



CATIA Training
Foil

Electrical Harness Flattening

Copyright DASSAULT SYSTEMES

Version 5 Release 17
September 2006
EDU-CAT-EN-EHF-FI-V5R17

Instructor Notes:

Course Presentation

Objectives of the course :

In this course you will learn how to flatten and synchronize an electrical or geometrical harness integrated within the DMU and how to modify the bundle segments of the harness to fit your drawing in order to build the harness documentation.



Targeted audience
Electrical V5 users

Prerequisites

Catalog Editor, CATIA V5 Electrical applications

Copyright DASSAULT SYSTEMES

Instructor Notes:

Table of Contents (1/2)

- 1. Introduction to Electrical Harness Flattening**
Electrical Harness Flattening workbench presentation
- 2. Harness Flattening parameters**
Electrical dictionary
General
Flattening orientation
Flattening scaling
Synchronize option
Drawing parameters and generative view style
- 3. Extracting data**
- 4. Harness flattening modifications**
Flatten
Straighten
Rotate/bend
Roll
Scale
- 5. Synchronize**
Synchronize the environment

Copyright DASSAULT SYSTEMES

Instructor Notes:

Table of Contents (2/2)

6. Links visualization

7. Reports

Define reports

Generate reports

8. Drawing

Creating the drawing

Dimensioning

Inserting reports

Wire annotation

9. Catalog text template creation

Text template creation

Text template example

Catalog text template creation

Catalog text template instantiation

10. Graphic replacement

2D Detail

Automatic generation

Copyright DASSAULT SYSTEMES

Instructor Notes:

Introduction to Electrical Harness Flattening

Objective : You will be introduced to the Electrical Harness Flattening workbench to define a flat representation of the 3D harness design

 **Electrical Harness Flattening Workbench presentation**

Copyright DASSAULT SYSTEMES

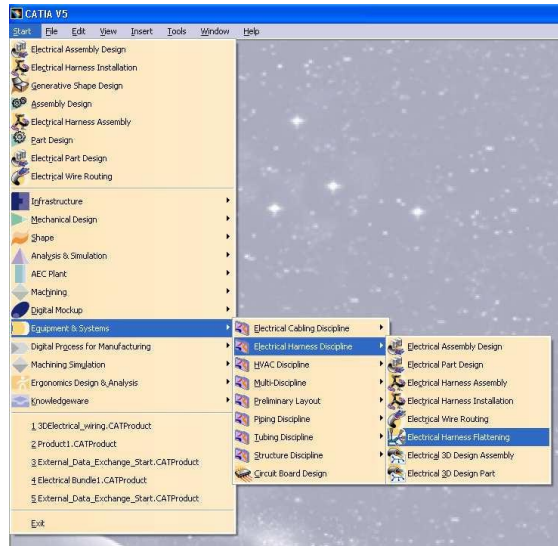
Instructor Notes:

Accessing the workbench



How to access the workbench

- Start -> Equipments & Systems menu -> Electrical Harness Flattening



Copyright DASSAULT SYSTEMES

Instructor Notes:

User Interface

The diagram illustrates the user interface for the Electrical Harness Flattening software. It features a vertical toolbar on the left with icons for various functions. Arrows point from specific icons to their corresponding dialog boxes:

- Flatten**: A dialog box for flattening the harness, showing options for Active plane (XY Plane), Algorithm mode (Coarse, Fine), and Angle mode (Standard, Regular).
- Straighten**: A dialog box for straightening the harness, with a checkbox for "Straighten complete bundle segment".
- Arrange junction**: A function represented by an icon in the toolbar.
- Auto update Flatten link**: A function represented by an icon in the toolbar.
- View related objects**: A function represented by an icon in the toolbar.
- Filtering management**: A function represented by an icon in the toolbar.
- External system selection**: A function represented by an icon in the toolbar.
- Harness Flattening Parameters**: A main dialog box with tabs for General, Flattening Orientation, Flattening Scaling, Synchronization, and Drawing. It includes settings for Name, Active plane, Algorithm mode, Angle mode, Minimum angle between two branches, and checkboxes for "Keep existing tangent between bundle segment and connector during the flattening step" and "Extract only the supports inside the geometrical bundle".
- Rotate**: A dialog box for rotating the harness, with options for Through an angle, Angle (User value, Measured between), First direction, Second direction, and Active plane.
- Band**: A dialog box for banding the harness, with options for Through an angle, Angle (User value, Measured between), First direction, Second direction, and Active plane.
- Roll**: A dialog box for rolling the harness, with options for Through an angle, Angle (User value, Measured between), First direction, Second direction, and Active plane.
- Quick Roll**: A dialog box for quick rolling the harness, with options for Through an angle, Angle (User value, Measured between), First direction, Second direction, Active plane, Roll radius, and Position.
- Scale**: A dialog box for scaling the harness, with fields for True length and False length, and a "Restore True Length" button.
- Synchronize**: A dialog box for synchronizing the harness, with sections for Components, Actions, and Options.

Copyright DASSAULT SYSTEMES

Instructor Notes:

Terminology



Algorithm mode :

It has to do with the different ways you can flatten out an electrical or geometrical bundle or a bundle segment.

The will roughly straighten the selected bundle segments, allowing for an easy viewing of the ones you are working on.

The will respect the actual path of the bundle segments as it is in 3D.

Extract :

The function enables you to duplicate your electrical data. You can extract electrical or geometrical bundles with all the devices that are associated to them, such as their connectors, back shells, shells, contacts and supports from a 3D model.

Flatten :

The Electrical Harness Flattening workbench allows you to flatten out electrical and geometrical bundles or bundle segments. It enables you to work on bundles in a 2D environment, as if working with a nail board. You can work with true or fake lengths so that it fits in. They are automatically built in length mode.

Synchronize :

This command allows you to update the geometry and the attributes of the flattened document according to the original document.

Generative View Style : This allows you to store the electrical drawing options like: Type of representation of bundles segments and protections, etc.

Copyright DASSAULT SYSTEMES

Instructor Notes:

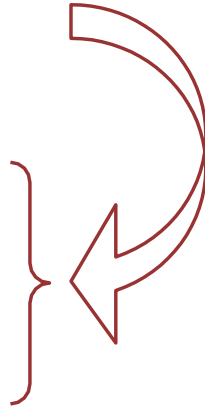
Harness flattening parameters



Objective : This lesson describes how to set up the default flattening parameters and the electrical dictionary

Five tabs are available:

-  **Electrical Dictionary**
-  **General**
-  **Flattening orientation**
-  **Flattening scaling**
-  **Synchronize option**
-  **Drawing parameters**



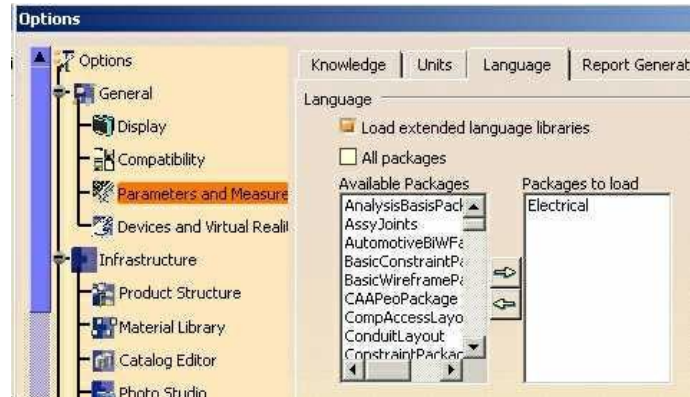
Copyright DASSAULT SYSTEMES

Instructor Notes:

Harness Flattening parameters (1/2)

Go to Tools>Options>Parameters&Measures>Language

Load extended language libraries and select the electrical dictionary



Copyright DASSAULT SYSTEMES

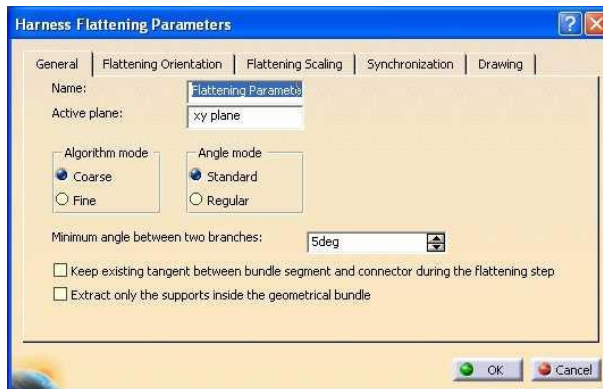
Instructor Notes:

Harness Flattening parameters (2/2)



Other commands are deactivated as long as the harness flattening parameters have not been defined

You need to open a new product and click the icon



Instructor Notes:

Harness Flattening parameters : General

General Parameters

Enter a name for your flattening parameters

Active plane: this the plane you will be working with when using the Rotate, Flatten and Roll functionalities

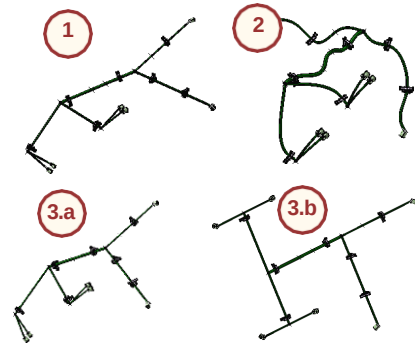
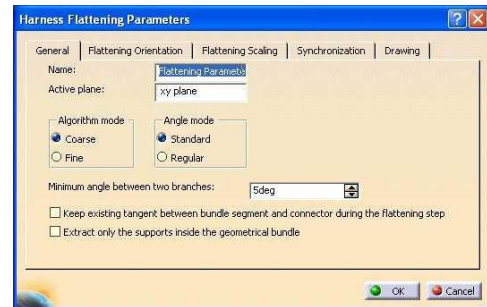
Algorithm mode:

1. The *Coarse* mode: straighten the selected bundle segments or the geometrical/electrical bundle segment. This is a good tool to prepare the harness documentation.
2. The *Fine* mode: respect the shape of the bundle segments or geometrical/electrical bundle as it is in 3D.
3. Two angle modes are available. The *Standard* mode is the default angle mode.
 - a. Choose the *Standard* mode in order to keep the actual angles of the bundle segment as it is in 3D.
 - b. Choose the *Regular* mode which calculates regular angles, if you do not care about respecting the true angle values.

Other options are available:

Keep existing tangent between bns and connectors when flattening

Extract supports that are inside the geometrical bundle



Instructor Notes:

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/348125101046006030>