$$
\begin{aligned}
x_2 &= \frac{x_1}{\cos\psi_1 - (p_{x1}/p_{z1})\sin\psi_1}\,, \\
p_{x2} &= p_{x1}\cos\psi_1 + p_{z1}\sin\psi_1\,, \\
y_2 &= y_1 + \frac{p_{y1}}{p_{z1}}x_2\sin\psi_1\,, \\
z_2 &= z_1 - \frac{p_1}{p_{z1}}x_2\sin\psi_1\,, \\
\text{where } \psi_1 &\equiv \texttt{ANGLE}\times\texttt{E1} + \texttt{AE1}
\end{aligned}
$$