$$x_2 = \frac{x_1}{\cos\psi_1 - (p_{x1}/p_{z1})\sin\psi_1},$$

$$p_{x2} = p_{x1}\cos\psi_1 + p_{z1}\sin\psi_1,$$

$$y_2 = y_1 + \frac{p_{y1}}{p_{z1}} x_2 \sin\psi_1,$$

$$z_2 = z_1 - \frac{p_1}{p_{z1}} x_2 \sin\psi_1,$$

where $\psi_1 \equiv \texttt{ANGLE} \times \texttt{E1} + \texttt{AE1}$