Using This Manual

What's In This Manual

The TGrid Tutorial Guide contains a few tutorials that teach you how to use TGrid for different types of problems. Each tutorial contains instructions for performing tasks related to the features demonstrated in the tutorial.

- Tutorial 1 is a detailed tutorial designed to introduce the beginner to TGrid. This tutorial provides explicit instructions for all steps in the tutorial.

  The remaining tutorials assume that you have read or solved Tutorial 1, and that you are already familiar with TGrid and its interface. In these tutorials, some steps will not be shown explicitly.

- Tutorial 2 demonstrates the mesh generation procedure for a problem that has multiple regions. It also describes the procedure to generate a volume mesh using the automatic refinement feature of TGrid.

- Tutorial 3 demonstrates the mesh generation procedure for a hybrid mesh, starting from a hexahedral volume mesh and a triangular boundary mesh.

- Tutorial 4 demonstrates the mesh generation procedure for a viscous hybrid mesh, starting from a triangular boundary mesh for a sedan car body.

- Tutorial 5 explains an application from the automotive industry, thus demonstrating how the hexcore mesh can significantly reduce the cell count compared with a fully tetrahedral mesh.

- Tutorial 6 demonstrates the creation of a hexcore mesh upto the domain boundaries for a sedan car.

- Tutorial 7 demonstrates the use of the boundary wrapper to repair an existing geometry. It also describes the procedure to improve the wrapper surface quality.

- Tutorial 8 demonstrates the procedure for replacing an object in the existing mesh with another by creating a cavity and remeshing it.

Where to Find the Files Used in the Tutorials

Each of the tutorials uses an existing mesh file. You will find the appropriate mesh file (and any otherrelevant files used in the tutorial) on the TGrid documentation CD. The **Preparation** step of each tutorial will tell you where to find the necessary files.

Typographical Conventions Used In This Manual

Several typographical conventions are used in the text of the tutorials to facilitate your learning process.

- An informational icon (**i**) marks an important note.

- A warning icon (⚠) marks an important note or warning.

- Different type styles are used to indicate graphical user interface menu items and text interface menu items (e.g., Display Grid panel, `display/grid` command).

- The text interface type style is also used when illustrating exactly what appears on the screen or exactly what you need to type in the text field in a panel.

- Instructions for performing each step in a tutorial will appear in standard type. Additional information about a step in a tutorial appears in italicized type.

- A mini flow chart is used to indicate the menu selections that lead you to a specific panel. For example,

  Display —→Grid...

  indicates that the Grid... menu item can be selected from the Display pull-down menu.

  The words surrounded by boxes invoke menus (or submenus) and the arrows point from a specific menu toward the item you should select from that menu.