$$
\begin{aligned}
x_2 =& x_1 + \Delta x_{fr} \frac{p_1 - p_0}{p_1}, \\
p_{y2} =& p_{y1} + y_1 \frac{\Delta y_{fr} - \Delta y_{fra} y_1^2}{p_1^2}, \\
z_2 =& z_1 + \frac{\Delta x_{fr} p_{x1} + (\Delta y_{fr} - \Delta y_{fra} y_1^2/2) y_1^2/(2p_1)}{p_1},
\end{aligned}
$$

where

$$
\begin{aligned}
\Delta x_{fr} \equiv& \frac{\mathtt{F1}^2}{24\rho_b}, \\
\Delta y_{fr} \equiv& \frac{\mathtt{F1}}{6\rho_b^2}, \\
\Delta y_{fra} \equiv& \frac{2}{3} \frac{1}{\mathtt{F1}\rho_b^2}, \\
\rho_b \equiv& \frac{L'}{\mathtt{ANGLE} + \mathtt{K0}}, \\
L' \equiv& \mathtt{L} - \frac{(\mathtt{ANGLE\ F1})^2}{24\mathtt{L}} \\
& \times \frac{\sin((\mathtt{ANGLE}(1 - \mathtt{E1} - \mathtt{E2}) - \mathtt{AE1} - \mathtt{AE2})/2)}{\sin(\mathtt{ANGLE}/2)}.
\end{aligned}
$$