



Altair

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**HyperWorks**

Altair HVVH Tutorials 2019

HVVH-8000: Manufacturing Solution Tab - HyperForm

[altairhyperworks.com](http://altairhyperworks.com)

In this tutorial you will learn how to:

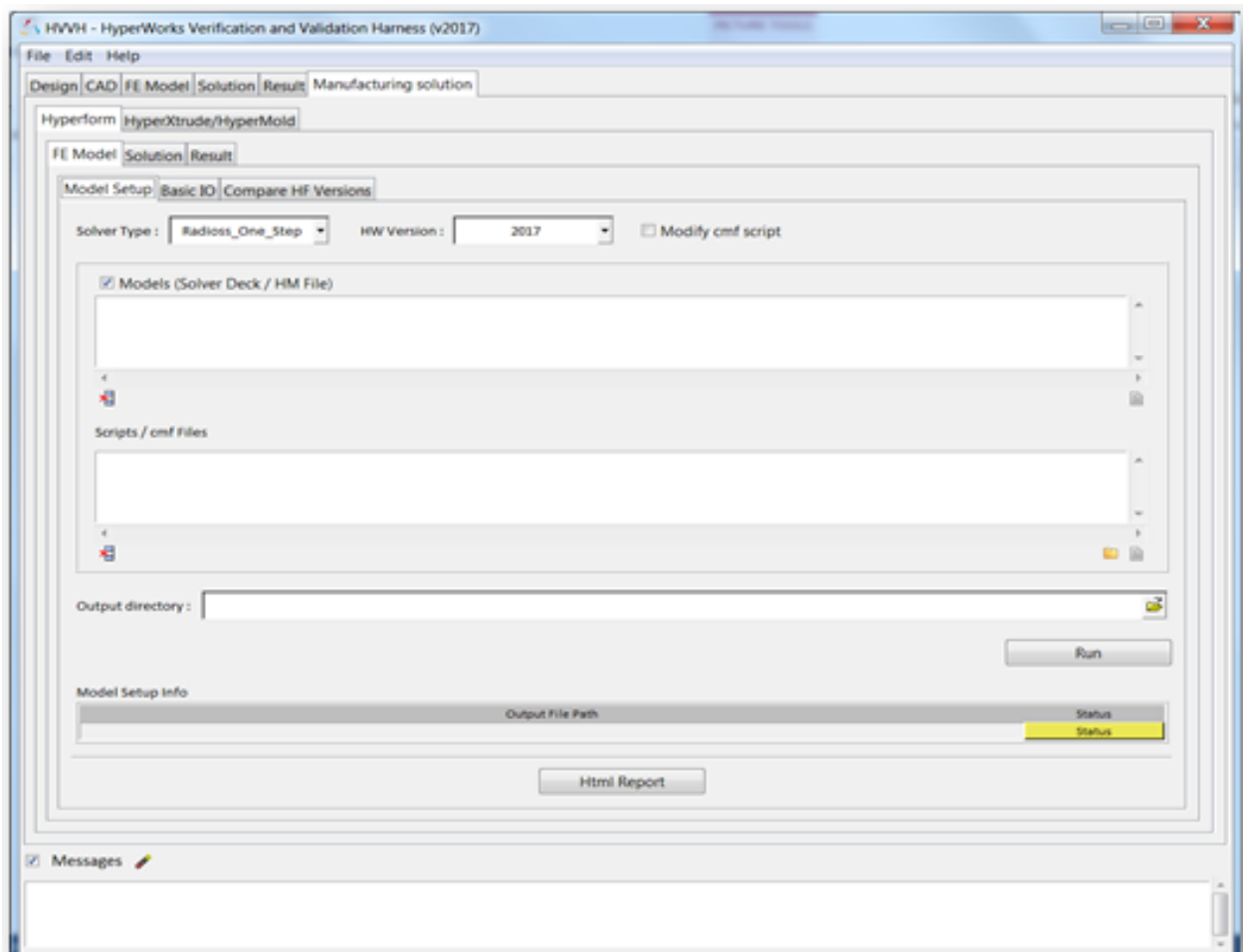
- Setup a model in Altair HyperForm and identify any problems during the Altair HyperForm interactive operation.

## Step 1: FE-Model Setup

1. From **Manufacturing Solution** tab, select the **HyperForm > FE Model** tab > **Model Setup** tab.

See the Altair HyperForm [FE Model > Model Setup](#) section for more information.

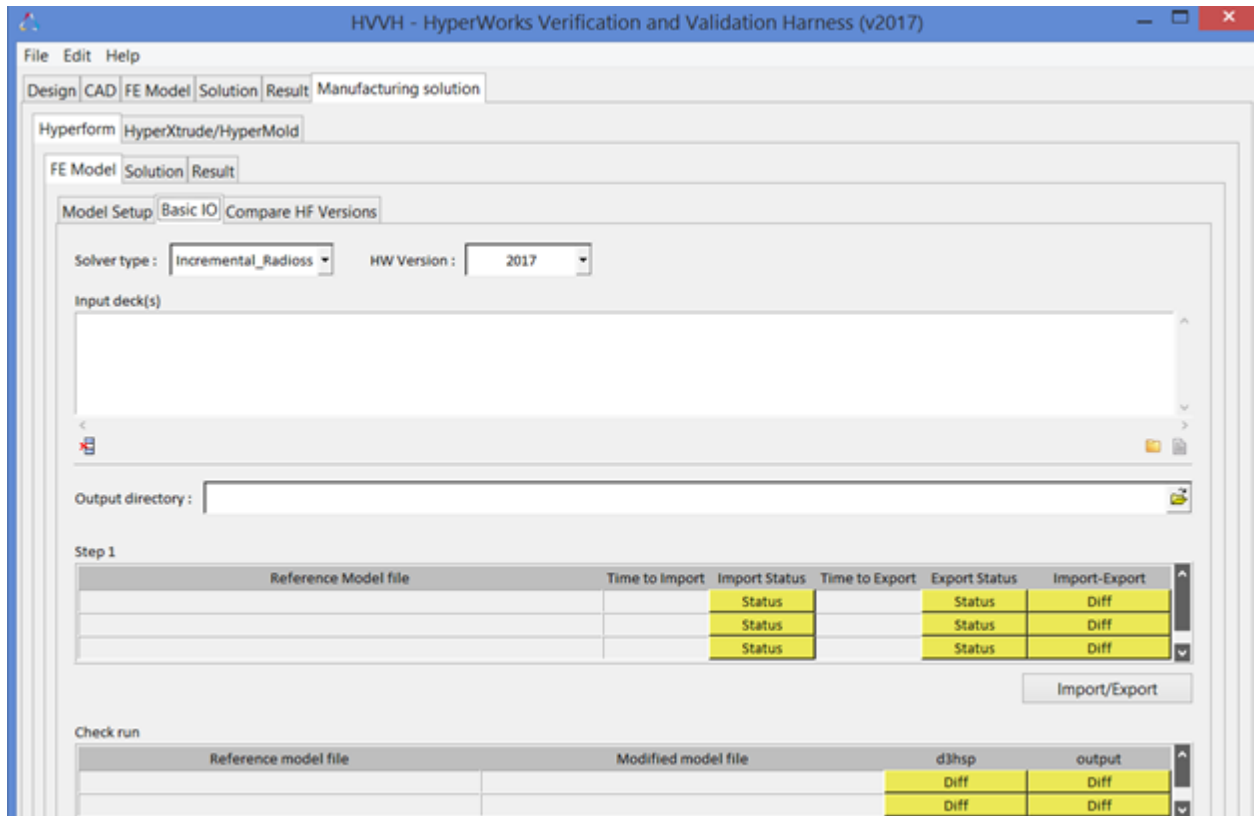
There is only a **Modify cmf script** option on this tab, not a Config file option.






## Step 2: Basic import and export.

Identify any loss of data during import and export Altair HyperForm operations.

1. From the **Manufacturing Solution** tab, select the **HyperForm > FE Model** tab > **Basic IO** tab.



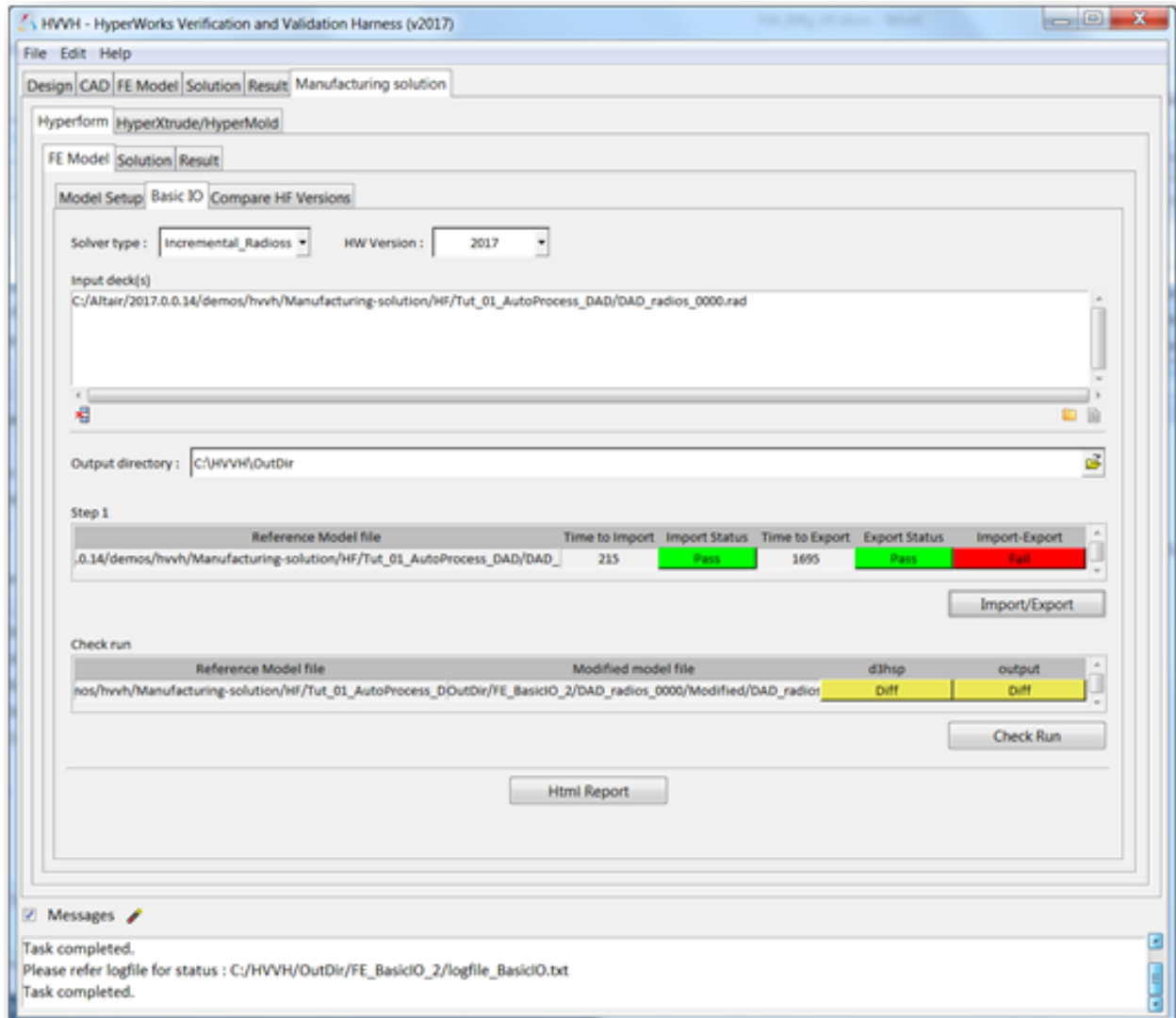
2. For **Solver type**, select **Incremental\_Radioss**.
3. For **HW Version**, select **2017**.
4. Under **Input decks**, use the file browser icon, , or the add file icon, , to select and open the **DAD\_radios\_0000.rad** file, located in `..\tutorials\hvvh\Manufacturing-solution\HF\Tut_01_AutoProcess_DAD`.
5. For the **Output directory** field, use the open file icon, , to select an output directory.
6. Click **Import/Export**.

Step 1 shows the import and export details and status (pass or fail) of the reference model file (selected above).

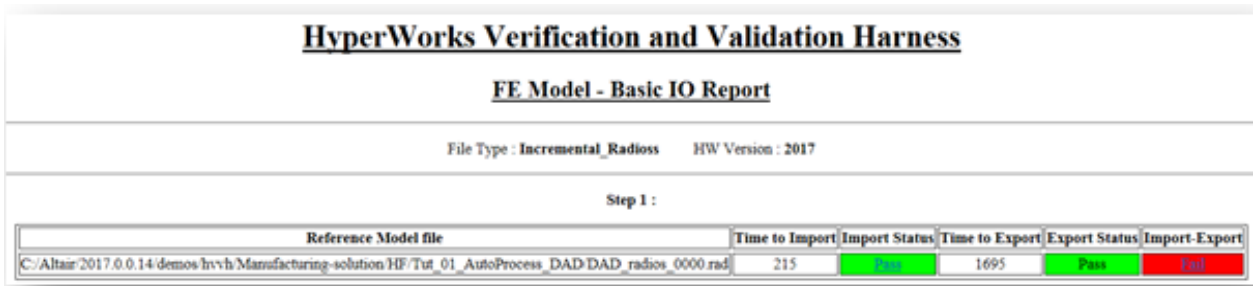
The last column displays information on the ASCII differences between the imported file and the Altair HyperMesh exported file. If there are no differences, it is shown as **Pass**, otherwise it is displayed as **Fail**.

The original model and the Altair HyperForm exported models are run with the Altair Radioss solver and the OUT file blocks are compared as shown in the status.

7. In the **Messages** window, the run details are displayed along with the log file location.



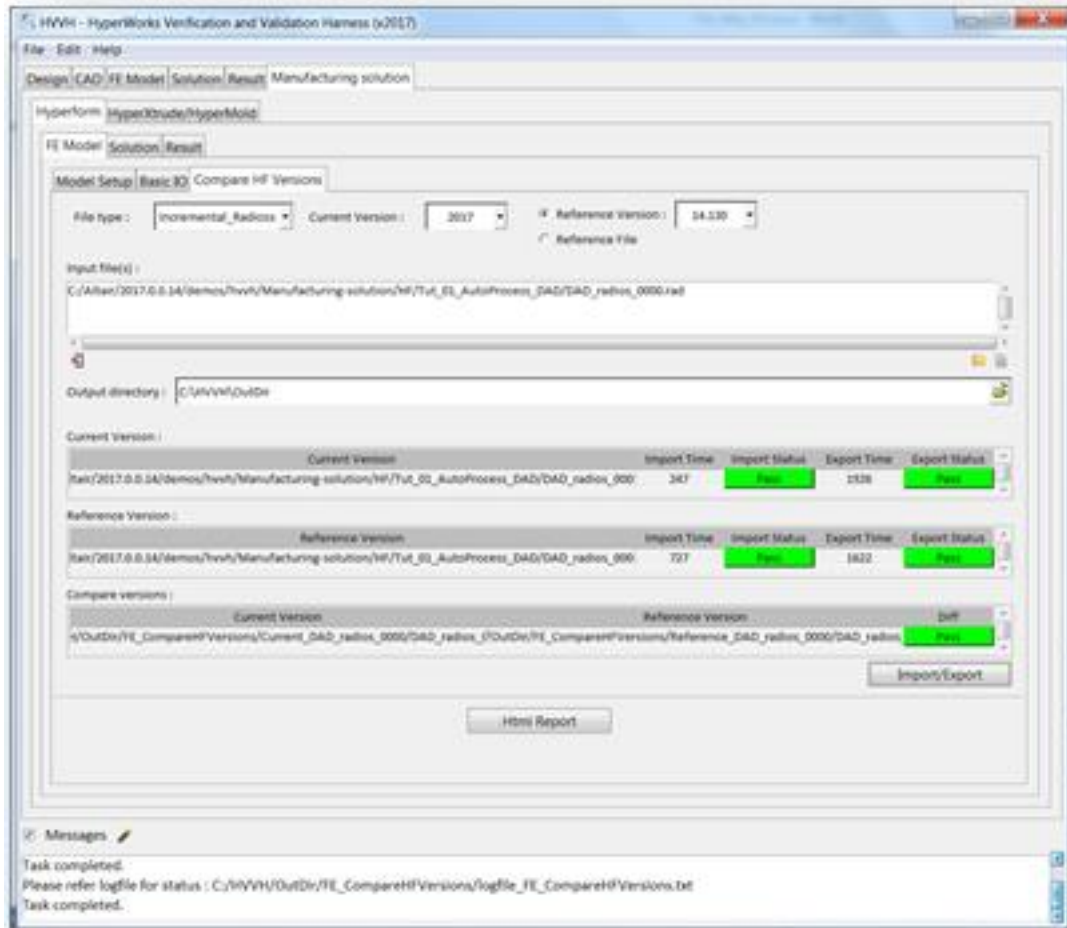
- Click **HTML Report** to open an HTML report.






### Step 3: Compare Altair HyperForm Versions.

Compare the analysis decks exported in different versions of Altair HyperForm.

- From the Manufacturing Solution tab, select the **HyperForm > FE Model** tab > **Compare HF Versions** tab.



2. For **File Type**, select **Incremental\_Radioss**.
3. For **Current Version**, select **2017**.
4. For **Reference Version**, select **14.130**.
5. Under **Input decks**, use the file browser icon, , or the add file icon, , to select and open the DAD\_radios\_0000.rad file, located in ..\tutorials\hvvh\Manufacturing-solution\HF\Tut\_01\_AutoProcess\_DAD.
6. For the **Output directory** field, use the open file icon, , to select an output directory.
7. Click **Import/Export**.

The first table shows the import and export details and status (pass or fail) of the model file (selected above) in the current version.

The second table details the import and export time and status (pass or fail) of the model file (selected above) in the reference version.

The last column displays information on the ASCII differences between the exported files in the current and reference versions of Altair HyperMesh. If there is no difference, it is shown as **Pass**, otherwise it is displayed as **Fail**.

8. In the **Messages** window, the run details are displayed along with the log file location.

- Click **HTML Report** to open an HTML report.

<b>HyperWorks Verification and Validation Harness</b>				
<b>FE - Compare HF Versions Report</b>				
File Type : Incremental_Radioss		Current Version : 2017	Reference Version : 14.130	
Current Version :				
Current Version	Import Time	Import Status	Export Time	Export Status
C:\Altair\2017.0.14\demo\hvvh\Manufacturing-solution\HF\Tut_01_AutoProcess_DAD\DAD_radioss_0000.rad	247	Pass	1926	Pass
Reference File :				
Reference Version	Import Time	Import Status	Export Time	Export Status
C:\Altair\2017.0.14\demo\hvvh\Manufacturing-solution\HF\Tut_01_AutoProcess_DAD\DAD_radioss_0000.rad	727	Pass	1622	Pass
Compare Versions :				
Current Version	Reference Version	Diff		
C:\HVVH\OutDir\FE_CompareHFVersions\Current_DAD_radioss_0000\DAD_radioss_0000.rad	C:\HVVH\OutDir\FE_CompareHFVersions\Reference_DAD_radioss_0000\DAD_radioss_0000.rad	Pass		

#### Step 4: Solver check run for Altair HyperXtrude.

In this step, you will perform a check run on a solver deck (Incremental\_Radioss or Radioss\_one\_step), and OUT files comparison of a solver written result file after the check run.

Three options are available for the solver check run:

- Two OUT files generated from the solver run can be compared.
  - The current solver run OUT file can be compared with the reference OUT file.
  - Two OUT files generated from the same solver deck using two different solver versions can be compared.
- From the **Manufacturing Solution** tab, select the **HyperForm > Solution** tab > **Check run** tab.
  - See the **Check Run** section of the [Solution Tab](#) topic for more information on the tab's options.

#### Step 5: Compare results from different solver versions (Altair HyperForm).

In this step, you will perform solver version result comparison for Altair HyperForm solver results for any given model. If the result files are not available, the solver run can be performed in the background, and the results generated are used in the result comparison. Results from Radioss\_onestep or Radioss\_incremental can be compared.

- From the **Manufacturing Solution** tab, select the **HyperXtrude/HyperModel > Solution** tab > **Solver version result comparison** tab.
- See the **Solver version result comparison** section of the [Solution Tab](#) topic for more information on the tab's options.

#### Step 6: Compare results from an Altair HyperForm solver across different Altair HyperView versions.

Compare result from a solver across two Altair HyperView versions (For Altair Radioss and H3D).

1. From the **Manufacturing Solution** tab, select the **HyperForm > Result** tab > **Solver result comparison HV versions** tab.
2. See the **Solver result comparison HV versions** section of the [Result Tab](#) topic for more information on the tab's options.

### **Step 7: Compare results from a HyperForm solver across two different HyperGraph versions.**

Compare result from a solver across two HyperGraph versions.

1. From the **Manufacturing Solution** tab, select the **HyperForm > Result** tab > **Result comparison HG versions** tab.
2. See the **Result comparison HG versions** section of the [Result Tab](#) topic for more information on the tab's options.