

## Lesson 3 - 3DS MAX, 2D Modeling

Shapes (2D) – Renderable, Precursor to 3D (profiles), Paths for animation

### Internal

1. Primitives – Parallel to drawing plane (XY – local, etc...)
  - Circle – Parameters. Sub-Objects (Vertex, Segment, Spline)
    - Interpolation – Steps between vertices
    - Renderability – Radial & Rectangular
  - "Extrusion Modifier" – Perpendicular to drawn plane
  - Donut – "Nested Spline"
  - Rectangle, Text, etc...
2. Line (editable spline) – No parameters, only sub-objects. Open vs Closed
  - Object level – Attach, Attach Multiple

#### Sub-Objects

##### Vertex

- Intersection - Corner/Smooth/Bezier/Bezier Corner
- Delete
- Refine (Create). Better than "Insert".
- Welding – Weld (threshold). Auto-Weld (while moving)
- Make First – Important for paths and some extrusions

##### Segment

- Curve – Can be curved or straight
- Line – Straightens out segment
- Delete – Will open closed shapes
- Refine (Create) – subdivides segment by adding a vertex

##### Spline

- Single vs Nested
- Booleans (spline level) – Union, Subtraction, Intersection
- Detach

### 3. Editable Splines

Converting Primitives to "Editable Splines"

### External

- Importing – Geometry imports as "editable splines".
  - DWG (Max version or earlier) – Plines & Lines become "Editable Splines"
  - AI (version 8 or earlier) – Watch for duplicate or open vertices

## Lesson 3 - 3DS MAX, 2D Modeling (cont...)

### Extrusions (2D to 3D)

Extrude – Perpendicular to drawing plane

Lathe – Revolve around axis

Pivot point (default). Min, Center, Max (alternate axes)

Degrees – 360 default

Segments – Number of sides

Weld Core – Cleans up problems that may occur around the axis

Loft – Extrusion along a path (“create/compound objects”)

Shape – 2D profile that is extruded.

Path – Path that the “shape” is extruded along

Creation Method:

Get Shape – Shape at pivot point is placed on (stationary) path

Get Path – Path goes to (stationary) Shape’s pivot point

Path Parameters – Manages shape(s) lofted on path

Loft begins at first vertex (default)

“Path” – Where shapes is inserted on path.

“Percentage” – Shape will be placed this % from the first vertex

Skin Parameters – Manages the “faces”

Path steps – Number of joints along the path. Like “segments”.

Surface Parameters – Smoothing, Mapping coordinates, etc...

Deformations – Available in the “Modify” panel

Scale – Resizes shape(s) along path

Spacing Tool – Array along a path