HYDRAULIC SYSTEM SIMULATION TOOL

DEMO VERSION

INSTALLATION GUIDE

August 2005

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1. Scope

This manual presents how to install the Demo Version of the Simulink library 'HSST' (Hydraulic Systems Simulation Tool). The blocks contained in this library allow to build up in a very simple way a dynamic simulation model of several hydraulic actuation systems connected to a single hydraulic power generation unit. The library contains several blocks that represent accurate model of different hydraulic components. It is also possible to build thermal models of the related cooling systems, to evaluate the hydraulic fluid temperature trend during a sequence of operative cycles of the actuation systems.

2. System requirements

HSST was developed in Simulink Version 3 and MATLAB Version 5.3, thus to operate it requires that both these codes are installed on the computer, with these or later versions. The code can operate under Windows 95 or NT or later versions.

3. HSST installation

To install the library the following procedure shall be applied:

MATLAB Version 5

1. Create a new folder
2. Copy all the files contained in the installation disk inside this folder
3. Start MATLAB
4. From the toolbar click the icon 'Path Browser'
5. Click on the button 'Browser…'
6. Select the folder containing the HSST files and click on the 'OK' button
7. Double click on the Current Directory edit box
8. In the window menu select 'Path' and then 'Add to Path…'
9. In the window menu select 'File' and then 'Save Path' and 'Exit Path Browser'
10. Create a new folder to save the models built up with HSST

MATLAB Version 6 and 7

1. Create a new folder called
2. Copy all the files contained in the installation disk inside this folder
3. Start MATLAB
4. From the 'File' menu select 'Set Path…'
5. Add the folder containing the HSST files to path
6. Save the path and exit
7. Create a new folder to save the models built up with HSST

4. Running HSST

To run HSST, follow these steps:

MATLAB Version 5

1. Start MATLAB
2. From the toolbar click the icon 'Path Browser'
3. Click on the button 'Browser…'
4. Select the folder created for the HSST models and click on the 'OK' button
5. Close the 'Path Browser' window
6. Type *HSST* in the MATLAB command window to display the HSST block library.

MATLAB Version 6 and 7

1. Start MATLAB
2. Select the folder created for the HSST models
3. Type *HSST* in the MATLAB command window to display the HSST block library.

The HSST block library looks like this:
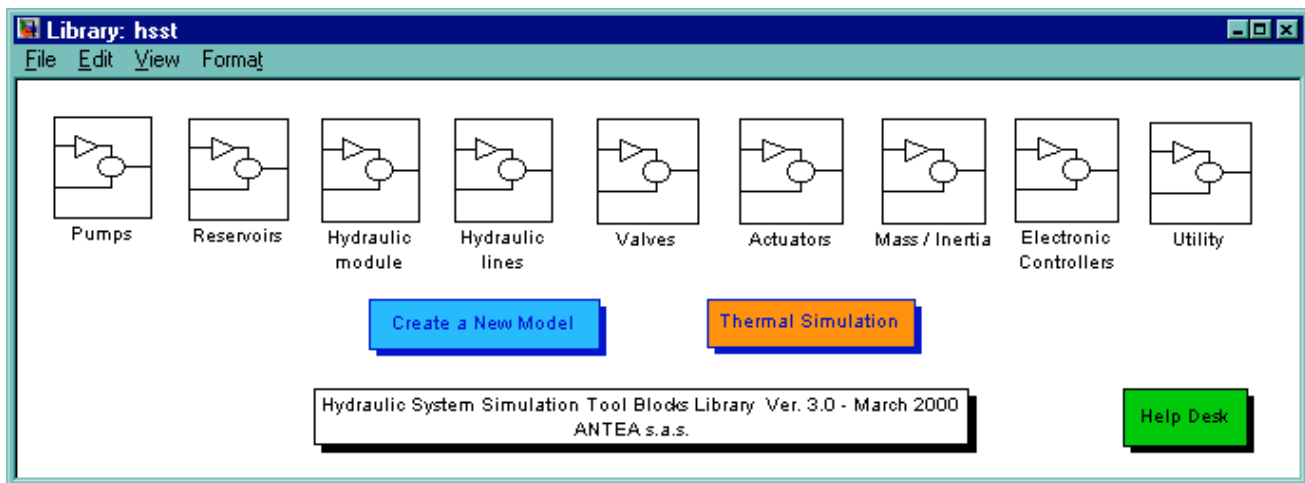
To create a new dynamic simulation model double click on the 'Create a New Model' button, to create a new thermal simulation model double click on the 'Thermal Simulation' button, to open an existing model, both hydraulic or thermal, select 'File' and 'Open…' from the HSST window menu. To operate with HSST it is not required to open Simulink window.