$$
\begin{aligned}
p_{x2} =& p_{x1}\cos\psi_2 + p_{z1}\sin\psi_2\,,\\
x_2 =& x_1(\cos\psi_2 + \frac{p_{x2}}{p_{z2}}\sin\psi_2)\,,\\
y_2 =& y_1 + \frac{p_{y2}}{p_{z2}}x_1\sin\psi_2\,,\\
z_2 =& z_1 - x_1\frac{p_2}{p_{z2}}\sin\psi_2\,,
\end{aligned}
$$

, where $\psi_2 \equiv \texttt{ANGLE} \times \texttt{E2}$.