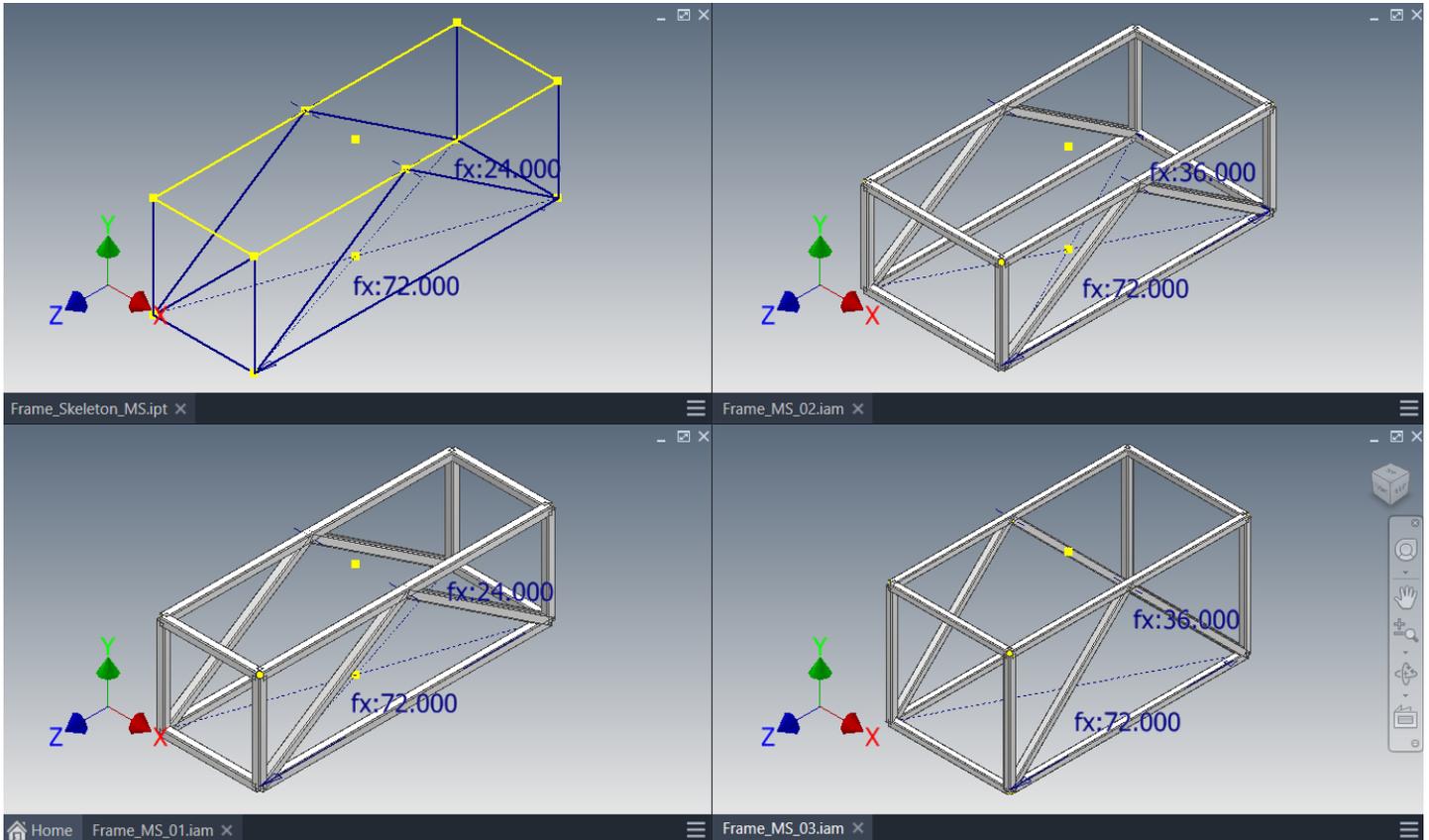


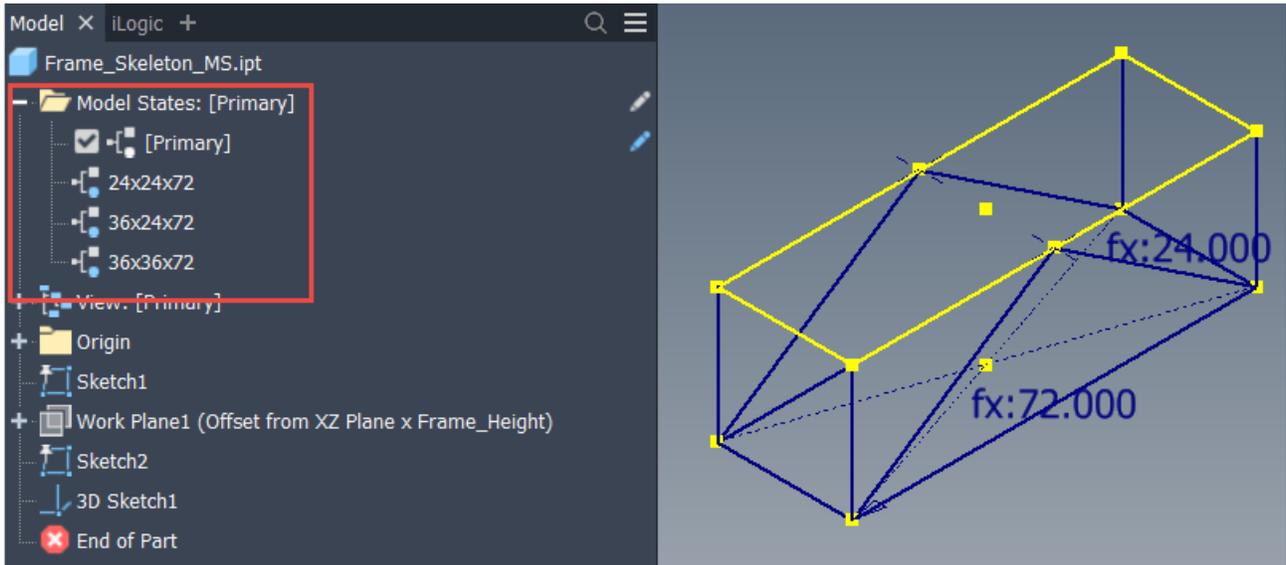
Inventor - Driving Multiple Frames Using a Single Skeleton with Model States

We had a really interesting question posed in the commentary of a previous video on [Controlling Frame Generator Filenames](#), with the viewer wanting to know if one could drive multiple frame designs from a single skeletal model. The answer is YES! By using Model States, introduced with Inventor 2022, this can be easily accomplished and thankfully the process is straightforward.



All Frames can be Driven from a Single Skeletal Model

First, one has to create a single skeletal model with multiple Model States. Each Model State should have a unique set of parameter values for the sizing of the frame. While this step is not difficult, one should put some thought into how to construct the frame and name the Model States, so the design is maximally flexible, and the end users can easily complete their framing.



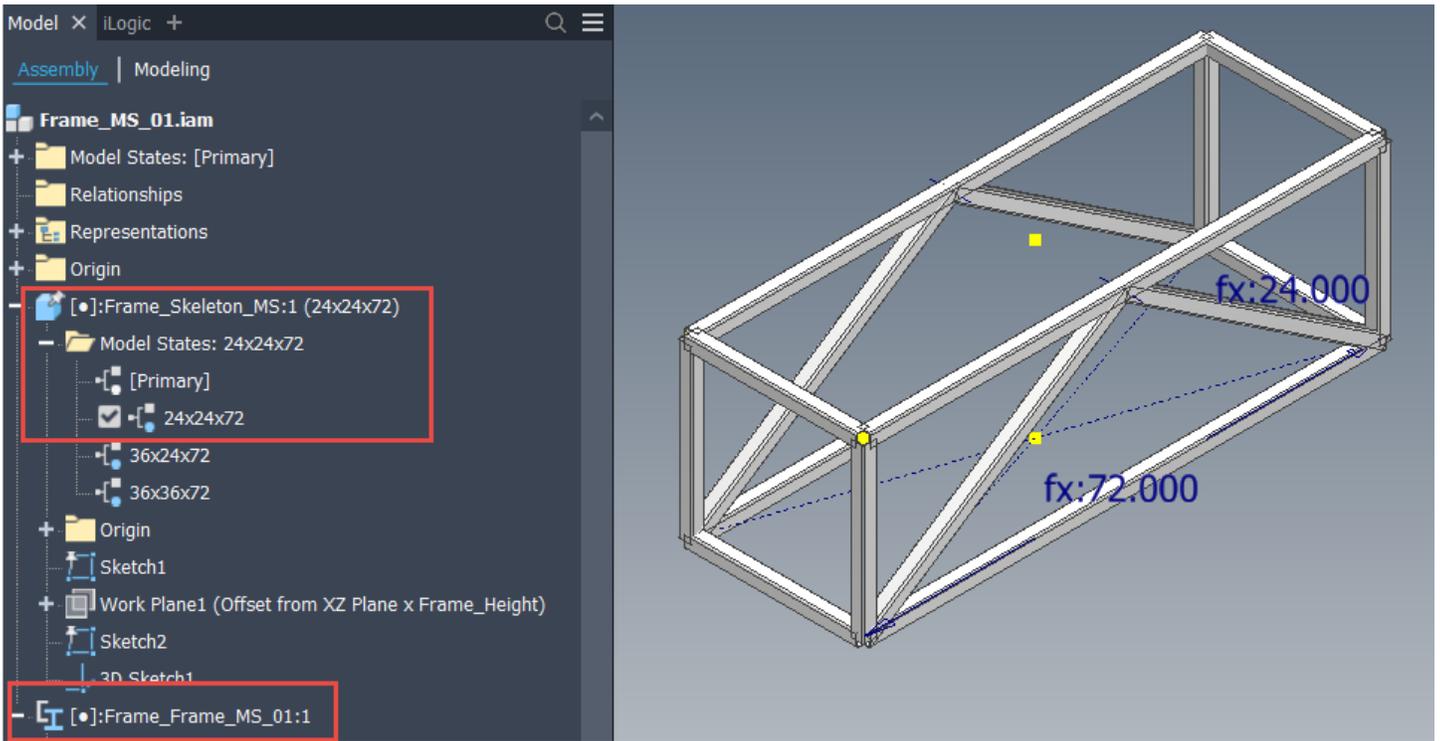
Skeletal Model with Multiple, Clearly Named Model States

Parameters

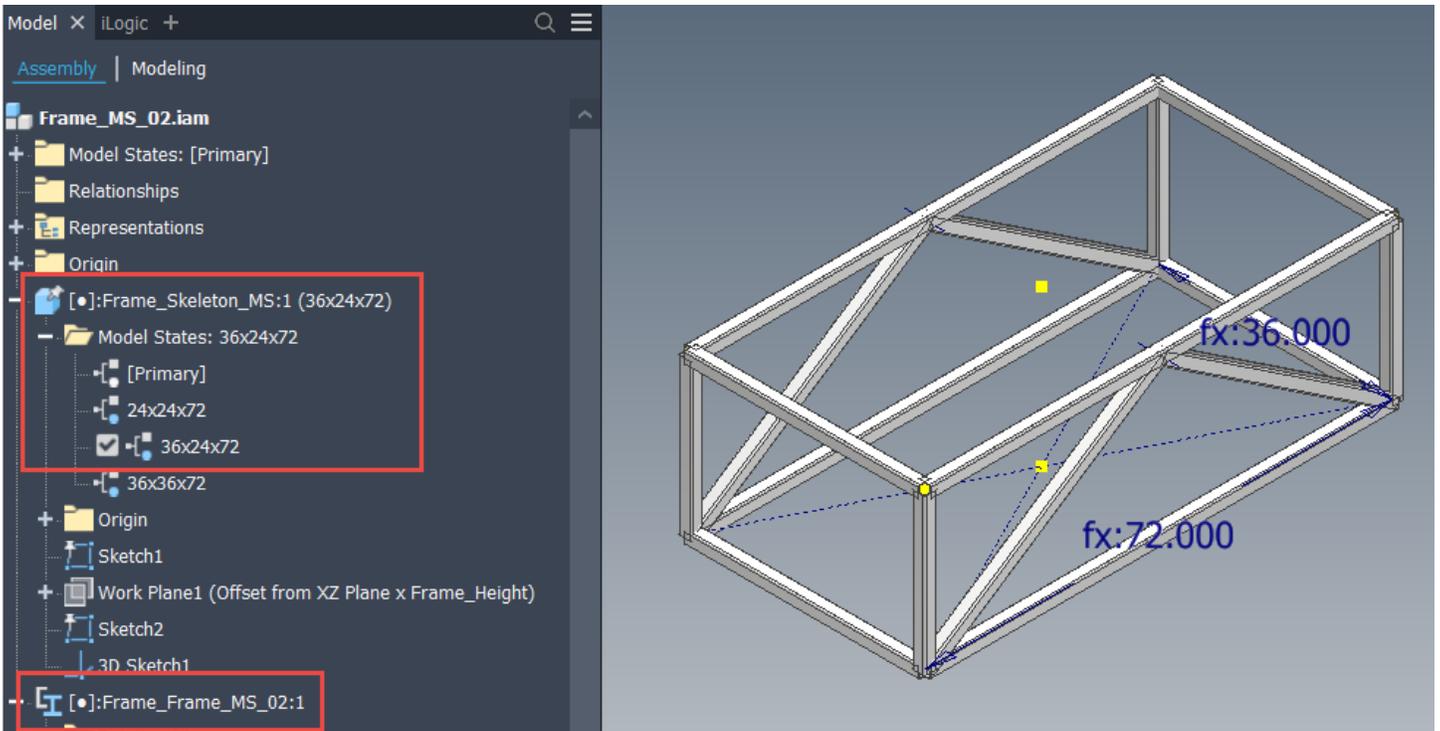
Parameter Name	Consumed by	Unit/Type	Δ	Equation
Model Parameters				
d0	Sketch1	in		Frame_Width
d1	Sketch1	in		Frame_Length
d2	Work Plane1	in		Frame_Height
User Parameters				
Frame_Width	d0	in		24 in
Frame_Length	d1	in		72 in
Frame_Height	d2	in		24 in

Each Model State has Distinct Parameter Values to Differentiate the Frame Sizing

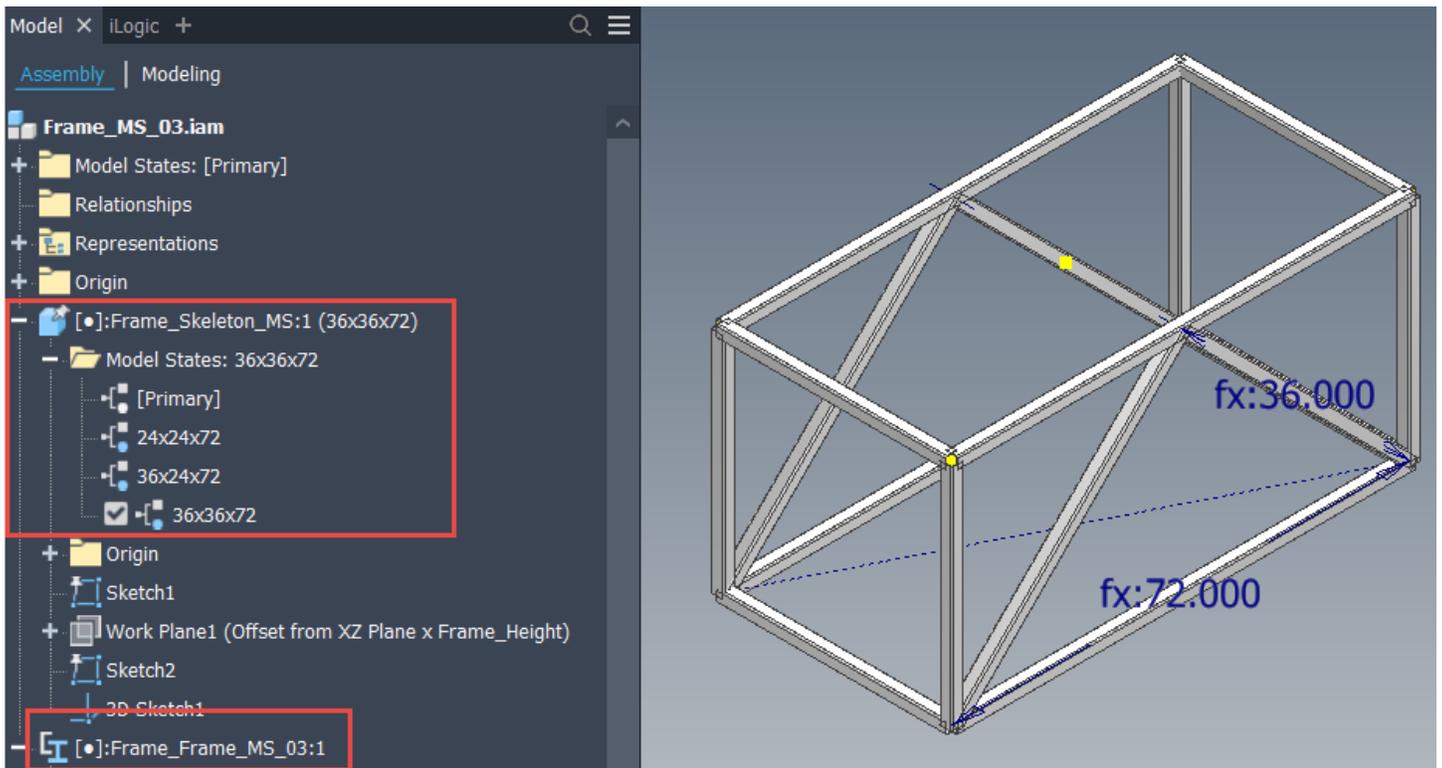
The skeletal model is really the key, as building the frame is completely in the standard fashion. Each Frame is a unique model, generated using the Copy Design tool in Vault Professional, but all are driven by the same skeletal model, albeit with a different Model State activated per assembly.



First Frame Example



Second Frame Example



Third Frame Example

By using a single skeletal model with distinct Model States, the goal of generating a “family” of frames is easily achieved, with minimal file management efforts. Hopefully, you found this helpful and please leave any comments or questions below. Hope all is well and Happy Blogging!