

# RaceTec ® Delay Box Tester Operating Instructions

March 22, 2006, Rev P4

## INTRODUCTION

The RaceTec® DB (delay box) Tester measures the elapsed time between two voltage signal events with one millisecond (one thousandth of a second) accuracy.

Testing is done in the car, in the shop or at the track.

Use the DB Tester to verify the accuracy and repeatability of your delay box and all other delay timers.

The two events, called Event 1 and Event 2, are typically the actuation of your launch switch (Event 1) and the actuation of your transbrake (Event 2).

## GENERAL INSTRUCTIONS

Connections to voltage signals are not polarity sensitive. You needn't worry about which is plus and which is minus.

Voltage signals are not direction sensitive. You need not worry about whether any of the signals change from on to off, or from off to on. Any changing voltage signal will work.

Pressing the **SET** button puts the DB Tester in test mode to measure elapsed time.

## QUICK START GUIDE

1. Install the 9 volt battery in the DB Tester.
2. Turn the race car battery switch off.
3. Use one cable set to connect the DB Tester's EV1 connector between the delay box's trigger (switch) input and chassis ground.
4. Use the other cable set to connect the DB Tester's EV2 connector between the delay box's transbrake terminal and chassis ground.
5. Turn on the car battery and set or reset the delay box.
6. Press the launch button.
7. Turn on the DB Tester and push the **SET** button.
8. Release the launch button and read the measured delay from the DB Tester's display.

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## TEST EXAMPLE

1. Turn the race car battery switch off.
2. Connect the DB Tester's EV1 cable between the delay box's trigger (switch) input and chassis ground.
3. Connect the EV2 cable between the delay box's transbrake terminal and chassis ground.
4. Turn on the DB Tester. Turn on the car's battery switch. Turn on the delay box. Set the delay box delay time and reset the delay box.
5. Press the launch button.
6. Press the **SET** button on the DB Tester to put it in test mode. The Ready LED will come on. All event LEDs will go off.
7. Release the launch button. The Ready LED will go off. The Event 1 LED will come on to indicate the occurrence of the first event. After the delay time expires the Event 1 LED will go off and the Event 2 LED will come on to indicate the occurrence of the second event. The DB tester will display the measured delay.
8. Repeat steps 5 through 7 above ten or twenty times. Write down the readings for comparison over time to determine your delay box's repeatability and accuracy.

## SPECIFICATIONS

Size	5 3/4" x 3" x 1 1/8"
Weight	8 oz with battery installed
Battery	Any 9 volt type
Display	1/2" character height 4 1/2 digits
Measurement Range	0.001 to 19.999 seconds
Accuracy	+/- 0.001 seconds (1 one thousandth)
Repeatability	+/- 0.0005 seconds ( 5 ten thousandths)
Input Circuit Load	2100 ohms in series with LED (Vf = 1.7 volts)