Technical Support Knowledge Base

Title	Mass Property Relations Cannot be Entered (Such As mass=mp_mass("")), Until After Clicking #Edit > #Setup > #Mass Props > #Generate Report. The Messages "Error in Relations" And "Mass Properties For This Model Are Not Calculated Yet" Are Given.						
Product	Pro/ENGINEER	**Module**	GLOBAL FUNCTIONS	**TPI ID**	120455	**Created**	01-APR-03
Workstation	All			**Reported In Release**	Wildfire	**Reported In Datecode**	2002490
SPR	None			**Resolved In Release**		**Resolved In Datecode**	

Description

Mass property relations cannot be entered (such as mass=mp_mass("")), until after clicking #Edit > #Setup > #Mass Props > #Generate Report. The message "error in relations" and "Mass properties for this model are not calculated yet" are given. In Pro/ENGINEER Wildfire, the method used for using a Model's Mass Property's values is different. See the Resolution below for more information.

Resolution

In Pro/ENGINEER Wildfire, the method for using a model's mass property values in relations has changed. Now, Pro/ENGINEER has created system parameters for all the Mass Property values such as mass, volume, density, etc. Alternate Parameters are also created for manually assigning mass property values to a model. All these parameters are listed when going to #Tools > #Parameters and selecting Reported or Alternate System Parameters (By default, Main is selected).

In order to decide what values to use (System or Alternate), Pro/ENGINEER will look for the value of the PRO_MP_SOURCE Alternate Parameter. "GEOMETRY" is the default value of the PRO_MP_SOURCE parameter. It means that Mass Property values should be calculated based on the model geometry. If the source is "GEOMETRY" and mass properties were not calculated yet, the values of all resulting parameters should be 0. Setting PRO_MP_SOURCE to "PARAMETERS" means that values of resulting parameters will be taken from the geometry but overridden by Alternate Parameters with defined values (By default the Alternate Parameters have no values).

The new mass property parameters make it easier to use a model's mass properties without adding any relations such as parameter=mp_mass(""). For example, if you wish to report a model's mass, you can use the system parameter "PRO_MP_MASS". You don't need the relation. This parameter is not calculated until a Mass Property Analysis is run, but it can also be calculated upon each regeneration by setting the config.pro option, "mass_property_calculate", to "automatic".

Clicking #Edit > #Setup > #Mass Props will invoke the "Setup Mass Properties" dialog box where you are able to define a source of mass properties and perform some actions.

The "Density" option will replace the existing #Setup > #Density functionality. In Wildfire, you can only enter a density value in the "Setup Mass Properties" dialog. Working within this dialog, you will be able to define "Geometry", "Parameters and Geometry", or "File" mass properties source. The "Parameters and Geometry" button of the "Source" option menu corresponds to the "PARAMETERS" value of PRO_MP_SOURCE parameter.

"Origin" is a local coordinate system (or the internal default coordinate system), which will be taken as the origin for mass properties calculation.

"Edit" button will invoke an editor for "File" source or "Mass Properties Parameters" dialog box for "Parameters and Geometry" source. For the other sources this button should be greyed out.

"Generate Report" button will recalculate mass properties and invoke an information window with mass properties report.