF form are listed in an ECE approval document the tested/untested status is to be recorded as "ECE Approved"
6. An untested vehicle variant that is not listed in an appropriate ECE approval document (to one of the ECE regulations listed as an alternative standard in the ADR) may be certified on the basis of comparison to a vehicle variant tested in accordance with compliance to the technical requirements of an appropriate ECE regulation if:

- the tested vehicle variant is listed in an appropriate ECE approval document and;
- the untested vehicle variant(s), when compared to the tested variant, meets the criteria of this circular.

In this case the variants tested to the ECE regulation and included on the ECE approval are to show the tested/untested status as “ECE - Tested”. The variants not tested to the ECE regulation but included in the ECE approval are to show the tested/untested status as “ECE - Approved” and the variants not tested to the ECE regulation and not included on the ECE approval are to show the tested/untested status as “Untested”. All variants to be covered in the application must be included on the Fleet Selection (SF) form. A variant marked as Untested may only be compared with a relevant variant which is either “ECE - Tested” or “Tested”.