

AUSTRALIAN MOTOR VEHICLE CERTIFICATION BOARD  
Comprising Commonwealth, State and Territory Authorities

**CIRCULAR NO. 38-1-8**  
**APPROVAL FOR COMPUTER SIMULATION OF ADR 38**  
**SERVICE BRAKE EFFECTIVENESS**

**INTRODUCTION**

1. ADR 38 has provision for Service Brake Effectiveness to be demonstrated by computer simulation. Before results of a computer simulation are submitted as evidence of compliance the computer simulation should be approved by the Administrator.

**APPLICATION PROCEDURES**

2. There is no standard form for application. Applications should be made by letter addressed to:  
The Chairman, AMVCB  
PO Box 293  
CIVIC SQUARE ACT 2608
3. The application should be supported by details of the computer simulation, the comparative testing conducted, the reporting procedure and any limitations on the suitability of the simulation for particular trailer types or categories.
4. The application shall nominate the person(s) delegated to supervise the operation of the computer simulation and prepare the report of the results. Simulations supervised or prepared by other persons will not be acceptable.

**APPROVAL NUMBER**

5. Where an application is acceptable to the Administrator an approval number will be issued. This approval number is valid only for computer simulation of ADR 38 Service Brake Effectiveness tests conducted in accordance with the details provided in the application and for those trailer configurations described in the application.
6. The approval number shall be stated in the submission of evidence of compliance (Form CB 38) whenever Service Brake Effectiveness is demonstrated by the computer simulation.

**COMPUTER SIMULATION DETAILS**

7. The computer program should be shown in block diagram flow chart form, in sufficient detail to provide an understanding of the functioning of the program but not showing each programming step. An explanation of the logic used in the program should also be included.
8. The data entry requirements and print out format should be provided. The data entered should include all the parameters of the applicable trailer configurations including suspension and control system characteristics. Where the simulation is suitable for dog trailers provision for dynamic load transfer along the length of the trailer should be made.

## **COMPARATIVE TESTING**

9. Road tests must be conducted at several Control Signal levels for several values of each variable data entry. These tests should be performed for each trailer configuration included in the computer simulation. The tests shall be conducted in accordance with the Service Brake Effectiveness requirements in ADR 38.
10. The results of these comparative tests shall be reported in a format directly comparable with the results obtained from the computer simulation.

## **REPORTING PROCEDURE**

11. The report of the computer simulation results should use a format similar to the submission of evidence Form CB 38. The report should be prepared by a nominated computer simulation supervisor.

## **LIMITATION OF SUITABILITY**

12. The computer simulation will be suitable only for those trailer types and configurations for which satisfactory comparative testing has been conducted. The application should clearly state for which trailer types and configurations the simulation is considered to be suitable (e.g. semi-trailers with S-cam air brakes and 4 and 6 spring suspensions).