Top Surfaces

In the original Style feature, copy a curve (Unlink) by moving it vertically.

Copy this curve, outside and slightly below the prior curve. Make sure the end result is still above the original 2-D surface. It is easiest to do this using the Relative option and simply keying in Y and Z values to move the curve. Note that each numeric change is relative to the last.
Free curves (normal to the center line plane) are created at the ends of the above created curves to produce a new surface.

Create a new surface using these four curves.

Hide this surface, and create a curve on surface (original 2-D surface) as shown. This will represent the outer boundary of the new surface.

Create a new curve on surface, using the new offset surface as a reference. This curve parallels the previous curve. This will represent the inside edge of the bulged area.
After trimming the offset surface and generating a new four sided surface with the previously created curves:

Rather than doing the merge of these surfaces outside of Style, then doing the mirror, merge, solidify, trim your inner surface **inside** of Style. For some reason, this generates better results then attempting to merge outside of Style.
After exiting Style,

Mirroring, Merging and Solidifying:

A simple round to smooth up the edges:

A draft check (Analysis) relative to the Frontal plane indicates that there in fact is some slope to the new bulged surface we created and that the 2-D surface is in fact truly two dimensional.

Now there is “nothing” left to do but put in some buttons.