$$
\begin{aligned}
p_{x2} =& -\frac{\rho_0}{\rho_b}(\sin\psi_2 + \sin(\omega+\psi_1)) \\
& + p_{z1}\sin\omega + p_{x1}\cos\omega - \frac{x_1}{\rho_b \sin\omega}\,, \\
p_{z2} =& \sqrt{p_{x1}^2 + p_{z1}^2 - p_{x2}^2}\,, \\
x_2 =& x_1\cos\omega + \rho_b(p_{z2} - p_{z1}\cos\omega + p_{x1}\sin\omega) \\
& + \rho_0(\cos(\omega+\psi_1) - \cos\psi_2)\,, \\
y_2 =& y_1 + s\frac{p_{y1}}{\sqrt{p_1^2 - p_{y1}^2}}\,, \\
z_2 =& z_1 - s\frac{p_1}{\sqrt{p_1^2 - p_{y1}^2}} + \frac{v_1}{v_0}L'\,, \\
\text{where } \rho_0 \equiv& \frac{L'}{\texttt{ANGLE}}\,, \\
\omega \equiv& \texttt{ANGLE} - \psi_1 - \psi_2\,, \\
s \equiv& \texttt{ANGLE} \times \rho_b \\
& \times \left(\sin^{-1}\frac{p_{x1}}{\sqrt{p_1^2 - p_{y1}^2}} - \sin^{-1}\frac{p_{x2}}{\sqrt{p_2^2 - p_{y2}^2}} + \omega\right).
\end{aligned}
$$