

# ModelCHECK

## Quick Reference for Self-Installation



This document is intended to give a brief overview of the requirements to run and install ModelCHECK. It should enable users and administrators to get a head start in installing and achieving the return on investment ModelCHECK can give to customers. We recommend that our Global Services Organization perform the installation, but if that is not an option this guide should help with the installation. For more information and guidance please refer to the customer support website located at <http://www.ptc.com/>

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## About ModelCHECK

ModelCHECK is an integrated application that runs transparently inside Pro/ENGINEER. It analyzes parts, drawings, and assemblies and recommends proper Pro/ENGINEER modeling techniques. ModelCHECK promotes the use of standard design practices to improve the effectiveness of downstream users and design reuse.

## Running ModelCHECK

To Start ModelCHECK:

1. Set the Pro/ENGINEER configuration option `modelcheck_enabled` to yes
2. Start Pro/ENGINEER
3. Click **Analysis > ModelCHECK**.

You can run ModelCHECK in four ways, depending on how it is configured.

- Interactively, using a Pro/ENGINEER menu command. This is performed by selecting **Analysis > ModelCHECK > MC** inside Pro/ENGINEER
- Automatically after every regeneration. This is the most effective use of ModelCHECK. Set `MODE_RUN` to Y in the Regenerate Mode column of the `config_init.mc` file. Upon regenerating any Pro/ENGINEER model, ModelCHECK will generate a report if there are errors or warnings found with the model.
- Automatically after every save. Set `SAVE_MC_PRE` in the `config_init.mc` to Y in order to run ModelCHECK before you save, and N to run ModelCHECK after you save. Save the Model
- Batch Mode. There are a number of automatic corrections that are performed in batch mode:
  - i. Add Items to Layers
  - ii. Add relations and comments
  - iii. Change Layer Display
  - iv. Create Layers
  - v. Create Parameters (if their values are known)
  - vi. Fully regenerate the model from the first feature and report any problems
  - vii. Move Items between layers

- viii. Designate Parameters for PDM Tools
- ix. Rename Datums
- x. Rename Layers
- xi. Save the Model

## About ModelCHECK Teacher

You may not always know what causes the problems or errors identified by ModelCHECK. ModelCHECK Teacher is a series of Web pages containing information about common modeling errors and how to fix them. To access it, click the question mark to the left of each item in a report. This loads a web page with information specific to the check. If your company has its own standards or rules to follow, you can modify the Teacher pages to include this information, or you can add links to your company's Intranet. ModelCHECK's Teacher pages also have links to Pro/HELP and Cadtrain COAch. You can use these links if the software is installed on your network.

## Configuring ModelCHECK

You can configure ModelCHECK to run different checks at different times. For example, the MC option allows you to check the currently active model; with MC Regen you can regenerate the active model and then check it; using Load Config you can select a configuration to use manually.

A series of text files store the configuration options. These files are located in the config directory, a subdirectory of the ModelCHECK loadpoint. The following files apply:

- **Config\_init.mc:** specifies initialization settings. This file is read when Pro/ENGINEER starts and ModelCHECK initializes. If any changes are made to the file you must restart Pro/ENGINEER.
- **Condition.mcc:** specifies the conditions that determine what set of configuration files to read when you have the ModelCHECK config option CNFG\_SELECT\_AUTO in config\_init.mc set to Y. This is read each time you run ModelCHECK
- **Setconf.mcc:** When the ModelCHECK configuration option CNFG\_SELECT\_AUTO is set to N or A in config\_init.mc this file determines what configuration files you can select from the Pro/ENGINEER Load Config menu (Info>MC>Load Config).
- **<filename>.mch:** Configures the checks and specifies how problems are reported. There can be several of these files. This file determines which check file to use each time you run ModelCHECK. You can give any name to a check file but it must have the extension .mch

- **<filename>.mcs:** Start config file is used to specify the start part information for which ModelCHECK checks. You can have several .mcs files and use more than one at a time. The condition file determines which start file to use each time you run ModelCHECK. You can give any name to a start file but it must have the extension .mcs
- **<filename>.mcn:** Constant file is used to specify constant values such as the length of a short edge. There can be several of these files. The condition file determines which constant file to use 3each time you run ModelCHECK. You can give any name to a constant file but it must have an extension of .mcn

**Location of configuration files:**

All configuration files must be kept in the <modchk>/config directory for release 3.0 and 2000i. In ModelCHECK 2000i2 and greater, the path to the config file directory is <proe>/modchk/language/<English>/config

Use \$MCDIR to specify an alternative location for the config directory. If \$MCDIR exists, any file in that location overrides the default setting.

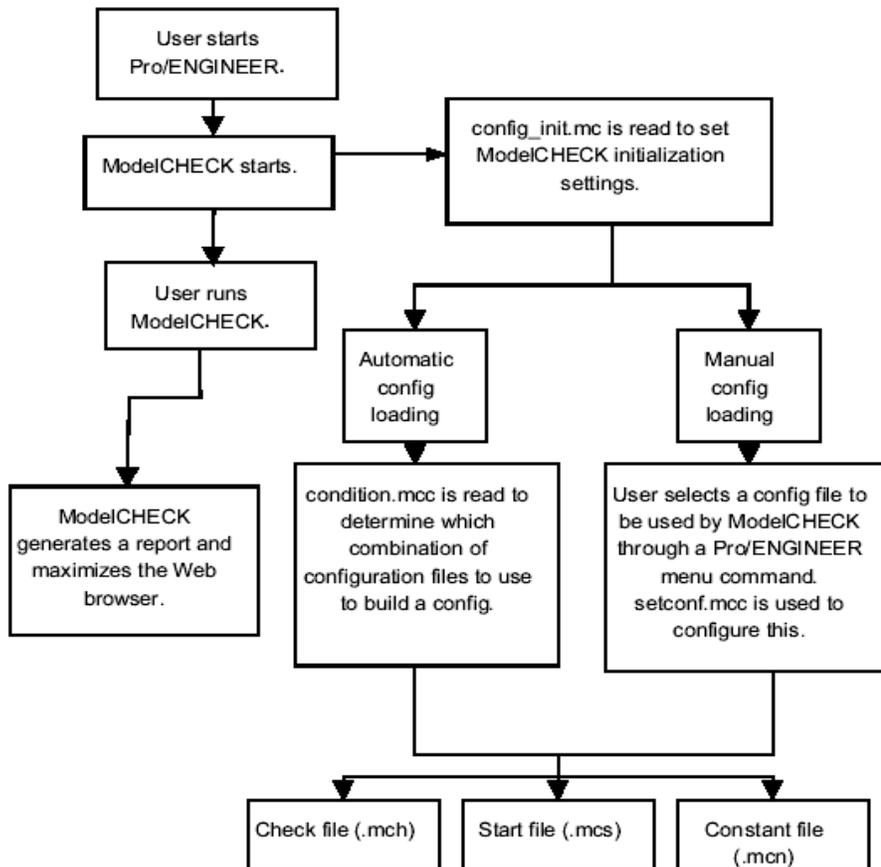


Figure 1

Example workflow using ModelCHECK configuration files

## Integrating ModelCHECK with a PDM System

You can configure ModelCHECK to add four parameters to the model file each time it is run on the model:

**MODEL\_CHECK** – (string) indicates the date and time that ModelCHECK was last run

**MC\_ERRORS** – (integer) indicates the number of errors found

**MC\_CONFIG** –(string) indicates the names of the configuration files used

**MC\_MODE** –(Interactive, Regenerate, Save, Batch or MC\_regen) indicates the mode in which ModelCHECK was run.

To see these parameters from within Pro/INTRALINK, attributes with the same names and types (as shown in the parentheses above) must be created from within Pro/INTRALINK's commonspace. You can program Pro/INTRALINK to allow check-in only of models that have the above parameters set to specified values. For example, a trigger can be written to deny the check in of models with errors (MC\_ERRORS is greater than 0).

## Config\_init.mc

Initialization settings for ModelCHECK are set in the config\_init.mc file.

1. Using a text editor, open config\_init.mc. This file is in  
<proe>/modchk/<language>/config or in the directory you have specified with the environment variable \$MCDIR
2. For the options you want to set, set a value for each ModelCHECK mode. In the config\_init.mc file each mode is in a separate column. The modes are abbreviated as follows:
  - a. I – Interactive
  - b. B – Batch
  - c. R – Regenerate
  - d. S – Save

To specify a directory in config\_init.mc you can include spaces in the name of any directory. You do not need to include quotes around a directory name that contains spaces.

Example:

```
! -----
#           Options           "I"      "B"      "R"      "S"
! -----

# Enable ModelCHECK Y=enable, N=disable, A=Ask user
MC_ENABLE      YNA           Y

# View ModelCHECK Report Y=applet reports, N=html reports w/applet
buttons,
MODE_VIEW      YN           Y

# Enable/Disable ModelCHECK in specific modes
MODE_RUN       YN           Y      Y      N      N
```

## Setconf.mcc File

You can allow users to decide what config files ModelCHECK uses during a Pro/ENGINEER session or have it automatically set.

1. In config\_init.mc set CNFG\_SELECT\_AUTO to N or A to allow users to decide what config files to use. If this is set to Y the config files to use are chosen automatically. N: requires the user to choose the config files to run. A: prompts the user whether to load the configuration files or let ModelCHECK select them automatically.
2. Using a text editor open setconf.mcc. Edit the file to set up the **Load Config** choices. For example: PDM = (checks/pdm.mch) (start/pdm.mcs) (start/default\_start.mcs) (constant/mm.mcn) NoStart = (checks/default\_checks.mch) (start/nostart.mcs) (constant/mm.mcn)
3. Save setconf.mcc. All the configuration files you list in this file must be in their respective directories.
4. If CNFG\_SELECT\_AUTO is set to N or A, click **Info > MC > Load Config** in Pro/ENGINEER. The Load Config menu appears. If setconf.mcc is set as in the above example then the following are listed on the Load Config menu: PDM, Light, NoStart
5. Click the configuration you want to use.

You can use `mc_msg.txt` to customize the configuration names that are listed in the Load Config menu. `Mc_msg.txt` is in the ModelCHECK text directory and is used to build the Pro/ENGINEER menu commands when ModelCHECK is initializing. Be careful when editing this file. If you edit the wrong lines, you may have to reinstall ModelCHECK. The default configuration names are Heavy, Medium, and Light. If you want to rename them so that the users see other names, edit the file.

## Condition.mcc File

When ModelCHECK runs, it reads a file called `condition.mcc` to determine the combination of configuration files (start, check and constant) to use. This file is located in the config directory of the ModelCHECK load point directory. You can use `condition.mcc` to override check settings. Prior to ModelCHECK version 3.0 all configuration options were stored in one file, `config.mc`. It is still possible to use `config.mc`. The `condition.mcc` file has a SET CONFIG FILE section and an OVERRIDE CHECKS section

## Check Config (filename.mch)

The check config file, or check file has an extension of `.mch` and is used to determine when to run checks and how to report problems when they are found. It is located in `<proe>/modchk/language/english/config/check`. You can set a value for the Interactive (I), Batch (B), Regenerate ®, and Save (S), modes for each checks. The available values for each check are:

-N – Do not perform the check

-Y – Perform the check but do not report any problems in the summary report, only in the full report, which is the second one you see. Y should be used for minor problems or for information only checks.

- E – Perform the check and report an error if it fails. Errors are reported in the summary report and in the full report. When errors are found a model parameter is created that has a value of the number of errors found in the model. Pro/INTRALINK can be set to track models with errors or to even reject their submission.
- W – Does the same as E except no model parameter is created. W should be used for less serious problem.

Save the edited file with the extension `.mch`

## Start Config (filename.mcs)

The start config file is where start part information is kept. In the start config file you can initialize part mode features, assembly mode features, drawing mode features and external files. It is located in the <proe>/modchk/language/English/config/check directory. In the file you list the parameters to add to the model. Save the file with the extension .mcs. You can have more than one .mcs files and they can be used at the same time.

Format:

```
PRT_ADD_CHK_PARAM    [PARAMETER]    [CHECK_OUTPUT]
```

Where:

[PARAMETER] is the name of the parameter that will be created

[CHECK\_OUTPUT] is the name of the check with output that will be used

Example: PRT\_ADD\_CHK\_PARAM MATERIAL MATERIAL\_INFO

## Constant Config (filename.mcn)

The constant config file contains the values of constants that ModelCHECK uses. It is located in the <proe>/modchk/language/English/config directory. You can have multiple constants files.

## RuleCHECK

RuleCHECK, a component of ModelCHECK is designed to allow companies to easily document and enforce engineering rules. It can be used to develop a Design Advisor for Pro/ENGINEER users. Rules can be defined to describe a company's engineering rules, design process steps, required deliverables, and Pro/ENGINEER best practices. Each type of part and assembly that a company designs may have specific rules assigned for it. You can have Engineering Rules, Design Process Steps, Required deliverables and Pro/ENGINEER best practices. It is accessed by selecting **Analysis > ModelCHECK > RuleCHECK** inside Pro/ENGINEER

## Duplicate Models in ModelCHECK

ModelCHECK can search for duplicate parts by examining a model's shape and then searching the database for similar models. A line item in the ModelCHECK report indicates if duplicate models are found. You can then click on the line item a table with the names of the models found, and the following items appear:

- Percent match
- Model units
- Number of features
- Number of datums
- Size of the model

## **Configuring your Web Browser**

ModelCHECK runs on any web browser that supports Java (Netscape 2.01 or greater and IE 3.0 or greater). Netscape 4.03 or higher is recommended.