

Collision Avoidance - Analysis

Overview: Computes the speeds, times and distances during which the vehicles are exposed contact and during which contact will actually occur.

Entry into Module:

This module of the program is normally entered by clicking on the **REC-TEC** block in the upper left of the **REC-TEC Window** causing the drop-down menu to appear. Place the cursor on the **Collision Avoidance** block and click on **Collision Analysis** on the sub-menu to initiate this module.

Under certain circumstances, the user may choose to use the **Files** block instead of the drop-down menu approach. Selecting any file with a **.CAA** extension in the **Dialog box** accessed from either the **Open Single File** or **Open Multiple Files** block opens this module.

Selecting **AutoLoad [ON]** from either the **Setup Menu** or the **AutoLoad Icon** on the upper right side (third line) of the **REC-TEC Window** automatically loads the scenario that was on the screen when the module was closed, either individually, or when the program was closed. With **AutoLoad [OFF]** on the main **REC-TEC Window**, modules will start without loading a file.

Data Entry:

Entries for either Vehicle can consist of **Acceleration**, **Deceleration** or **Constant Speed** and will contain two or more of the following data entry blocks within the two leftmost frames:

- **'g' Acc/Dec** (Acceleration/Deceleration – required)
- **Speed (Initial)**
- **Speed (Final)**
- **Reaction Time**
- **Distance** – Distance from front of vehicle to center of vehicle paths at impact
- **Length (LOV)**
- **Width (WOV)**

- **Intercept Angle** – Angle between vehicles

Computation Increment & Counters

- **Computation Increment** – Sets increment for computations
- **Counters** – Engages counters for Time, Distance and Speed of both vehicles
- **Run to:** – Sets Stop time for Animation.
- **SPACEBAR** – Stops and Resumes Animation

Output – Unit (1 / 2):

The output from this module consists of Animation and a text block (Red Collision Zones) that displays the Time frame, Distances and Speeds during which both vehicles are attempting to occupy the same space.

Options:

Several **Command Buttons** appear in a frame located at the lower right corner of the module Window. The **Command Buttons** allow the user to engage options including the option to **Open** and **Save** the data required to generate the scenario shown on the screen at the time the file was saved.

- **Open .CAA File** – Calls up a **Dialog box**, which **Opens** any pre-existing **.CAA** file and displays the output results.
- **Save .CAA File** – Calls up a **Dialog box**, which **Saves** data on the screen to files with any user-selectable filenames. This is independent of the automatic saving as “**LastFile.CAA**” of the data at the close of this module or the close of the program.
- **Animation** – The display shows the Units in 180-degree format (User selectable angles). The line colors of the animation show the path encroachment and collision periods for the vehicles. The green segments of the lines (if any) indicate distance(s) traveled during the reaction time for that unit. The light blue segments of the lines (if any) indicate the distance(s) traveled by the unit during which the path of the unit is occupied by the other unit. The red segments of the lines (if any) indicate the distances during which both units would be occupying the same space during the same time - collision. **[Esc]** to Exit
- **N** – This button toggles a graphical number pad on the screen that can be used to enter data into the input boxes without using your keyboard number pad. This may be useful for presentations as data entry can be accomplished using a wired/wireless mouse.