

Introduction

The objective of this instruction is to set up and conduct 8 different vehicle tests quickly and easily without the use of a Laptop.

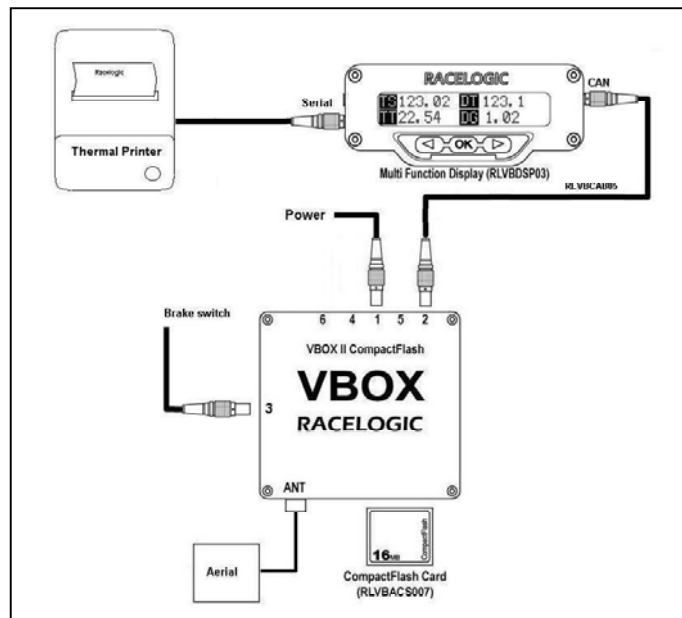
Equipment used

1 x VBOXIIDCF (VBOX Lite or VBOXIII)
 1 x Cigar lighter adaptor, RLVBCAB10
 1 x GPS Magnetic Aerial, RLVBACS050

1 x Multi Function Display RLVBDSP03
 1 x Thermal Printer
 1 x Brake Pedal Trigger RLVBACS003

Test Setup

Place the magnetic GPS Aerial on the roof of the test vehicle and run the cable into the vehicle through the door seal. Connect the aerial cable to the VBOXII ensuring the connection is free from dirt. Connect power to the VBOXII using the cigar lighter adaptor or a battery pack.



Connect the Multifunction display to socket two of the VBOX using a CAB05 cable and mount the MFD on the windscreen of the vehicle using the suction cup mount. Then connect the Thermal printer to the 'Serial' socket of the MFD. The Brake trigger is plugged into socket 3 of the VBOXII and attached to the brake pedal. Use of the Brake Trigger is only applicable to VBOXII and VBOXIII.

For the test, the VBOX should be left until the green 'ST' light on the VBOX indicates that at least 6 satellites are in lock. During this time the eight pre set 'Magazine test' screens can be configured for the tests.

To edit the test setup of the pre set test screens, scroll across the MFD menus until the first Pre-Set test screen is displayed.

Then press **OK** and scroll across the options until 'SETUP' is shown then press **OK** again to enter the setup menu. Now scroll to the Pre-Set test 1 and press **OK** to enter the setup screen for Test 1. Scroll right and edit the name of the test using the **OK** button and the arrow keys. Then scroll through the next options to select the start and end conditions of the test. The start conditions can be either a Trigger or a start speed and the end conditions can be either an end speed or a distance.

Now set the next seven of the eight Pre-Set tests in the same way.

We set ours up to be as follows:

Test Number	Name	Trigger	Start Speed (KPH)	End Speed (KPH)	Distance (M)
1	0-160 KMH	DISABLED	0	160	0
2	110-0 KMH	DISABLED	110	0	0
3	3RD GEAR	DISABLED	50	80	0
4	4TH GEAR	DISABLED	80	110	0
5	5TH GEAR	DISABLED	80	110	0
6	BRAKE	ENABLED	0	0	0
7	¼ MILE	DISABLED	0	0	404
8	50-0 KMH	DISABLED	50	0	0

Magazine Tests Using the MFD

Once each of the Pre-Set tests are set they will become active if they are displayed on the MFD screen. At the completion of the displayed test the results will also be printed out on the thermal printer, connected to the MFD.

Test Procedure

With Pre-Set Test 1 on display the vehicle is acceleration tested from 0-160 KPH.

To change between the Pre-Set Test Screens simply press the left or right arrows on the MFD.

When a test screen is first shown on the MFD it displays an initial display screen that displays the name and conditions of the test i.e. 0-160 KMH. Then after 1second the Initial Display Screen changes to the Test Display Screen as shown below.

Initial Display Screen	Test Display Screen
<T1: 0-160 KMH > ST:000KMH END:000KMH	<T1 V:000.0KMH > T:000.00 D:00000.0

In the Test Display Screen the MFD display shows a live velocity and a Time and distance display that shows the time and distance result of the test upon completion.

So with Pre-Set Test 1 selected we performed a 0-160KMH acceleration test. The result from this test is kept on this screen until the test is run again. At every 10Kmh of the test the MFD prints the time and distance, then at the end of the test the printer prints the final end result.

Whilst still at high speed from the acceleration run, Pre-Set Test 2 is selected (110-0 KMH). The car is slowed to near 110 KMH, and then a full ABS brake stop is performed. The results from this test are then shown on the screen and printed out on the thermal printer.

Now with the vehicle stationary Pre-Set Test 3 (3rd Gear 50-80 KMH) is selected, the car is driven upto a speed below the test start speed and 3rd gear selected. Full throttle acceleration from 50 to 80 KMH is then performed. The results are displayed and printed; we then instantly change gear to 4th and allow the car to slow below 80 KMH and then select Pre-Set Test 4 (4th Gear 80-110 KMH). Then this acceleration test is performed at the end of this test 5th gear is and Pre-Set Test 5 (5th Gear 80-110 KMH) is selected, the car is slowed to below the test start speed and the car is accelerated again.

Pre-Set test screen 6 (Brake) is selected and at just over 100Kmh another full ABS brake stop is performed, thus recording the stopping distance and time from 100Kmh.

Then whilst the vehicle is stopped the 0-1/4 mile Pre-Set test screen 7 is selected, and then performed.

At the end of this test the vehicle is slowed and the final 50-0kmh Pre-set test 8 screen is selected, and then performed.

Results / Conclusion

At the end of this test there are a set of printed results from the thermal printer for eight different tests that were concurrently tested.

This is an example of a flexible testing method that should allow a much quicker method of testing for the style of tests often performed when 'figuring' vehicles.

Tests do not need to be run concurrently and a single Pre-Set test can be run as many times as required.