

AUSTRALIAN MOTOR VEHICLE CERTIFICATION BOARD

Comprising Australian and State Authorities

CIRCULAR NO. 27B-1-1

APPLICATION PROCEDURES FOR APPROVAL TO AUSTRALIAN DESIGN RULE NO. 27B-

VEHICLE EMISSION CONTROL

INTRODUCTION

1. All passenger cars and derivatives equipped with petrol fuelled spark ignition internal combustion engines manufactured on and after 1 January 1982, except those with an engine displacement less than 850 millilitres, are required to comply with Australian Design Rule No. 27B - Vehicle Emission Control.
2. Exhaust emission levels of ADR 27B are unchanged from those specified in ADR 27A - Vehicle Emission Control: February 1979.
3. Fuel evaporative emission levels and method of testing specified in ADR 27B are completely different from those specified in ADR 27A.
4. Approval to affix compliance plates bearing ADR 27B may be obtained for vehicles manufactured before 1 January 1982. Vehicles which comply with ADR 27B need not comply with the requirements of ADR 27A.

COMPLIANCE PLATES INCLUDING ADR 27B

5. To obtain approval to affix a compliance plate bearing ADR. 27B, manufacturers must submit all information required on the Board's forms CS 27B and CB 27B. This will require the manufacturer to first obtain the approval of the Board, in its role of "Administrator", of each engine family to be used in the vehicle models to which compliance plates are to be affixed.

ENGINE FAMILY APPROVAL

6. There are four methods by which engine family approvals may be obtained. These are;-
 - a) by carrying out all prescribed testing and submitting test reports and other information to the Board on the EC27A-27B series of forms (see Appendix 1),
 - b) on the basis of a previous engine family approval in respect of ADR 27A, submitting only the additional test reports relating to the new evaporative emission requirements and other such information as the Board may require in particular circumstances.
 - c) satisfying the Administrator that the vehicle to which a Compliance Plate is to be affixed has a valid approval granted by the Environmental Protection Agency of the United States of America with regard to the relevant Federal Regulation concerning Control of Air Pollution,
 - d) satisfying the Administrator that the vehicle has a valid approval issued with respect to other standards, equal to or more stringent than this Design Rule, which the Administrator has agreed to accept.

SUBMISSION OF EVIDENCE BASED ON TESTS

7. A submission which is divided into three parts is required. The sections of the EC 27A-27B series of forms which comprise each part are indicated in the Appendix. The procedures allow for information to be submitted as it becomes available, and for formal selection of a test fleet by the Administrator before any testing commences. However, a preferred procedure is indicated in paragraph 24, whereby all information is submitted together. This is likely to lead to earlier issue of approval.

Part I

8. This part includes an application for engine family approval and information relating to the identification of the engine family, selection of test vehicles, approval of laboratories, methods of distance accumulation, etc. It should be submitted as a single complete document since no authority can be given to carry out any testing until the completed Part I is received.
9. A test fleet will be selected by the Board, in its role of Administrator, and notification of the fleet will be sent to the applicant. (However, the comments in paragraph 7 concerning the preferred alternative procedure should be noted).

Part II

10. Part II represents the submission of reports of tests conducted on the data vehicles selected by the Administrator. A Part II submission is necessary for each test conducted and these should be forwarded as soon as practicable after the test is completed. Thus Part II may be submitted in stages as the information becomes available.

Part III

11. This represents a summary of all information received and approved by the Administrator since the submission of Part I.

General Instructions for Submission of Part I, Part II and Part III

12. One complete copy of a Part I, the relevant Part II's and a Part III, as well as any revisions, are to be submitted to:

The Chairman,
Australian Motor Vehicle Certification Board,
Box 1553,
G.P.O. CANBERRA, AUST. 2601

13. The forms of the EC27A-27B series are suggested formats. It is not mandatory for manufacturers to use these forms, but their use will expedite the examination process. All information should be presented on international A4 paper or reasonable equivalent (drawings excepted).
14. Whenever a revision is made to an application the entire page containing the revision, including the date of revision, should be submitted along with marked-up copies of the previous effective pages to indicate the revisions. The revisions should be accompanied by a covering letter which summarizes the changes.
15. If particular sections of multiple applications are identical they may be reproduced for inclusion in each separate submission. Alternatively, they may be cross referenced provided they have been previously submitted to the Board and they are not affected by changes to the vehicles or test procedures.

ENGINE FAMILY PREVIOUSLY APPROVED FOR ADR 27A

16. The major difference between ADR 27A and ADR 27B is in the requirements for fuel evaporative emissions. Consideration will be given to the use of exhaust emission results from ADR 27A approval. However, the new fuel evaporative emission test specified in clause 27B.6 must be carried out on all test vehicles, and the relevant data submitted on form EC 27B Annex G.
17. A new application is required for each engine family for which certification is desired. Such application must include all the information specified in the EC 27A-27B series of forms. However, where parts of the form comprise information previously supplied to the Board, copies of this previous information, suitably noted to indicate that it now refers to ADR 27B, may be resubmitted.
18. The procedures allow for information to be submitted as it becomes available, in a similar manner to that for a submission of evidence based on tests. In this case a new test fleet will be selected by the Board, in its role of Administrator, and notification of the fleet will be sent to the applicant. However, use of the submission procedure outlined in paragraph 24 is likely to lead to earlier issue of approval.

19. Where vehicles corresponding to the new test fleet approved by the Board have already been tested, and the testing and results are acceptable to the Board for certification, it will not be necessary for vehicles of that pattern to be tested again for exhaust emissions. Where all vehicles of the new test fleet approved by the Board have not already been tested, then testing of the new vehicles is required and the procedures for initial certification must be followed. The Board will advise the applicant with regard to these testing requirements.
20. If running changes have been made to an engine family since the exhaust emission certification testing was carried out, the Board may call for further testing, which could include new emission data vehicles. Contributory elements that will be considered in determining whether further testing or new emission data vehicles will be required include;
- a) the number and nature of running changes that have been approved,
 - b) the type of testing performed to certify the running changes. It should be noted that running changes certified with back-to-back tests on a stabilized non-certification vehicle will normally result in a requirement for new emission-data vehicles. Additionally, where running changes have been certified on only certain variants within an engine family, additional testing on the other variants affected by the running changes may be required,
 - c) the period of time since certification tests were performed. Generally, if 3 years or more have elapsed and one or more running changes have been made, new emission data vehicles will be required.

CERTIFICATION ON THE BASIS OF U.S. E.P.A. CERTIFICATION

21. For those manufacturers who propose to obtain approval on the basis of E.P.A. certification, it will be necessary for them to complete EC27A-27B, and Annex A (including Attachment 1 Parts a to g). In addition, the manufacturer shall submit a copy of the E.P.A. Certificate of Conformity together with copies of at least sections 5, 6, 7 and 8 of their Part I application and Sections 5 and 6 of their Part II application to E.P.A., including any revisions up to the date of approval by E.P.A. in its Certificate of Conformity. The above section references apply to the 1975 model year applications. Equivalent information should be provided for other model year applications A complete Part III submission (EC27A-27B Annex J and K) is also required.
22. U.S. E.P.A. approvals will only be recognized for vehicles manufactured in the period covered by the E.P.A. Certificate of Conformity, and only if the appropriate E.P.A. label is affixed to the vehicle.

CERTIFICATION ON THE BASIS OF ANOTHER STANDARD

23. Requests for approval on the basis of any other standard equal to or more stringent than this Design Rule will be considered on their individual merits.

TESTING PRIOR TO TEST FLEET APPROVAL

24. The Board would prefer all documents comprising the total application to be submitted together. In this procedure testing would be carried out without first obtaining the Board's approval of the test fleet, where this is practicable. The Board reserves the right to require any additional information or testing, as is found necessary, to demonstrate compliance to the Board's satisfaction after examination of the submission. This procedure is likely to result in issue of an Engine Family Approval earlier than might otherwise be the case.

STANDARD SUBMISSION FORMS

25. Information required by the EC 27A-27B (Issue 1*) series of forms is generally identical to that required by the EC 27A (Issue 1979) forms except for the substitution of ADR 27A-27B for ADR 27A and the addition of EC 27B Annex G to cover the new fuel evaporative tests. The latest edition of the forms should be used when seeking approval in respect of ADR 27B. An index of the ADR 27A-27B series of forms is appended.

REQUESTS FOR APPROVAL OF ADMINISTRATOR

26. In all cases where the approval of the Administrator is required under the terms of the Design Rule, such requests shall be made in writing. Approvals will not be given on the basis of verbal requests. The postal address is:

The Chairman,
Australian Motor Vehicle Certification Board,
Box 1553,
G.P.O. CANBERRA, AUST. 2600

The telex address is:

AMVCB, AA 61680.

* As at September 1980 these forms are in the course of preparation and will be available soon.

ADR 27A-27B SERIES OF STANDARD FORMS**Contents**

CA 27A-27B

EC27A-27B Application for Engine Family Approval

EC27A-27B/1 Application for Selection of Data Vehicles

EC27A-27B

Annex A Engine Family Description

Att. 1

Part a Common Family Parameters

Part b Engine Family Identification

Part c Description of Exhaust Emission Control System

Part d Description of Fuel Evaporative Emission Control System

Part e Engine Family Sales

Part f Vehicle Description

Part g Proposed Maintenance to be Performed on Test Vehicles

Annex B Distance Accumulation

Att. 1 Distance Accumulation

Annex C Laboratory Equipment Report

Att. 1 Laboratory Data

Annex D Test Fuels

Att. 1 Test Fuels

Annex E Identification of Test Vehicles

*Annex F Test Vehicle Description

*Annex G/H/I Cover Sheet

*Annex G Fuel Evaporative Emission Test
(ADR 27A only) for Emission/Durability Data Vehicles*Annex G Fuel Evaporative Emission Test
(ADR 27B only) for Emission/Durability Data VehiclesAnnex H Exhaust Emission Test for Emission/
Durability Data Vehicles

Part 1

Application

Part II
Application

Annex I Maintenance and Distance Accumulation Log

Part a Maintenance Log

Part b Distance Accumulation Log

Annex J Summary of Information

Part a Certificate Information

Part b Summary of Test Results

Part c Statement of Compliance

Annex K Vehicle Model Identification

*To be repeated for each test vehicle.

Part III
Application