

Simulator Overview Training

By:



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Simulator Training

1 Introduction

This document will give you an overview of the simulator and some of the basic functions which will help you get started using your simulator.

2 Starting the Simulator

With the PatrolSim/TranSim software fully installed, configured, and functioning properly, it is important you follow these procedures when starting or stopping the simulator, to ensure the integrity of the system.

If the simulator has been in storage, allow the system to stabilize to ambient environmental conditions before starting.

START UP:

1. Turn on the OPCON computer by pressing its Power button.	
2. The simulator computers are automatically turned on via a “Wake on Land” (WOL) command as the OpCon application automatically launches.	
3. To assure that the system has powered-up correctly, check the following: <ol style="list-style-type: none">All three displays on the simulator should display the L-3 logo window.The power switch should display a green light.The touch screen console should be displayed.The “MDYN” indicator in the simulator tile from the Opcon application should be green.	

3 Loading a Scenario and Vehicle

The Scenario Process toolbar contains tools that control scenarios, and modify the environment within a scenario.

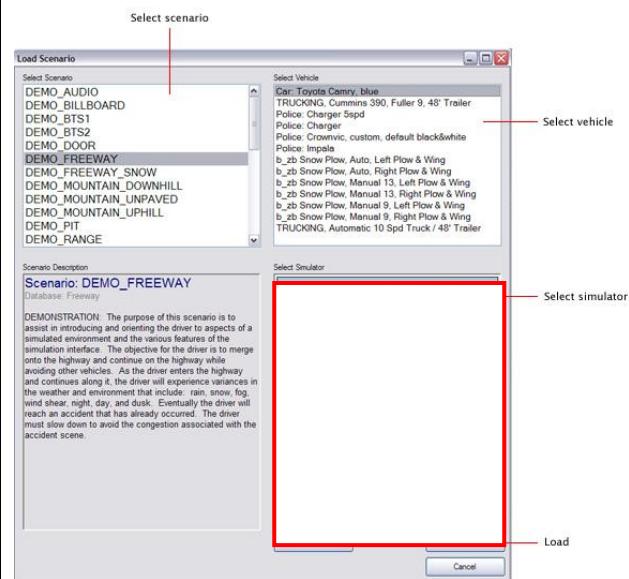


We will first look at loading a scenario and then we will look at adjusting the environment once the scenario has been loaded. The **Load** button brings up the **Load Scenario** dialog box which allows you to bring up a new scenario and vehicle on a specific simulator, or on all simulators on the network.

TO LOAD A NEW SCENARIO AND VEHICLE:

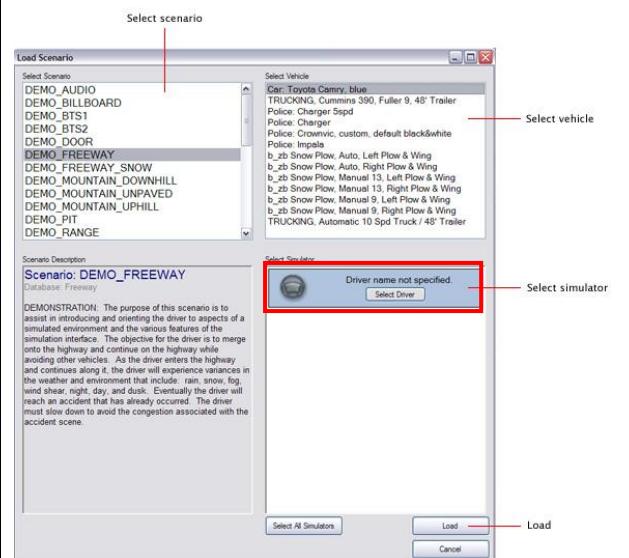
<p>1. Click the Load button.</p>	
<p>2. Select a scenario from the list.</p>	<p>The dialog box has three main sections: 'Select scenario' (list of scenarios), 'Select vehicle' (list of vehicles), and 'Select simulator' (list of simulators). The 'Scenario' section shows 'DEMO_FREWAY' selected. The 'Vehicle' section shows 'Car: Toyota Camry, blue' selected. The 'Simulator' section shows 'Select All Simulators' and 'Load' buttons.</p>
<p>3. Select a vehicle to load. If you do not select a vehicle, the program uses the scenario default vehicle, or if none, the last vehicle loaded; or the system default.</p> <p>If this is the first scenario being run after starting up the simulator; the system will not automatically detect a default vehicle, please ensure that you select the appropriate vehicle from the list.</p>	<p>The dialog box has three main sections: 'Select scenario' (list of scenarios), 'Select vehicle' (list of vehicles), and 'Select simulator' (list of simulators). The 'Scenario' section shows 'DEMO_FREWAY' selected. The 'Vehicle' section shows 'Car: Toyota Camry, blue' selected. The 'Simulator' section shows 'Select All Simulators' and 'Load' buttons.</p>

4. Select the simulators on which to load the scenario.



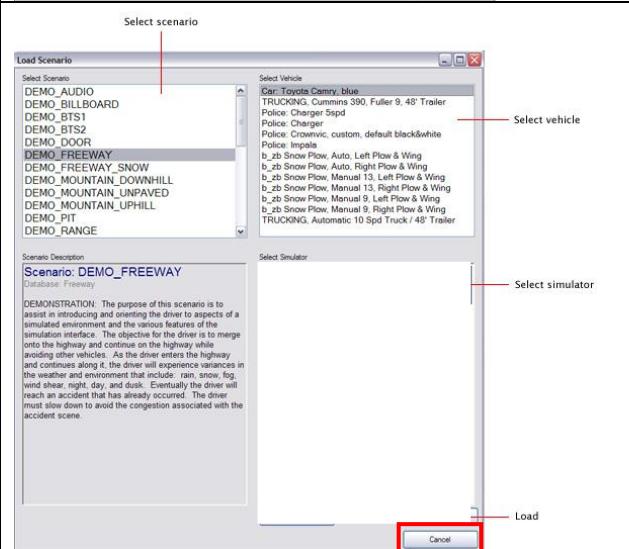
5. Select the driver (Select Driver button).

NOTE: If using the **Lesson Management System**, you can select a driver by clicking the **Select Driver** button. You can select class and student; then click **Use Selected Student**. You can also add/edit students, add a new class or delete a class, and view exercise details.



6. Click the **Load** button in the lower right part of the dialog window.

NOTE: You can now sit in the simulator and drive the PatrolSim/TransSim. Turn on the ignition, and put the transmission into the appropriate gear position.



4 Adjusting the Driving Environment

You can adjust the driving environment by choosing the **Weather** button. By adjusting the driving environment, you can create more realistic driving conditions the driver may encounter, which will enhance the simulator experience.



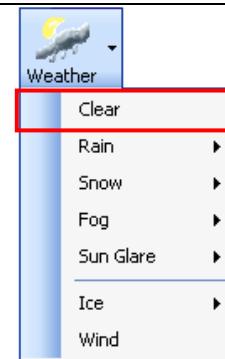
TO ADJUST THE WEATHER:

Click the **Weather** button to display the list of various weather options you can manipulate.



CLEAR clears all weather effects in the scenario.

NOTE: Clicking the Weather icon automatically restores all weather conditions to the clear state.



RAIN

Very Light Rain
Light Rain
Medium Rain
Heavy Rain

Rain

Very Light Rain
Light Rain
Medium Rain
Heavy Rain

SNOW

Very Light Snow
Light Snow
Medium Snow
Heavy Snow

Snow

Very Light Snow
Light Snow
Medium Snow
Heavy Snow

FOG

Very Light Fog
Light Fog
Medium Fog
Heavy Fog

Fog

Very Light Fog
Light Fog
Medium Fog
Heavy Fog

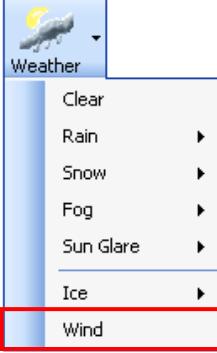
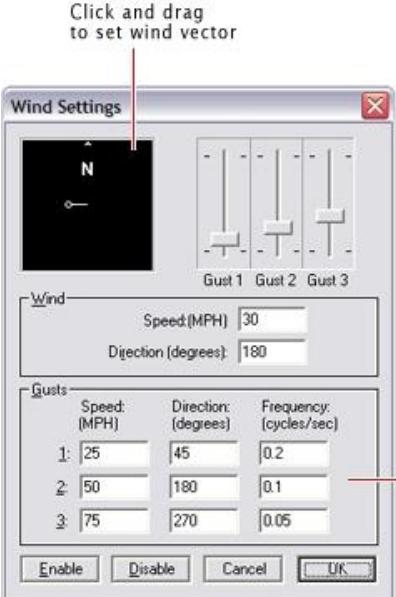
SUN GLARE

On / Off

Sun Glare

On
Off

NOTE: You must be facing East at sunrise, or West at sunset, to see this effect.

ICE <ul style="list-style-type: none"> No Ice Ice Level 1 Ice Level 2 Ice Level 3 Ice Level 4 Ice Level 5 	 																
WIND <p>Enable/Disable buttons at the bottom of the dialog box turn the wind in the scenario on or off at any time.</p> <p>Wind is made up of:</p> <ul style="list-style-type: none"> • wind speed (in mph) • heading (direction in degrees, where 0 = east, 90 = north, -90 = south, 180 = west) <p>To create wind gusts:</p> <ul style="list-style-type: none"> • set speed, direction, and frequency (number of gusts per second) <p>Select the wind speed and heading by clicking the mouse on the circle end of the wind vector and dragging it to the heading (direction) and length (intensity) desired.</p> <p>To remove gusts:</p> <ul style="list-style-type: none"> • set all three gust amplitudes in the Wind dialog box to 0.0 (using the sliders) <p>NOTE: Keep in mind that vehicles can tip over if the wind is set too high.</p>	  <p>Click and drag to set wind vector</p> <p>Wind Settings</p> <p>Wind</p> <p>Speed (MPH): 30</p> <p>Direction (degrees): 180</p> <p>Gusts</p> <table border="1"> <thead> <tr> <th></th> <th>Speed (MPH)</th> <th>Direction (degrees)</th> <th>Frequency (cycles/sec)</th> </tr> </thead> <tbody> <tr> <td>1:</td> <td>25</td> <td>45</td> <td>0.2</td> </tr> <tr> <td>2:</td> <td>50</td> <td>180</td> <td>0.1</td> </tr> <tr> <td>3:</td> <td>75</td> <td>270</td> <td>0.05</td> </tr> </tbody> </table> <p>Enable Disable Cancel OK</p> <p>Frequency between gusts</p> <p>0.2 = 5 sec. 0.1 = 10 sec. 0.05 = 20 sec.</p>		Speed (MPH)	Direction (degrees)	Frequency (cycles/sec)	1:	25	45	0.2	2:	50	180	0.1	3:	75	270	0.05
	Speed (MPH)	Direction (degrees)	Frequency (cycles/sec)														
1:	25	45	0.2														
2:	50	180	0.1														
3:	75	270	0.05														

5 Failures

Failures offer sub-menus for each type of vehicle failure. The options in the sub-menus cause a specific component of the vehicle to fail. Again, creating a more realistic driving environment.



TO ENABLE FAILURES:

Click the **Failures** button to display the list of various failure options you can manipulate.



RESTORE ALL FAILURES restores any (and all) of the below listed failures previously selected.



BLOWOUT TIRES

Blow Out Left Tire
Blow Out Right Tire
Restore Left Tire
Restore Right Tire

Blowout Tires

Blowout Left Tire
Restore Left Tire
Blowout Right Tire
Restore Right Tire

FAIL BRAKES

Fail Brakes
Restore

Fail Brakes

Fail Brakes
Restore

LOCK BRAKES

Front Left
Front Right
Rear Left
Rear Right
Trailer Left
Trailer Right
Restore

Lock Brakes

Front Left
Front Right
Rear Left
Rear Right
Trailer Left
Trailer Right
Restore

SMOKING BRAKES Left Right Restore	Smoking Brakes ▶ Left, Fail Brakes Right, Fail Brakes Left, Lockup Brakes Right, Lockup Brakes Restore
ENGINE TEMP Overheat Restore	Engine Temp ▶ Overheat Restore
OIL PRESSURE Fail Restore	Oil Pressure ▶ Fail Restore
FAIL HEADLIGHTS Left Right Both Restore	Fail Headlights ▶ Left Right Both Restore
LOW FUEL Fuel Gauge Low Restore	Low Fuel ▶ Fuel Gauge Low Restore
ENGINE FAULTY Faulty Restore	Engine Faulty ▶ Faulty Restore

6 Lesson Plans

Lesson plans contain a list of existing scenarios that are specific for your training needs. Using a lesson plan gives you quick and easy access to the required scenarios. We will discuss how to use existing lesson plans as well as how to modify an existing lesson plan.

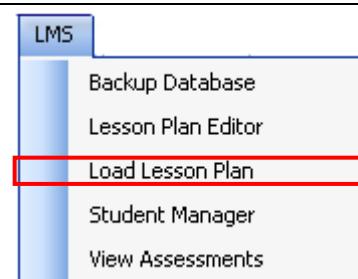


USE OF AN EXISTING LESSON PLAN:

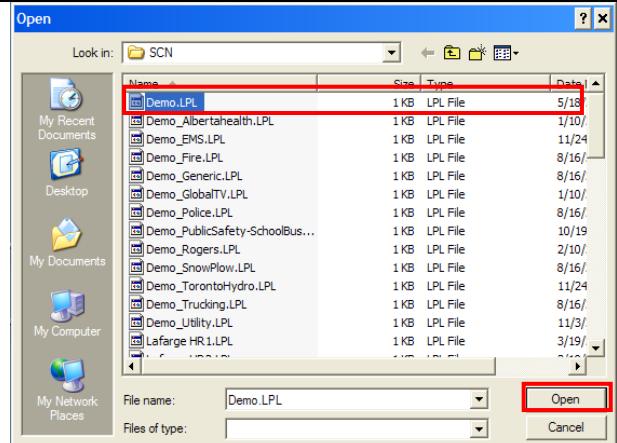
1. Click the **LMS** button located on the top menu bar.



2. From the LMS drop down menu, click on the **Load Lesson Plan** option.



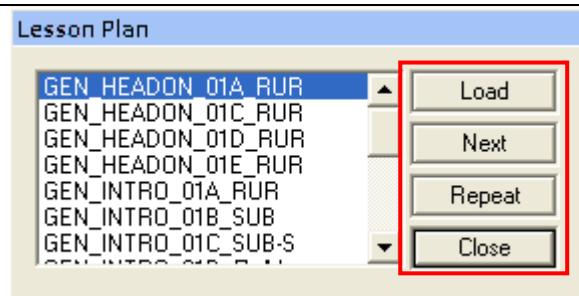
3. A window will open allowing you to choose the lesson plan you would like to open. Click on the **Lesson Plan** to highlight it and then click the **Open** button in the bottom right of the screen.



4. This loads the lesson plan and brings up a small dialog window displaying the scenarios within that lesson plan.

Choose one of the following options:

- **LOAD** launches the highlighted scenario.
- **NEXT** loads the next scenario on the list.
- **REPEAT** repeats the last scenario loaded.
- **CLOSE** closes the lesson plan.

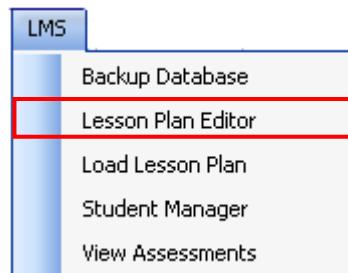


MODIFYING AN EXISTING LESSON PLAN:

1. Click the **LMS** button located on the top menu bar.



2. From the LMS drop down menu, click on the **Lesson Plan Editor** option.



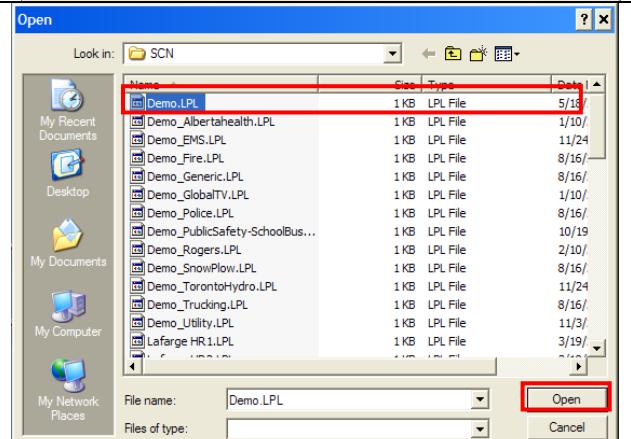
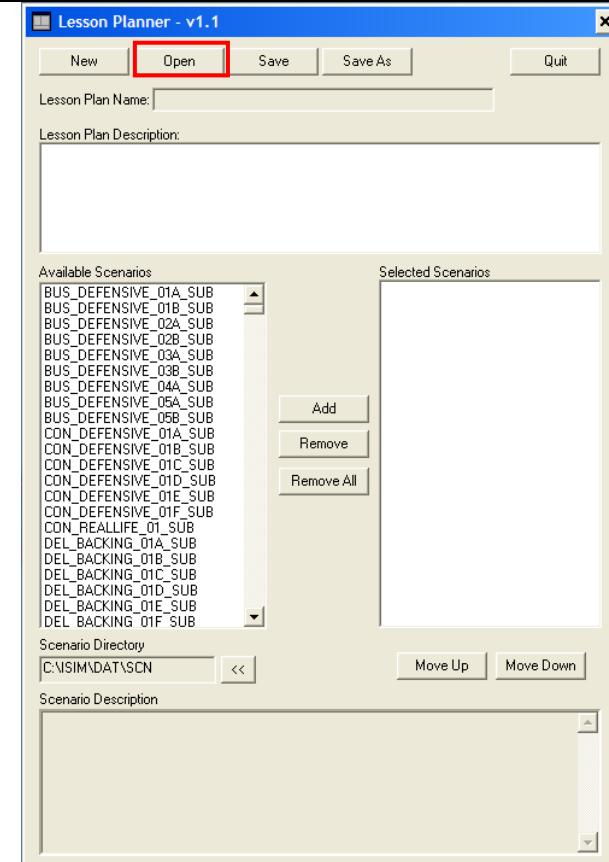
3. A window will open that allows you to do the following:

Choose one of the following options:

- **New** allows you to create a new lesson plan.
- **Open** opens a window where you can chose the lesson plan you would like to open and edit.
- **Save** will save the changes you made to the lesson plan.
- **Save As** allows you to save the changes you made to the lesson plan under a new lesson plan name.

This section will focus on modifying an existing lesson plan. Click the **Open** button to locate the lesson plan you would like to edit.

4. A window will open allowing you to choose the lesson plan you would like to edit. Click on the **Lesson Plan** to highlight it and then click the **Open** button in the bottom right of the screen.

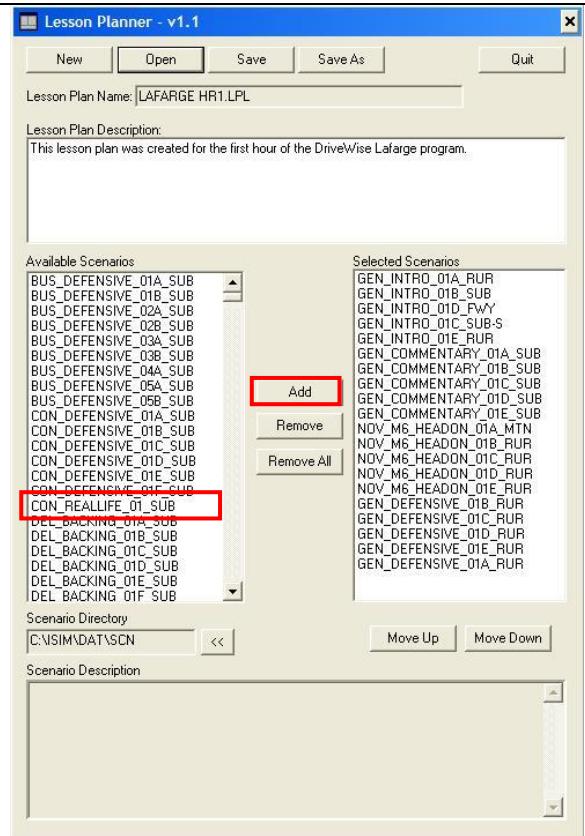


5. The right area of this screen displays the list of scenarios that are currently in this lesson plan. To modify this lesson plan, click on a scenario on the left of the screen that you would like to add.

Click the **Add** button located in the middle of this window to add the selected scenario to the lesson plan.

If you would like to remove a scenario from the lesson plan, click on a scenario on the right of the screen and click the **Remove** button.

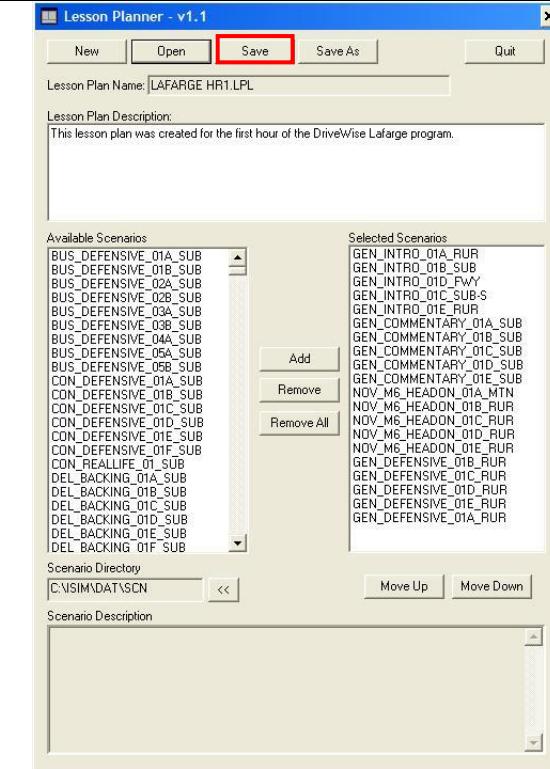
NOTE: If you want to re-order the scenarios in the lesson plan, use the **Move Up** and **Move Down** buttons located towards the bottom right of the window.



6. Once you have finished making modifications to the lesson plan, click the **Save** button.

If you want to rename the lesson, click the **Save As** button.

Once you have finished all modifications and have saved your changes, click the **Quit** button to close the window.

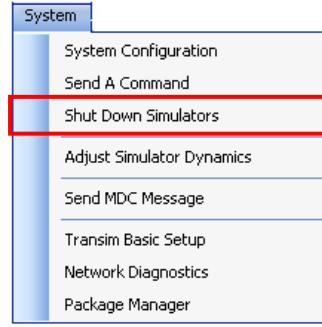
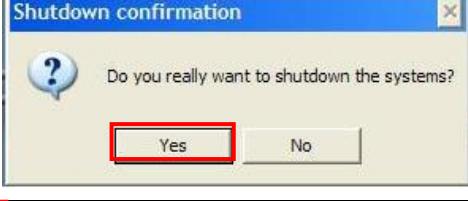
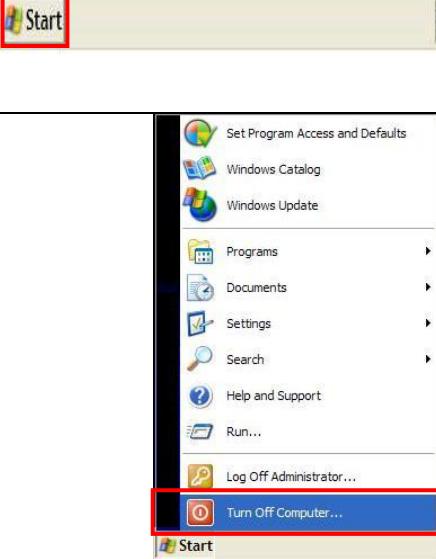


7. To open the lesson plan you just modified, follow the steps on **Use of an Existing Lesson Plan**.

7 Shutting Down the Simulator

Use the following steps to properly shut down the simulator.

SHUT DOWN SIMULATOR:

<p>1. From the System menu on the OPCON, click on Shut Down Simulators.</p> <p>NOTE: If you have more than one simulator, select the System menu on the OPCON, click on the System Configuration button. The System Configuration menu appears. Right-click on the simulator you want to shut down in the Simulators list, and select Shutdown Simulators.</p>	
<p>2. The Shutdown confirmation screen appears. Click Yes to shut down.</p>	
<p>3. On the OPCON computer, press the Start button (usually located in the bottom left of your screen).</p>	
<p>4. Select Turn Off Computer.</p>	
<p>5. Click Turn Off.</p>	

ALTERNATE WAY TO SHUT DOWN SIMULATOR:

1. Press the simulator **Power** button (no more than 1.5 seconds), located to the left of the dash and near the simulator E-Stop button - the computers will shut down.

NOTE: The circuit breaker on the back of the simulator should be left on, unless the system is being moved. If the main A/C power cord needs to be removed, turn the breaker off.

E-STOP (EMERGENCY STOP):

1. To do an emergency stop of the simulator, press the **E-Stop** button. This is the red button located above the On/Off switch near the left side of the dashboard.



2. To reset, wait 30 seconds, twist the E-Stop button until it pops out, and then restart the simulator.