

# Good Practice

## Modelling:

- **Do not loose intrinsic information:**
  - No beads on snakes - use rings. The entity type indicates the type of the host entity. A bead can reside on a curve or a snake. And when you select a bead, you do not automatically know whether its host is a snake or a curve.
  - No C-spline Curve or B-spline Curve with two supports - use Line. Line implies straightness; with C-spline Curve/ B-spline Curve this property is rather the exception. So you have more information.
  - 3. No lofted surface with two supports - use a RuledSurf. The entity RuledSurf implies straightness in v-parameter direction. With C-spline Curve/ B-spline Curves this property is rather the exception.
- Give entities **meaningful** names that really carry information. For example, for surfaces do not use s0, s1, but hull\_0, hull\_final etc.
- Use reasonable divisions; mainly use default ones; use the divisions multiplier in Tools/ Options/ Performance - Model to increase and decrease model-wide the divisions of curves and surfaces.
- Do not use densely divided children from coarsely divided parents - regard division coordination.
- Use **Entity List** (container for a list of entities) for easy retrieval of selection sets, for example for render view, editing a certain part of the model, hydrostatics, etc.
- **Tools/Graph Profile:** use the interactive (key-drag) control-point values editing for Graphs (BGraph, Relabel).
- Do not just pass a curve through magnets - it will not be a snake.
- Use the **Entities manager** to select entities, show-hide entities, rename entities, view dependencies.
- Avoid curves on top of each other. For example, do not start buttock contours at  $Y = 0$  and at the same time show the surface boundaries.
- Get rid of the \*.bu\* files when a project is finished

## Intersection Entities:

- With Intersection Entities make staple models by naming a ring or magnet rather than a snake or surface. The point entity performs 3 functions:
  - it designates the snake or surface being cut
  - it designates which one of multiple intersections you want
  - it helps the program find the intersection by giving it a good starting point to begin its search

- Give the ring/ magnet a name, which identifies its host; for example magnet id\_deck\_0 on surface deck\_0.

### Fairing:

- To check fairness of prominent curves, vertex curves, waterlines, buttocks etc. use **display in 3D view**; small anomalies will be noticeable when looked along under small angle.
- Use the **dragging constraint** of the Point entity. For example, if the control points of a transverse mc is draggable in y and z, its x location will not change when moved in 3D view.
- If the curvature distribution of a B-spline Curve is not harmonious, use **Tools/ Special/ B-spline Curve Fit** to create a close fitting B-spline Curve and compare the position of its control points with yours.
- Use the function **B-spline Curve Fit** (Tools/ Special/ B-spline Curve Fit) to fit a B-spline Curve to any selected curve and Wireframe entity.

### Components:

- Use the command **SelectForComponent**, a convenience for collecting together the set of entities to be included in a component (MC2) file. This is especially convenient when the component is a complex one with many entities, or when you are refining the component and need to repeatedly save revised and improved versions.
- Build the part in a **Frame**, using points based on it. When you relocate or reorient the frame, anything built from these points will go with it.

### Managing large MultiSurf models

- Colors: Use the same color for the same kind of entity. There are 15 colors each for points, curves/snakes, surfaces.
- Signal raw or finished state by "\_0"; "deck\_0" is the raw deck, "deck" is the finished surface.
- Layers: use layer names that really carry information. For example, Bridge\_Deck, Main\_Deck, Fly\_Deck etc.
- Put final surfaces on separate layers; for example, Main\_Deck\_finished.