



**SIGMAXIM**

**DFMA**  
**Design For**  
**Manufacturing**



# 3 Main Approaches

## 1. **POST CHECKING Models**

- Is My Model Right for Manufacturing?
- Can I fix it fast?

# POST CHECKING Models: How to Check?

*Getting “Manufacturing” requirements to model checking could be complex...*

- **Visual Inspection**

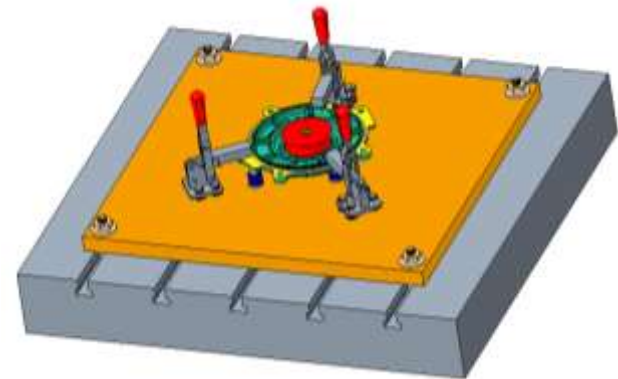
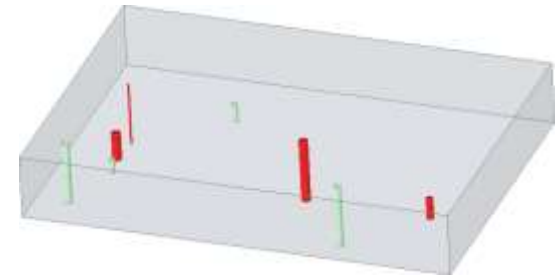
- Based on human experience
- Tedious, Long, Subject to errors due to human nature

- **Model/Check**

- Limited to certain types of errors

- **Other External tools**

- Can account search for more types of errors



# POST CHECKING Models: How to Fix?

*Once (if) identified, the error must be fixed...*

- **Model Modification**

- Based on user experience, still can introduce new errors

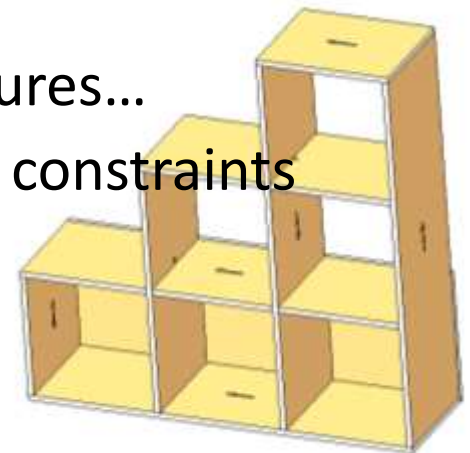
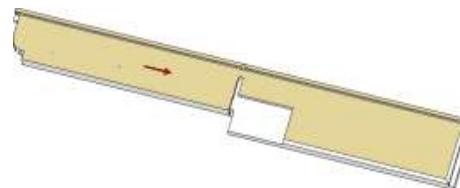
- **Model/Check**

- Limited to certain types and non geometric corrections

- **Other External tools**

- Can add missing feature, remove extra features...

- Must allow a way to “learn” Manufacturing constraints based on model type.



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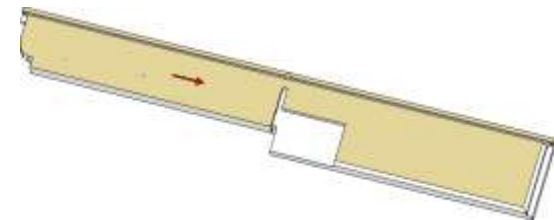
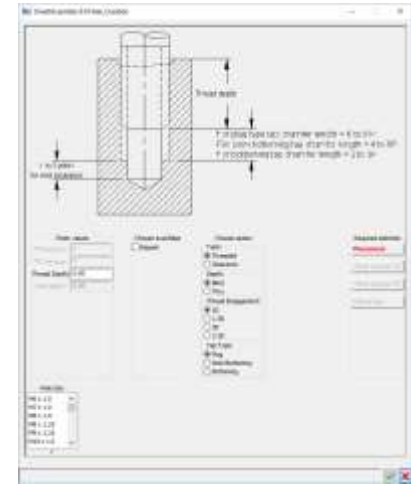
## 2. **Make It Right from the beginning**

- Why allowing the creation of Wrong Data?

# Make it right from the beginning

*How to avoid introducing errors...*

- **Creo Automation**
  - Mapkeys, UDFs... some solutions exists
  - Still limited to User knowledge & discipline
- **Some features settings limited to “in house” values**
  - Example of “holes” that can be limited to certain sizes



## 3 Main Approaches

### 1. POST CHECKING Models

- Is My Model Right for Manufacturing?
- Can I fix it fast?

### 2. Make It Right from the beginning

- Why allowing the creation of Wrong Data?

### 3. Purpose Oriented Design

- A Feature is there because of a specific reason

# “Purpose Oriented” Design

*Do you want a round Feature? or do you want a  
“manufacturable” part?*

*Are you making Holes? Or are you bolting things together?*

- **Some “Assembly UDFs” can handle that**
  - Relies on the user “good choice” of it.
- **Would be nice ;-)**
  - A solution that learn the rules,
  - A solution that can chose the best rule to apply

