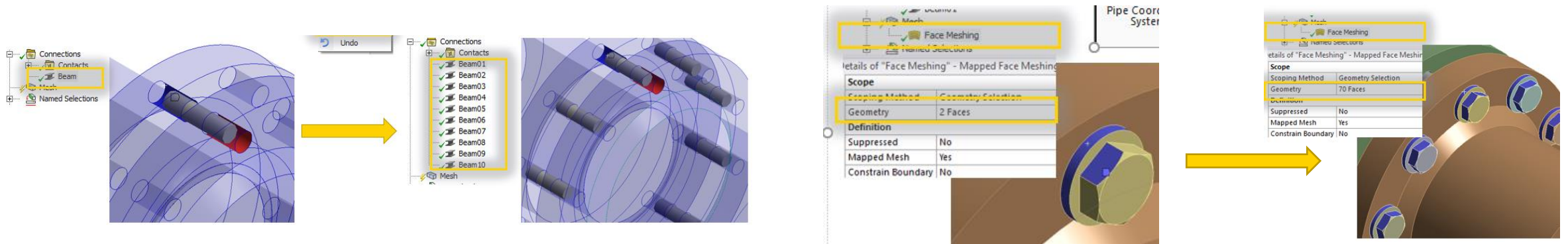# Extend Selection

Your partner in computing

Description

Modul: Mechanical

This ACT extension provides efficient way how to select geometry entities based on its parameters like body, name, size, location, ... at the same time. This tool allows to:

- Extend Selection in graphical window

- Extend Location of certain object

- Duplicate Object

It extends standard mechanical selection functionalities which can use only one parameter (size, location, ...) and only one seed entity (face, edge, ...) at time.

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Workflow

1. Select appropriate Coordinate System (CS)
2. Use one of the following extend functions
   - Extend Selection
   - Extend Location
   - Duplicate Object
3. Undo the action if needed
4. Modify extend settings if needed

Notes:

Seed entities:
- Extend Selection → vertex, edge, face, body
- Extend Location → tree object

More than one seed entity can be selected for each functions. Each seed entity will be extended separately.

Undo action is supported only for tree objects which were created via this tool in current Mechanical session.
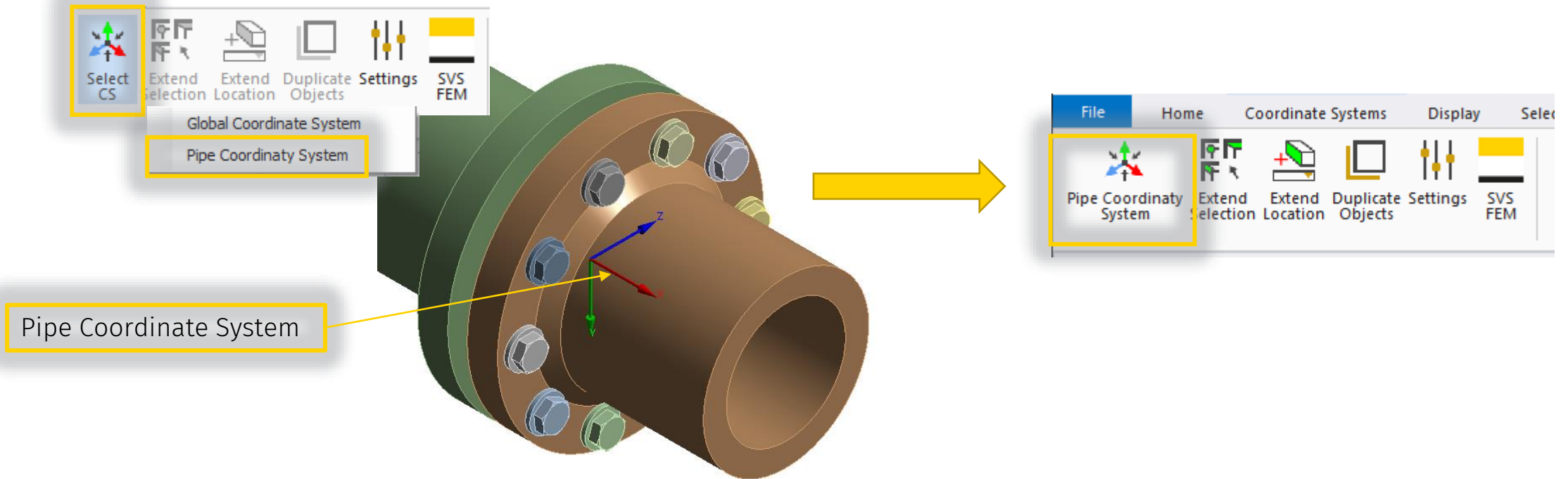
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Controls

Select CS

Select appropriate Coordinate System (CS).

X axis of the CS defines axial direction of selection pattern.

Name of the selected CS where the ACT works is shown in the icon label.

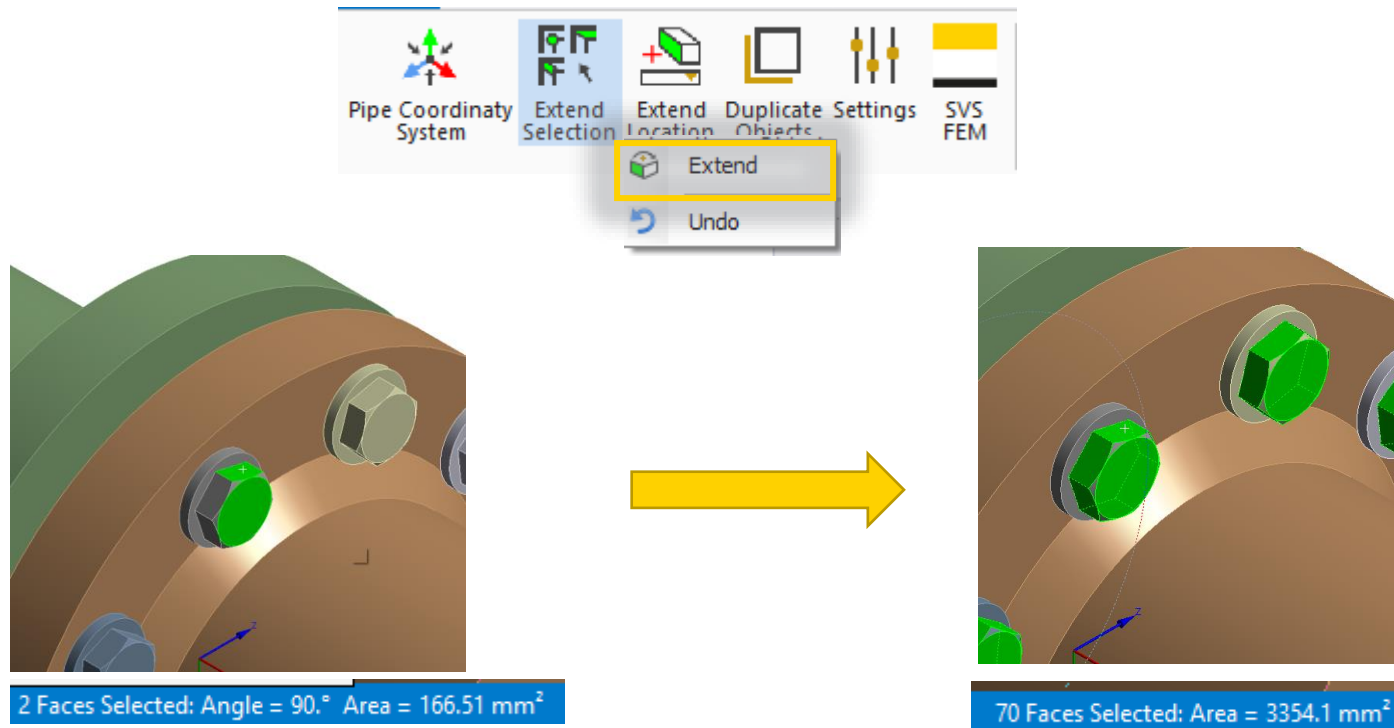Extend options unlock only when any valid CS is selected.

Pipe Coordinate System

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Controls

⊞ Extend Selection

Extends the selection in graphical window.

Action can be undone via Undo button.

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Controls

Extend Location

Extends the location of the selected tree object.

To undo the action, select one of the objects of which location have been extended via this tool and click on *Undo* button.

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Controls

☐ Duplicate objects

Duplicates selected tree objects, with respect to geometry selection.

To undo the action, select one of the objects, which have been created via duplicate function of this tool and click on *Undo* button.

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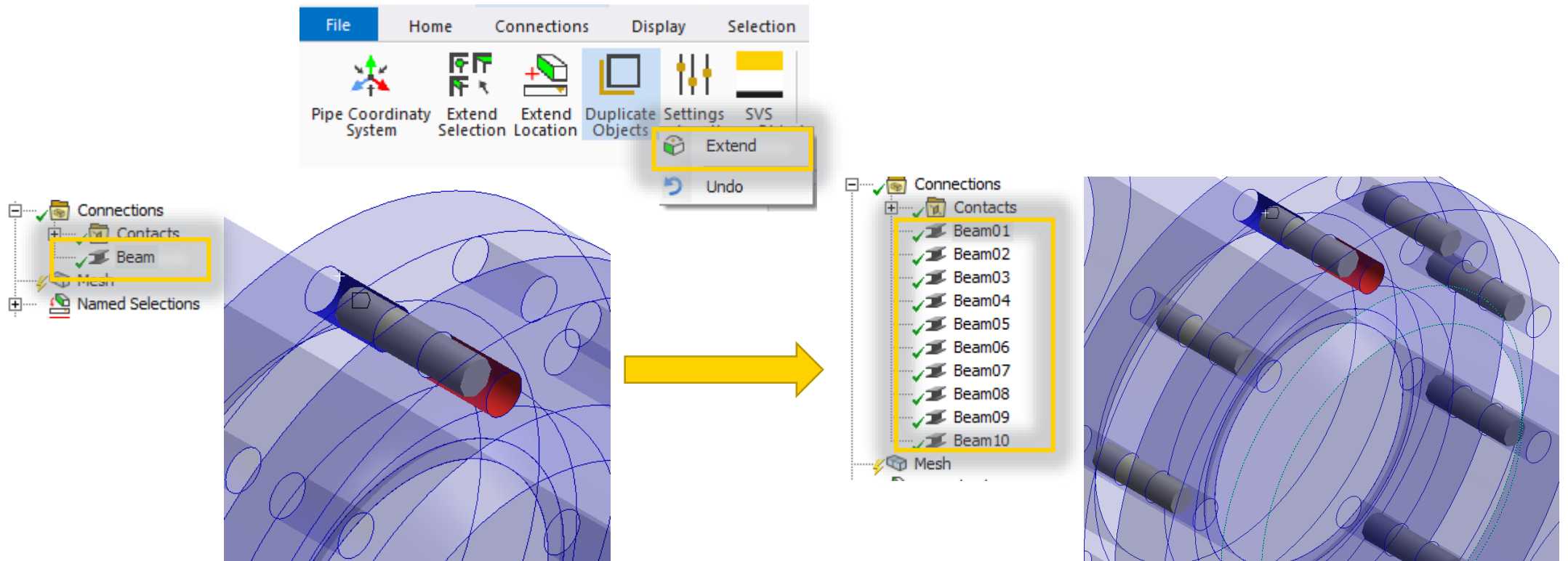
▬ Controls

ꟽ Settings

Modify the settings to affect the results of the extension. The file must be saved to impact the extend function.

If the tolerance value is large enough the parameter will be ignored.

Check examples on following slides.

```
[Extension Settings]
# Size parameters
Volume Tolerance (m3)          = 1e-9
Area Tolerance (m2)            = 1e-5
Length Tolerance (m)           = 1e-3


# Location parameters
Axial Location Tolerance (m)   = 1e-3
Radial Location Tolerance (m)  = 1e9
Pinball Radius (m)             = 1e


# Other parameters
Body Name Filter               = Yes              # Yes/No
```
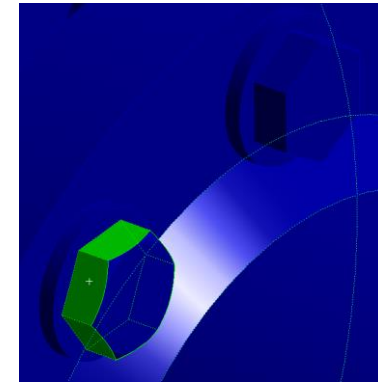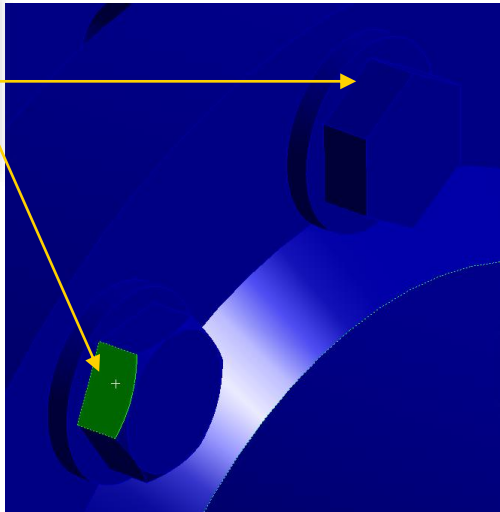
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Controls

Settings – Size parameters
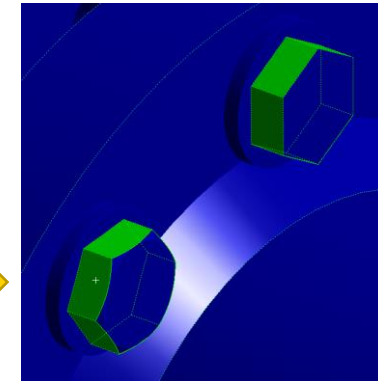
Tight Area Tolerance

```
[Extension Settings]
# Size parameters
Volume Tolerance (m3)      = 1e-9
Area Tolerance (m2) |      = 1e-6
Length Tolerance (m)       = 1e-3
```

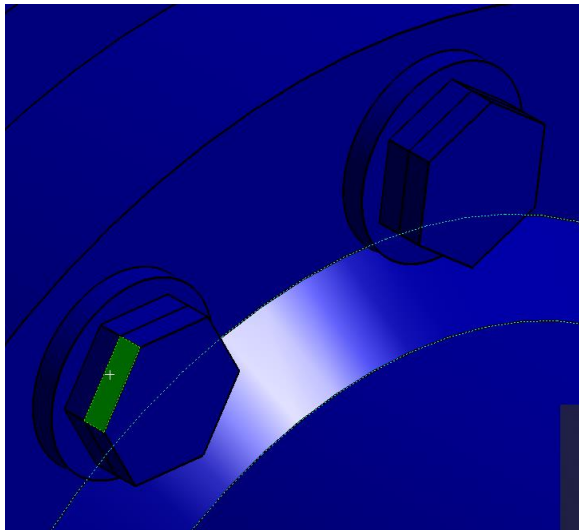The area of faces differs reasonable

Benevolent Area Tolerance

```
[Extension Settings]
# Size parameters
Volume Tolerance (m3)      = 1e-9
Area Tolerance (m2)        = 1
Length Tolerance (m)       = 1e-3
```
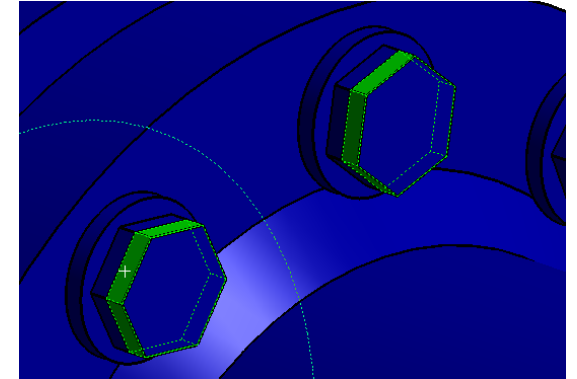
SVS FEM

Controls

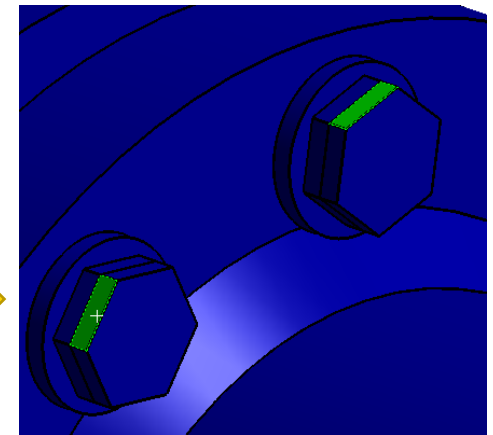## Settings – Location parameters – Radial tolerance

Benevolent Radial Tolerance

```
# Location parameters
Axial Location Tolerance (m)  = 1e-3
Radial Location Tolerance (m) = 1
Pinball Radius (m)            = 1e-3
```

Tight Radial Tolerance

```
# Location parameters
Axial Location Tolerance (m)  = 1e-3
Radial Location Tolerance (m) = 1e-6
Pinball Radius (m)            = 1e-3
```
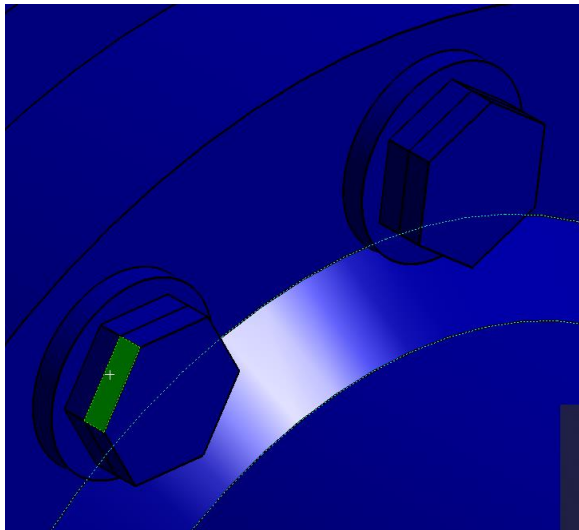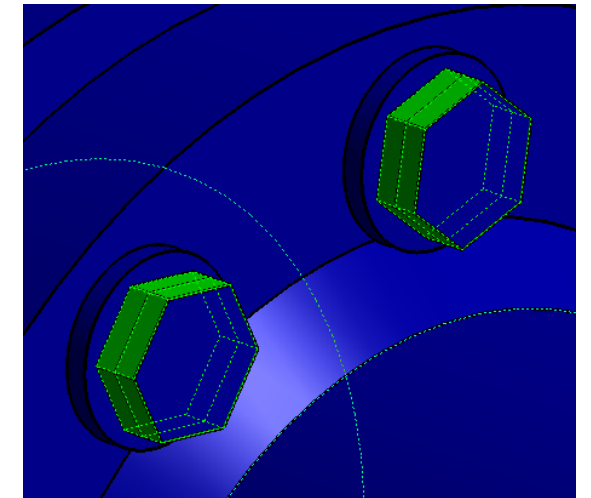
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Controls

Settings – Location parameters – Normal tolerance
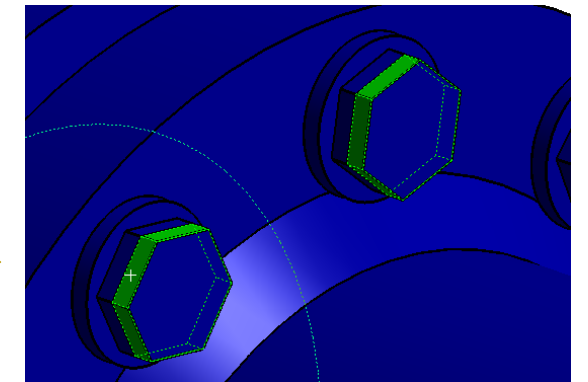
Benevolent Normal Tolerance

```
# Location parameters
Axial Location Tolerance (m)   = 1
Radial Location Tolerance (m)  = 1
Pinball Radius (m)             = 1e-3
```

Tight Normal Tolerance

```
# Location parameters
Axial Location Tolerance (m)   = 1e-3
Radial Location Tolerance (m)  = 1
Pinball Radius (m)             = 1e-3
```

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Controls

Settings – Location parameters – Pinball radius

Applicable only for *Duplicate Objects* affect which geom. entities on one body will be merged.
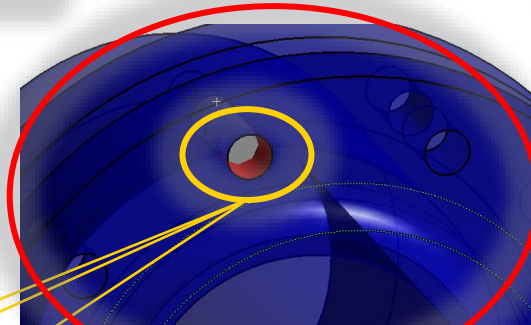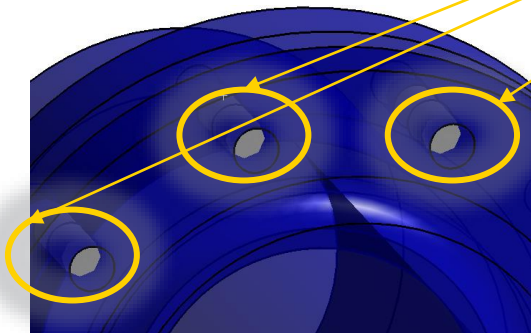
Tight Pinball

```
# Location parameters
Axial Location Tolerance (m)  = 1e-3
Radial Location Tolerance (m) = 1
Pinball Radius (m)            = 1e-3
```
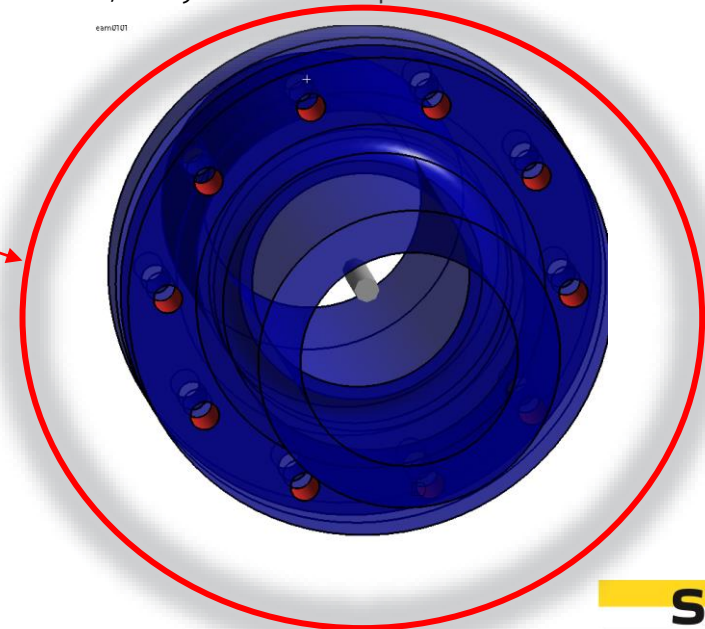
Benevolent Pinball

```
# Location parameters
Axial Location Tolerance (m)  = 1e-3
Radial Location Tolerance (m) = 1e-2
Pinball Radius (m)            = 1
```
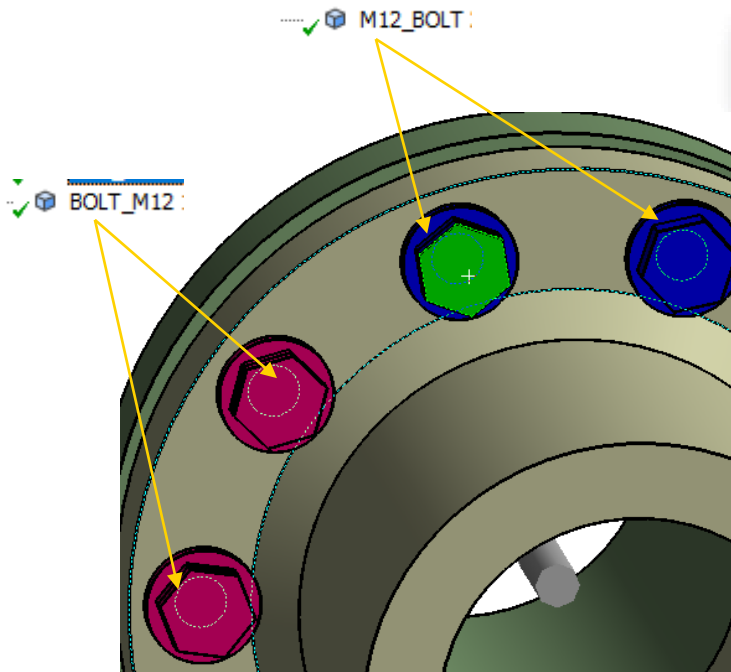
After Duplicate no new object created, only location updated

After Duplicate 3 objects with correct location created

Public | Extend Selection - help

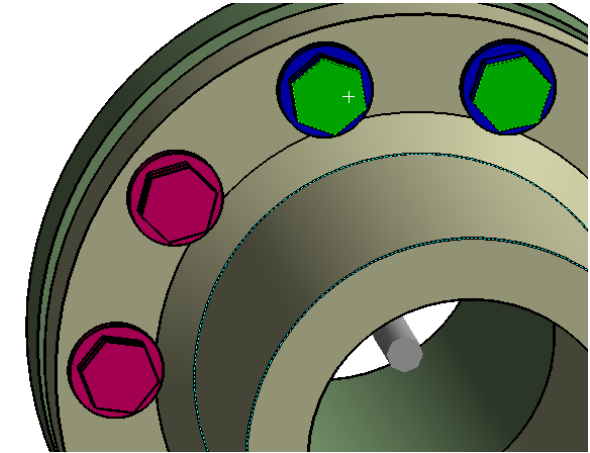**SVS FEM**

Controls

Settings – Name filter
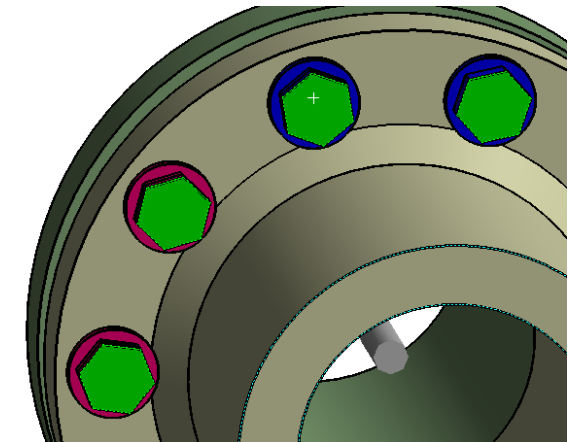
M12_BOLT

BOLT_M12

Name Filter ON

```
# Other parameters
Body Name Filter                    = YES
```

Name Filter Off

```
# Other parameters
Body Name Filter                    = NO
```

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Thank you for using
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