

ASim_Project

Installation and Usage of a free TKC Model Simulation Environment

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Table of Contents

- Download and unzip *ASim_Project*
- Start *ASim_Project* and Load TKC Models

- Basic Main Pull down Functionality
- Modification of Component data
- Executing Utility Macros

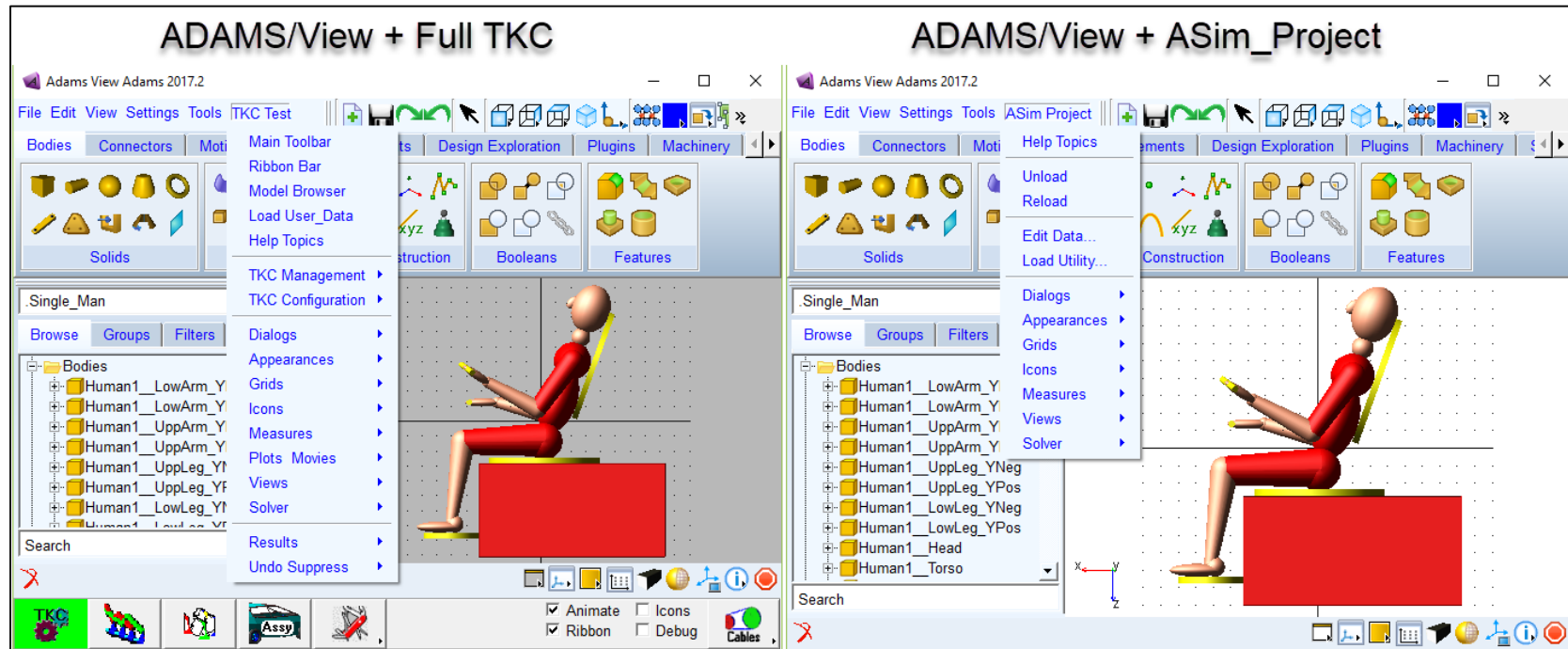
- Additional TKC Pop-Up Menus
- Manipulation of Measure Displays

Download, Install and Start *ASim_Project*

- Click to download *.zip and save it to a desired location
- Unzip the file to the *ASim_Project* work directory
- Start ADAMS/View or click on *aview_20xx.Ink* shortcut
 - Ensure that the current directory is the cwd (current working dir.)
- The bootstrap file *aview.cmd* loads all customizations
 - This file is minimized for readability and can be adjusted
- Import one of the *.cmd model files
 - These files are in standard ADAMS command language Syntax and contain models defined in TKC

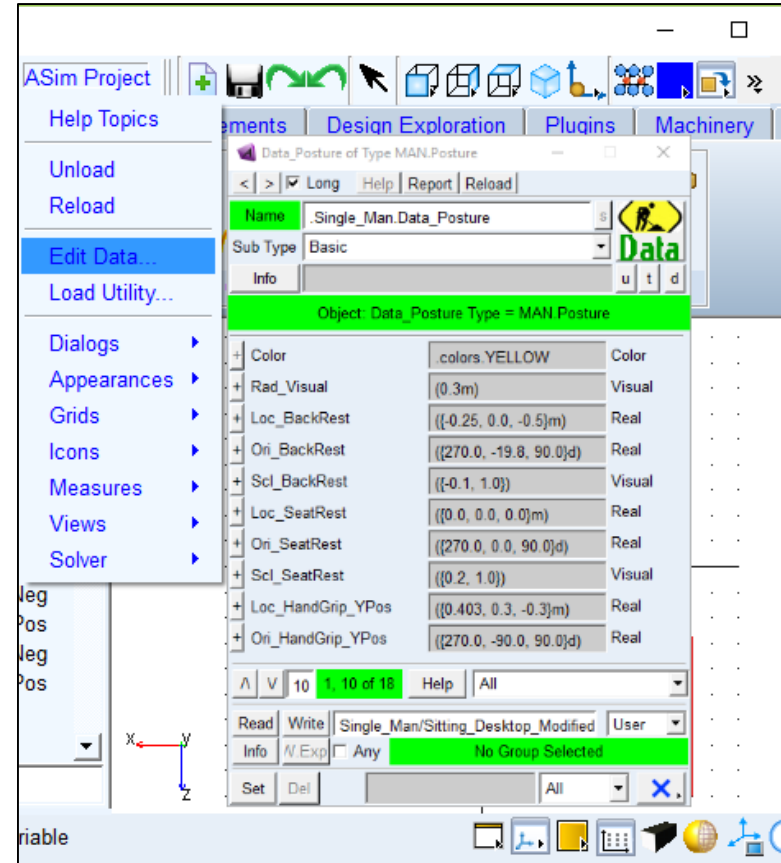
Basic Main Menu functionality

- Stored under menu labelled as *ASim_Project*
 - *Label can be modified in aview.cmd*
- *Top of Main Menu is simplified wrt. TKC*



Modification of Component Data

- Open Selection Dialog from Main Dialog
- Select Component Data to Modify
- Open Dialog and Modify / Read / Write data variables
- Optional: Use Slider from (+) to change Design variables continuously



Executing Utility Macros

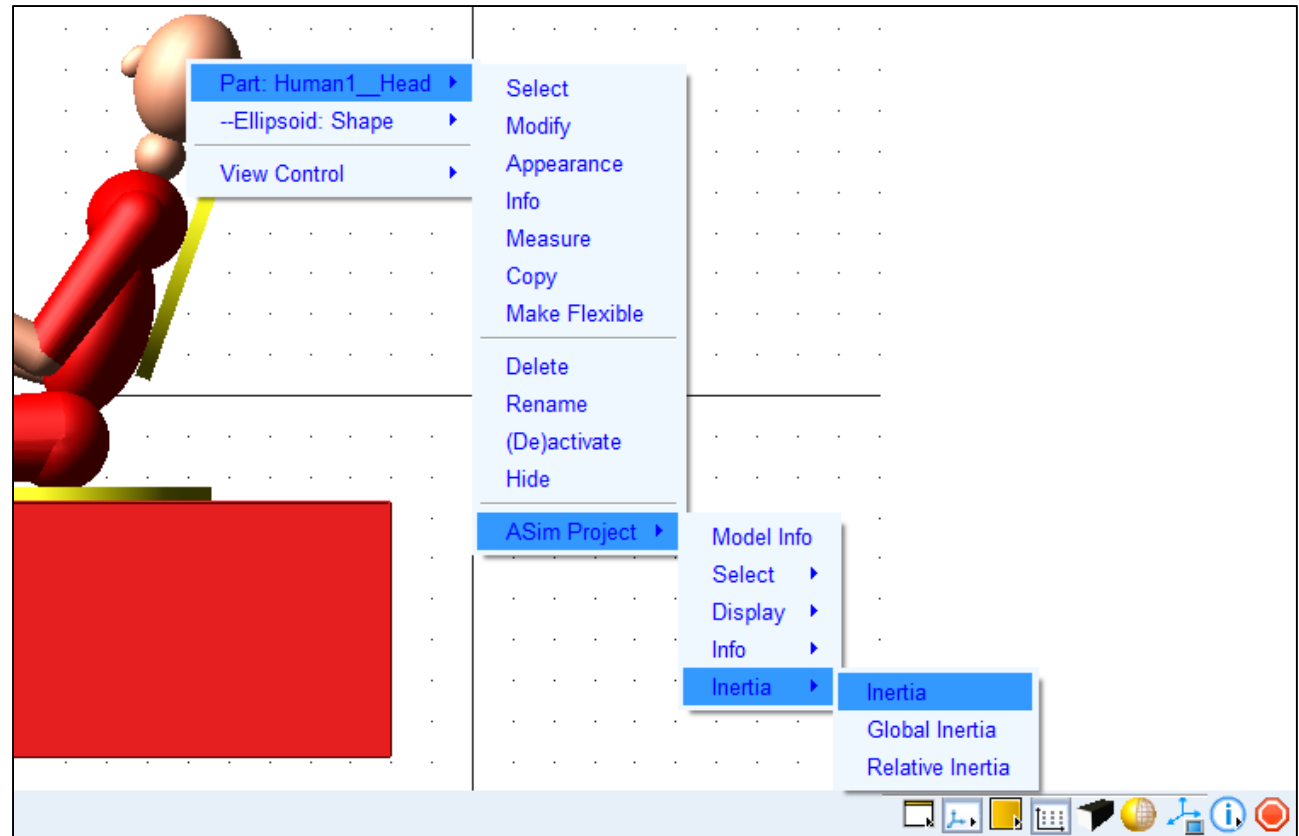
- (1) (2) Open Utility Macro from Main Dialog
- (3) Select Toolkit or Library and Utility macro file
- (4) (5) Enter Parameter(s) for Utility
- (6) (7) Execute Utility and check Output

The screenshot illustrates the process of executing a utility macro in the ASim Project software. The main window shows a 3D model of a human figure sitting on a red box. A 'Load Utility' dialog box is open, showing the file 'A_UDE_Info' selected from the 'TKC' library. The 'Ude Name' is 'Single_Man.Human1' and the 'Info' is 'Info_Vars'. The 'Execute' button is highlighted. Below the dialog, an 'Information' window shows the output of the macro execution, including a table of parameters and their values.

Parameter	Value	Unit	Description
Total_Mass	+6.988e+01	(kg)	! Summated Mass of all Body Components
Total_Length	+1.807e+00	(meter)	! Length of Body when Standing Upright
Len_Arms	+6.200e-01	(meter)	! Summated length of Upper Arm and Lower Arm
Len_Legs	+8.700e-01	(meter)	! Summated length of Upper Leg and Lower Leg
Ang_Torso	+1.972e+01	(deg)	! Torso Angle Based on Location of Pelvis and Backrest

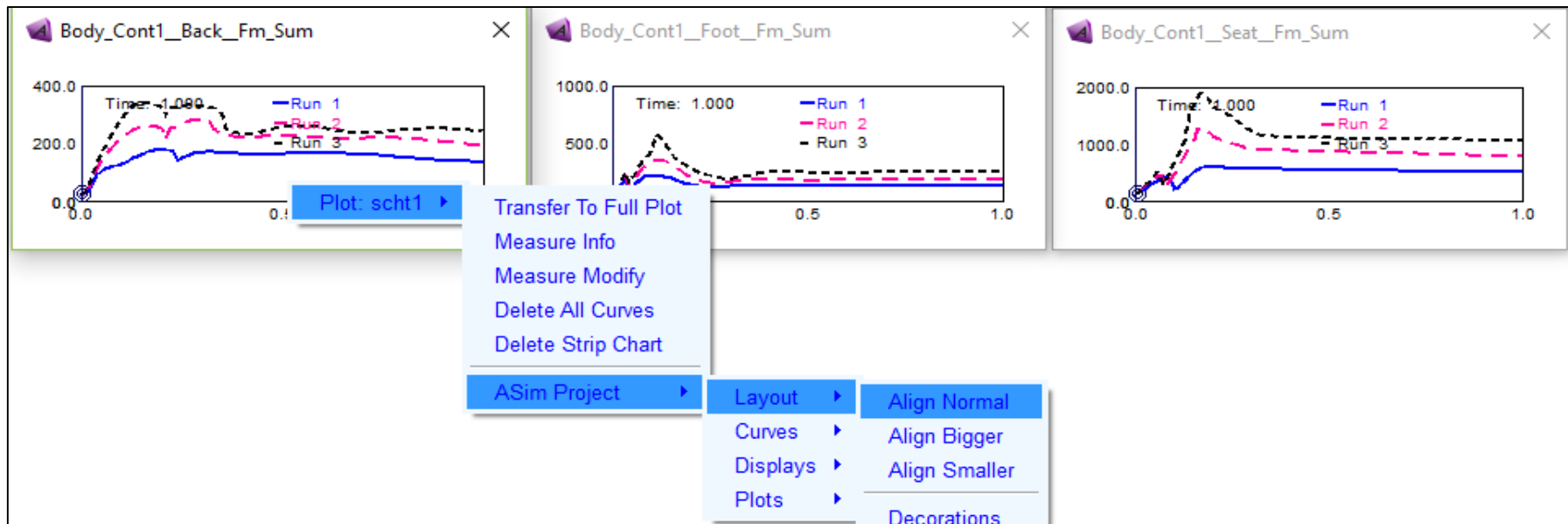
Additional TKC Pop-Up Menus

- Identical to TKC functionality:
 - Find *ASim_Project* Label on Pop-Up Menu
 - Provides Model Component (Data) Info and Manipulation



Manipulation of Measure Displays

- Pop-Up menu inside Measure Display.
- → Create *report-ready* design study displays
- Sub menus available for:
 - *Layout*: scale and align displays
 - *Curves*: save or delete *Run based Curves*
 - *Displays*: save, delete and restore displays
 - *Plots*: change scales or make full plots



Design Study Results with Measure Displays

- (1) (2) modify body mass
- (3) (4) run simulations
- (5) save last run curves
- → capture screen portion

The screenshot displays the ASim Project software interface. The main window is titled "Simulation Control" and contains a 3D model of a human figure sitting on a red seat. The simulation parameters are set to "End Time: 1.0" and "Steps: 100". The "Sim. Type" is "Default". The "Start at equilibrium" and "Reset before running" checkboxes are unchecked. The "No Debug" dropdown is selected. The "Update graphics display" checkbox is checked. The "Interactive" radio button is selected. The "Simulation Settings..." button is visible at the bottom of the control panel.

The "Info" window on the right shows the "Object: Data_Human Type = MAN Human" and lists various body dimensions and mass values. The "Dens_Body" value is highlighted with a red circle 1. The "Set" window at the bottom right shows the "Single_Man/Man_181m_69Kg" user profile and the "No Group Selected" option. The "Set" window is highlighted with a red circle 2.

The "Body_Cont1_Back_Fm_Sum", "Body_Cont1_Foot_Fm_Sum", and "Body_Cont1_Seat_Fm_Sum" windows show the results of three simulation runs (Run 1, Run 2, Run 3) over time. The "Body_Cont1_Foot_Fm_Sum" window is highlighted with a red circle 5. A context menu is open over the "Body_Cont1_Foot_Fm_Sum" window, showing options: "Transfer To Full Plot", "Measure Info", "Measure Modify", "Delete All Curves", "Delete Strip Chart", "ASim Project", "Layout", "Curves", "Displays", "Plots", "Save Last", "Clean Saved", and "Clean First".