

Creo Modelcheck Shape Indexing / Search With Windchill

Ref PTC Help Info (not really enough to actually set up so supplemented here)

Creo ModelCHECK Overview

The Creo ModelCHECK Help describes how you can use Creo ModelCHECK as a comprehensive and collaborative model analysis tool. Refer to these topics for information on configuring Creo ModelCHECK, on using the tools and checks available in Creo ModelCHECK and on using the Creo ModelCHECK reports.

Tasks for Creo ModelCHECK	
<ul style="list-style-type: none">• Getting Started with Creo ModelCHECK<ul style="list-style-type: none">◦ Using PTC Creo Modelcheck◦ Using the Creo Modelcheck Operating Modes◦ Using ModelUPDATE• Configuring Creo ModelCHECK<ul style="list-style-type: none">◦ Using the Creo Modelcheck Configuration Files◦ Setting Up the Initialization File: config_init.mc File◦ Setting Up the Condition File: setconf.mcc File◦ Setting Up the Condition File: condition.mcc File◦ Setting Up the Check Configuration File◦ Setting Up the Start Configuration File◦ Setting Up the Constant Configuration File◦ Setting Up the Status Configuration File	<ul style="list-style-type: none">• Using the Creo ModelCHECK Reports<ul style="list-style-type: none">◦ Creating the Creo Modelcheck Report◦ Creating Summary Reports• Using Creo ModelCHECK with Data Management Systems<ul style="list-style-type: none">◦ Integrating Creo Modelcheck with a PDM System◦ Using Creo Modelcheck Gatekeeper• Using the Tools Available in Creo ModelCHECK<ul style="list-style-type: none">◦ Searching for Duplicate Models◦ Using the Spell Checker◦ Optimizing Creo Modelcheck◦ Using RuleCHECK◦ Using GeomIntegrityCHECK

Creo Modelcheck configurations related to finding "DUP" (duplicate models)

In config_init file:

```
WC_DUPINFO          YN      Y
```

```
ADD_DUP_INFO_AUTO  YNDA
```

In Check File:

```
SEARCH_DUP_MODELS  YNEW      W
```

Creo Modelcheck constants

Same defaults for both inch and mm files (uses a percentage, not tied to units)

Edit these as needed

```
inch.mcn
1 # 26-DEC-01 $$1 J-03-15 VA Add MCSI Tol
2 # CONSTANT REPORT CONFIGURATION
3 SHORT_EDGE          0.01
4 PERC_EARLY_ROUND    0.25
5 PERC_EARLY_DRAFT    0.25
6 PERC_EARLY_CHAMF    0.25
7 PERC_EARLY_COSMETIC 0.7
8 SMALL_RADIUS        0.01
9 ACCURACY_LOW        0.0005
10 ACCURACY_UPP        0.0013
11 MIN_ABS_ACCURACY    0.001
12 MAX_ABS_ACCURACY    0.0030
13 SHARP_ANGLE         10.0
14 GLOBAL_INTF_DAYS    1
15 MIN_TOLERANCE       0.001
16 SHORT_EDGE_BATCH    0.05
17 MAX_DRAW_SHEETS     10
18 #RC_PARAMETER_NAME  PART_TYPE
19 MAX_SKETCH_ITEMS    100
20 MCSI1_TOL            .03
21 MCSI2_TOL            .03
22 MCSI3_TOL            .03
23 MCSI4_TOL            .03
24 MCSI5_TOL            .03
25

mm.mcn
1 # 26-DEC-01 $$1 J-03-15 VA Add MCSI Tol
2 # CONSTANT REPORT CONFIGURATION
3 SHORT_EDGE          0.5
4 PERC_EARLY_ROUND    0.25
5 PERC_EARLY_DRAFT    0.25
6 PERC_EARLY_CHAMF    0.25
7 PERC_EARLY_COSMETIC 0.7
8 SMALL_RADIUS        0.5
9 ACCURACY_LOW        0.0005
10 ACCURACY_UPP        0.0013
11 MIN_ABS_ACCURACY    0.001
12 MAX_ABS_ACCURACY    0.0030
13 SHARP_ANGLE         10.0
14 GLOBAL_INTF_DAYS    1
15 MIN_TOLERANCE       0.1
16 SHORT_EDGE_BATCH    0.5
17 MAX_DRAW_SHEETS     10
18 #RC_PARAMETER_NAME  PART_TYPE
19 MAX_SKETCH_ITEMS    100
20 MCSI1_TOL            .03
21 MCSI2_TOL            .03
22 MCSI3_TOL            .03
23 MCSI4_TOL            .03
24 MCSI5_TOL            .03
25
```

Default values for all: 0.03 (finds model(s) for which all are less than 3% different from model being created)

Windchill Attributes Created

This Windchill system Org name is "demo" – yours will be different.

☰ Manage Reusable Attributes -

- Root
- + ADW_DM_Attributes
- Creo Modelcheck
 - ☰ MC_AREA
 - ☰ MC_INERTIA_1
 - ☰ MC_INERTIA_2
 - ☰ MC_INERTIA_3
 - ☰ MC_VOLUME
 - ☰ MC_CONFIG
 - ☰ MC_ERRORS
 - ☰ MC_MODE
 - ☰ MODEL_CHECK

Actions ▾ Reusable Attribute - **MC_AREA**

*Internal Name:

Display Name:

Description:

Data Type: Real Number with Units

Quantity of Measure: Area

Actions ▾ Reusable Attribute - **MC_INERTIA_1**

*Internal Name:

Display Name:

Description:

Data Type: Real Number with Units

Quantity of Measure: Rotor Inertia

Actions ▾ Reusable Attribute - **MC_INERTIA_2**

*Internal Name:

Display Name:

Description:

Data Type: Real Number with Units

Quantity of Measure: Rotor Inertia

Actions Reusable Attribute - **MC_INERTIA_3**

*Internal Name:

Display Name:

Description:

Data Type: Real Number with Units

Quantity of Measure: Rotor Inertia

Actions Reusable Attribute - **MC_VOLUME**

*Internal Name:

Display Name:

Description:

Data Type: Real Number with Units

Quantity of Measure: Volume

Windchill Attributes Assigned to Type (EPMDocument)

Actions  Type - **EPM Document**

Internal Name: wt.epm.EPMDocument

Display Name: 

Description: 





Icon: 

The Default Type of Part to Create:

Attributes **Layouts**

Properties

5 matches found

Name ↑	Internal Name	Filterable
<input type="radio"/> 0.1m MC_AREA	 MC_AREA	<input type="text" value="Yes"/>
<input type="radio"/> 0.1m MC_INERTIA_1	 MC_INERTIA_1	<input type="text" value="Yes"/>
<input type="radio"/> 0.1m MC_INERTIA_2	 MC_INERTIA_2	<input type="text" value="Yes"/>
<input type="radio"/> 0.1m MC_INERTIA_3	 MC_INERTIA_3	<input type="text" value="Yes"/>
<input type="radio"/> 0.1m MC_VOLUME	 MC_VOLUME	<input type="text" value="Yes"/>

EPM Document Default Layout
(Automatically now includes the additional attributes)

Layouts ▾



- Default Layout
- Model Structure Attributes
- Part Structure Attributes
- Structure Compare Attributes

Default Layout

Actions ▾

*Name:

Default Layout

Description:

Available Attributes



- MC_AREA
- MC_INERTIA_1
- MC_INERTIA_2
- MC_INERTIA_3
- MC_VOLUME
- Minimum Required
- Missing Dependents

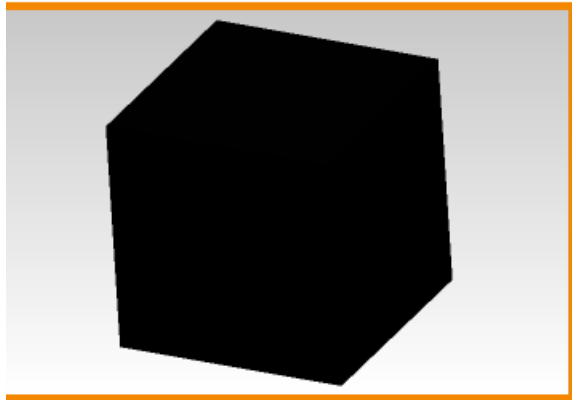
Parameters in Creo

Automatically created / populated by running Modelcheck

MC_ERRORS	Integer	0	<input checked="" type="checkbox"/>	Locked	ModelCHECK
MC_AREA	Real Number	6.000000	<input checked="" type="checkbox"/>	Locked	ModelCHECK
MC_INERTIA_1	Real Number	0.166667	<input checked="" type="checkbox"/>	Locked	ModelCHECK
MC_INERTIA_2	Real Number	0.166667	<input checked="" type="checkbox"/>	Locked	ModelCHECK
MC_INERTIA_3	Real Number	0.166667	<input checked="" type="checkbox"/>	Locked	ModelCHECK
MC_VOLUME	Real Number	1.000000	<input checked="" type="checkbox"/>	Locked	ModelCHECK

EPM Document Info Page with Attributes Displayed

Visualization and Attributes | More Attributes



Visu

File
Nun
Nan
Stat
Moc
Las

General

Object Specific

MC_CONFIG: check/standard_checks.mch, start/standard_sta

MC_ERRORS: 0

MC_MODE: Interactive

MODEL_CHECK: Wed May 18 2022 14:25:54 GMT-0800

MC_VOLUME: 1.6387064000000E-5 m**3

MC_AREA: 3.8709600000000E-3 m**2

MC_INERTIA_1: 4.8773275568188E-5 kg*m**2

MC_INERTIA_2: 4.8773275568188E-5 kg*m**2

MC_INERTIA_3: 4.8773275568188E-5 kg*m**2

Here is where and how the data is stored in the Database, Ref

Units not accounted for here; units conversion needed to match what is displayed in Creo Parameters the Windchill info page

DESC EPMDOCUMENT

Script Output x Query Result x

Task completed in 0.562 seconds

BOXEXTENTISISNULL	NUMBER (1)
AXD10	NUMBER
AYD10	NUMBER
AZD10	NUMBER
BXD10	NUMBER
BYD10	NUMBER
BZD10	NUMBER
CHECKOUTINFOISNULL	NUMBER (1)
STATECHECKOUTINFO	NOT NULL VARCHAR2 (30)
CTASNAMEBYCONTAINERBYREF	VARCHAR2 (30)

Values for the example part in the database

AXD10	-0.0002199704525612474
AYD10	-0.0002199704525612474
AZD10	-0.0002199704525612474
BXD10	0.025619970452561248
BYD10	0.025619970452561248
BZD10	0.025619970452561248

User experience in Creo with this config_init option set to Ask (A)

Likely will want to set this to Y instead of A after using for a bit – nuisance to users

```
# Duplicate models - Automatically add dup model info to text file
# Y - always add model info
# N - Never add model info
# D - add model info but Don't overwrite existing info
# A - always Ask the user whether to add AND whether to overwrite
ADD_DUP_INFO_AUTO YNDA A N N N
```

Add this model to duplicate model finder database?

Y

Model exists in database - overwrite data?

Y

Modelcheck now includes this additional Warning (or just info if configured Y)

Can execute search from here

000000102.PRT Errors(0) Warnings(1)

- Overview
- Design intent
 - Category
 - Type
- Feature
- Miscellaneous
 - Category
 - Type
 - Search for duplicate models(Search)
 - SEARCH_DUP_MODELS**
 - Search for Duplicate Models:
 - Press the Search button to invoke duplicate model search
 -
- Information

Success - similar model found

results

Administrator

results Default CAD Document View

Actions

	Number	Name	Context	Version	State
<input type="button" value="Print"/>	000000102.PRT	000000102.prt	Product 1	A.1	In Work

Note: A red arrow points from the 'Name' column header to the 'Search for duplicate models(Search)' section in the top image.

Ideal use case is to stop designing this part and either use the other part as is or save as from it and then continue designing 😊